Design, When Everybody Designs

An Introduction to Design for Social Innovation

Ezio Manzini

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Series Foreword

As professions go, design is relatively young. The practice of design predates professions. In fact, the practice of design—making things to serve a useful goal, making tools—predates the human race. Making tools is one of the attributes that made us human in the first place.

Design, in the most generic sense of the word, began over 2.5 million years ago when *Homo habilis* manufactured the first tools. Human beings were designing well before we began to walk upright. Four hundred thousand years ago, we began to manufacture spears. By forty thousand years ago, we had moved up to specialized tools.

Urban design and architecture came along ten thousand years ago in Mesopotamia. Interior architecture and furniture design probably emerged with them. It was another five thousand years before graphic design and typography got their start in Sumeria with the development of cuneiform. After that, things picked up speed.

All goods and services are designed. The urge to design—to consider a situation, imagine a better situation, and act to create that improved situation—goes back to our prehuman ancestors. Making tools helped us to become what we are—design helped to make us human.

Today, the word "design" means many things. The common factor linking them is service, and designers are engaged in a service profession in which the results of their work meet human needs.

Design is first of all a process. The word "design" entered the English language in the 1500s as a verb, with the first written citation of the verb dated to the year 1548. *Merriam-Webster's Collegiate Dictionary* defines the verb "design" as "to conceive and plan out in the mind; to have as a specific purpose; to devise for a specific function or end." Related to these is the act of drawing, with an emphasis on the nature of the drawing as a plan or map, as well as "to draw plans for; to create, fashion, execute or construct according to plan."

Half a century later, the word began to be used as a noun, with the first cited use of the noun "design" occurring in 1588. *Merriam-Webster's* defines the noun as "a particular purpose held in view by an individual or group; deliberate, purposive planning; a mental project or scheme in which means to an end are laid down." Here, too, purpose and planning toward desired outcomes are central. Among these are "a preliminary sketch or outline showing the main features of something to be executed; an underlying scheme that governs functioning, developing or unfolding; a plan or protocol for carrying out or accomplishing something; the arrangement of elements or details in a product or work of art." Today, we design large, complex processes, systems, and services, and we design organizations and structures to produce them. Design has changed considerably since our remote ancestors made the first stone tools.

At a highly abstract level, Herbert Simon's definition covers nearly all imaginable instances of design. To design, Simon writes, is to "[devise] courses of action aimed at changing existing situations into preferred ones" (Simon, *The Sciences of the Artificial*, 2nd ed., MIT Press, 1982, p. 129). Design, properly defined, is the entire process across the full range of domains required for any given outcome.

But the design process is always more than a general, abstract way of working. Design takes concrete form in the work of the service professions that meet human needs, a broad range of making and planning disciplines. These include industrial design, graphic design, textile design, furniture design, information design, process design, product design, interaction design, transportation design, educational design, systems design, urban design, design leadership, and design management, as well as architecture, engineering, information technology, and computer science.

These fields focus on different subjects and objects. They have distinct traditions, methods, and vocabularies, used and put into practice by distinct and often dissimilar professional groups. Although the traditions dividing these groups are distinct, common boundaries sometimes form a border. Where this happens, they serve as meeting points where common concerns build bridges. Today, ten challenges uniting the design professions form such a set of common concerns.

Three performance challenges, four substantive challenges, and three contextual challenges bind the design disciplines and professions together as a common field. The performance challenges arise because all design professions:

1. act on the physical world;
2. address human needs; and
3. generate the built environment.

In the past, these common attributes were not sufficient to transcend the boundaries of tradition. Today, objective changes in the larger world give rise to four substantive challenges that are driving convergence in design practice and research. These substantive challenges are:

1. increasingly ambiguous boundaries between artifacts, structure, and process;
2. increasingly large-scale social, economic, and industrial frames;
3. an increasingly complex environment of needs, requirements, and constraints; and
4. information content that often exceeds the value of physical substance.

These challenges require new frameworks of theory and research to address contemporary problem areas while solving specific cases and problems. In professional design practice, we often find that solving design problems requires interdisciplinary teams with a transdisciplinary focus. Fifty years ago, a sole practitioner and an assistant or two might have solved most design problems; today, we need groups of people with skills across several disciplines, and the additional skills that enable professionals to work with, listen to, and learn from each other as they solve problems.

Three contextual challenges define the nature of many design problems today. While many design problems function at a simpler level, these issues affect many of the major design problems that challenge us, and these challenges also affect simple design problems linked to complex social, mechanical, or technical systems. These issues are:

1. a complex environment in which many projects or products cross the boundaries of several organizations or stakeholder, producer, and user groups;
2. projects or products that must meet the expectations of many organizations, stakeholders, producers, and users; and
3. demands at every level of production, distribution, reception, and control.

These ten challenges require a qualitatively different approach to professional design practice than was the case in earlier times. Past environments were simpler. They made simpler demands. Individual experience and personal development were sufficient for depth and substance in professional practice. While experience and development are still necessary, they are no longer sufficient. Most of today's design challenges require analytic and synthetic planning skills that cannot be developed through practice alone.

Professional design practice today involves advanced knowledge. This knowledge is not solely a higher level of professional practice. It is also a qualitatively different form of professional practice that emerges in response

to the demands of the information society and the knowledge economy to which it gives rise.

In a recent essay ("Why Design Education Must Change," *Core77*, November 26, 2010), Donald Norman challenges the premises and practices of the design profession. In the past, designers operated on the belief that talent and a willingness to jump into problems with both feet gave them an edge in solving problems. Norman writes:

> In the early days of industrial design, the work was primarily focused upon physical products. Today, however, designers work on organizational structure and social problems, on interaction, service, and experience design. Many problems involve complex social and political issues. As a result, designers have become applied behavioral scientists, but they are woefully undereducated for the task. Designers often fail to understand the complexity of the issues and the depth of knowledge already known. They claim that fresh eyes can produce novel solutions, but then they wonder why these solutions are seldom implemented, or if implemented, why they fail. Fresh eyes can indeed produce insightful results, but the eyes must also be educated and knowledgeable. Designers often lack the requisite understanding. Design schools do not train students about these complex issues, about the interlocking complexities of human and social behavior, about the behavioral sciences, technology, and business. There is little or no training in science, the scientific method, and experimental design.

This is not industrial design in the sense of designing products, but industry-related design, design as thought and action for solving problems and imagining new futures. This new MIT Press series of books emphasizes strategic design to create value through innovative products and services, and it emphasizes design as service through rigorous creativity, critical inquiry, and an ethics of respectful design. This rests on a sense of understanding, empathy, and appreciation for people, for nature, and for the world we shape through design. Our goal as editors is to develop a series of vital conversations that help designers and researchers to serve business, industry, and the public sector for positive social and economic outcomes.

We will present books that bring a new sense of inquiry to design, helping to shape a more reflective and stable design discipline able to support a stronger profession grounded in empirical research, generative concepts, and the solid theory that gives rise to what W. Edwards Deming described as profound knowledge (Deming, *The New Economics for Industry, Government, Education*, MIT, Center for Advanced Engineering Study, 1993). For Deming, a physicist, engineer, and designer, profound knowledge comprised systems thinking and the understanding of processes embedded in systems; an understanding of variation and the tools we need to understand variation;

a theory of knowledge; and a foundation in human psychology. This is the beginning of "deep design"—the union of deep practice with robust intellectual inquiry.

A series on design thinking and theory faces the same challenges that we face as a profession. On one level, design is a general human process that we use to understand and to shape our world. Nevertheless, we cannot address this process or the world in its general, abstract form. Rather, we meet the challenges of design in specific challenges, addressing problems or ideas in a situated context. The challenges we face as designers today are as diverse as the problems clients bring us. We are involved in design for economic anchors, economic continuity, and economic growth. We design for urban needs and rural needs, for social development and creative communities. We are involved with environmental sustainability and economic policy, agriculture, competitive crafts for export, competitive products and brands for microenterprises, developing new products for bottom-of-pyramid markets, and redeveloping old products for mature or wealthy markets. Within the framework of design, we are also challenged to design for extreme situations, for biotech, nanotech, and new materials, and to design for social business, and there are conceptual challenges for worlds that do not yet exist, such as the world beyond the Kurzweil singularity—and for new visions of the world that does exist.

The Design Thinking, Design Theory series from the MIT Press will explore these issues and more—meeting them, examining them, and helping designers to address them.

Join us is this journey.

Ken Friedman
Erik Stolterman
Editors, Design Thinking, Design Theory Series

Acknowledgments

The story of this book began over ten years ago, in 2004, with a research project funded by the European Commission called EMUDE (Emerging User Demands for Sustainable Solutions). Here for the first time I found myself up against the question of social innovation and started thinking about what design could do to support and foster it. The second crucial moment was in 2006 with another research project, CCSL (Creative Communities for Sustainable Lifestyles), promoted by UNEP (the United Nations Environmental Program) and funded by the Swedish Ministry for Sustainable Development, where I was able to extend my observation of Europe to other areas of the world, gathering noteworthy cases in India, China, Brazil, Kenya, and South Africa. The third important moment was the creation of the DESIS network (Design for Social Innovation and Sustainability) in 2009. This made it possible to set my initial ideas against a far wider range of social and cultural contexts.

At the same time, the information gathering and proposition building presented in this book took place by degrees, as I compared my ideas with various projects in the DESIS lab in the Politecnico di Milano and in other universities where I had the opportunity to work: Parsons School in New York; Tongji University in Shanghai; Jiangnan University in Wuxi; University of the Arts, London; and Cape Peninsula University of Technology in Cape Town. So my first heartfelt thanks go to all the professors, teachers, researchers, and students whom I have met in these places and with whom I have had the fortune to collaborate.

After this collective thank you, I must mention some people with whom the collaboration has been more intense and with whom my cultural debt is therefore greater:

François Jégou, who has been my main interlocutor for many years; he is the person with whom my interest in the themes of this book first began,

and whose contribution to the volume itself is the 12 "visual examples" that follow chapter 6.
Anna Meroni, with whom I have worked on many activities and research programs, and who today coordinates the DESIS International Network.
My colleagues with whom the DESIS network started and who then joined in promoting it: Eduardo Staszowski, Lara Penin, Carla Cipolla, Andrea Mendoza, Mugendi M'Rithaa, Miaosen Gong, Lou Yongqi, Adam Thorpe, Lorraine Gamman, Virginia Tassinari, and Davide Fassi: all of them have been important interlocutors in putting these ideas into focus, and also helping me to put them on paper by supplying examples and to revise critical points.

Then there are all the PhD students, now doctors, with whom I have interacted over the years and with whom I have tried to go further into some of the concepts that seemed important to us for the theory and practice of social innovation design. For this kind of contribution, in addition to Carla Cipolla, Andrea Mendoza, and Miaosen Gong, whom I have already mentioned, I must especially thank Francesco Zurlo, Stefano Maffei, Annamaria Fromentini, Teresa Franqueira, Joon Sang Baeck, Fang Zhong, and Eun Ji Cho.

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Finally, my thanks go to Rachel Coad who, in translating the text into English, has also helped me put my ideas in order, and to Douglas Sery and Matthew Abbate for the MIT Press, whose support has made it possible for all this to be turned into a real book.

Introduction

1. This book talks about design and social change in a connected world in transition toward sustainability: a world in which everybody constantly has to design and redesign their existence, whether they wish to or not; a world in which many of these projects converge and give rise to wider social changes; a world in which the role of design experts is to feed and support these individual and collective projects—and thus the social changes they may give rise to.

In a world in rapid and profound transformation, we are all designers. Here, "all" obviously includes all of us, individuals but also organizations, businesses, public entities, voluntary associations, and cities, regions, and states. In short, the "all" we are talking about includes every subject, whether individual or collective, who in a world in transformation must determine their own identity and their own life project. This means putting their design capability into action: a way of thinking and doing things that entails reflection and strategic sense, that calls us to look at ourselves and our context and decide whether and how to act to improve the state of things.

The problem is that although design capability is a widespread human capacity, to be usable it must be cultivated. This does not usually happen, or it happens in an inadequate way.

Confronted with this contradiction between a reality that calls for all subjects to be more design-oriented and their difficulty in being so to an adequate extent, design experts can come into play. We are talking about those subjects whose field of interest, of research, and ultimately of work is the practice and culture of design. They can operate as social actors who, thanks to the cultural and operative tools available to them, are able to feed and support the design processes in which all of us, experts and nonexperts, are involved.

Of course, for design experts, operating in this way entails distancing themselves from what has long been the figure of "designer." For a century,

designers have seen themselves and have been seen as sole incumbents and managers in the design field. Today they find themselves in a world where everybody designs and where, as we have seen, their task tends to be to use their own initiatives to help a variegated array of social actors to design better. This change in role calls them to become something different from what they have been until now. This means that in order to adapt to what is required of them, they must redesign themselves and their way of operating. But then this is what is required of everybody today.

2. The background to the book is the great transition: a process of change in which humanity is beginning to come to terms with the limits of the planet, and which is also leading us to make better use of the connectivity that is available to us: a dual dynamics merging into a single process in which we can already see certain characteristics. Starting with these it is possible to outline a design scenario built on a culture that joins the local with the global (cosmopolitan localism), and a resilient infrastructure capable of requalifying work and bringing production closer to consumption (distributed systems).

We are immersed in a process of change that, in nature and time, will not be unlike the passage in Europe from feudal civilization to industrial urban society. In long-term history, this passage was a revolution, an abrupt break with the past that led to a radical transformation of the system—social, economic, and political. However, for those who lived it, the passage was a long period of crises and transformations that were anything but linear, with contrasts between local changes and large-scale systemic metamorphosis, all taking place at different speeds at different cultural, economic, political, and technological levels—with oscillations between political positions and regimes more favorable to the change and others starkly opposed to it.

So today, we must expect to be living this turbulence for a long time, in a double world where two realities live together in conflict: the old "limitless" world that does not acknowledge the planet's limits, and another that recognizes these limits and experiments with ways of transforming them into opportunities.

Now these worlds look very different. The first is the dominant world, still the reference for many, that shapes the main economic and institutional structures and that draws from its history of success the conviction that its continuity in time is inevitable. The second, on the other hand, looks like a group of islands where people think and act in ways that are different. What the future of this archipelago of new microworlds will be like is as yet too early to tell. It may stay the same for a long time, or it may

disappear, submerged by the sea of other unsustainable ways of being and doing things. Or it may reveal itself to be the already visible part of a submerged continent: the new continent of sustainable civilization that will emerge from the transition.

This is the panorama of which our lives and our choices are a part. It is also the panorama in which this book is situated: a continent is emerging; what it will be like depends on many factors; some of these depend on choices we have already made, others on what we are doing and will do. It is a transition (long for us, but short for world history) in which we must all learn to live, and live well, on the new islands, and in doing so anticipate what the quality of life will be like on the emerging continent.

This panorama is also the space in which the relationship between diffuse design and expert design will go on stage: a relationship that will develop as the two kinds of design work together to solve the many and diverse problems that our societies will have to face. But this will not be the only field on which to collaborate. If what must emerge is a new civilization, the issue is not only one of solving problems; a civilization is also, and primarily, made up of values, of qualities, and, in more general terms, of sense systems. This is therefore what a new civilization needs if it is to come into being. So it is this which design, both diffuse and expert, must collaborate to produce. If it is true that design skills are expressed both in problem solving and in sense making, there is much to do on both these sides, in the prospect of this new civilization. However, it is above all in the second that design must demonstrate its specificity. This is the area where, more than any other discipline, it can bring its most original contribution.

3. The book starts with the local and the everyday: with people in their daily lives, intent on their daily struggle with problems, opportunities, and ultimately the meaning of life. We observe how, more and more often, these people (re)discover the power of collaboration to increase their capabilities, and how this (re)discovery gives rise to new forms of organization (collaborative organization) and new artifacts on which they base enabling solutions. Design experts are an active part of this rediscovery. They are both internal and external agents. They are part of the social change itself, because they must themselves act in unprecedented ways, but they are also promoters of the social change because they collaborate actively in creating conditions that facilitate it.

With the meaning that we are attributing to it here, the local dimension is not a question of scale. In a connected world, local experience is influenced in real time by events that may happen anywhere. In short, the local is our interface with the whole world. It is a point of view (the world as we

see it from where we are) and a point of action (the action on the world that we are able to perform from where we are). Obviously, what we manage to see or do, and thus also design, depends on the quality of that interface, which is in turn the result of interweaving design activities.

The protagonist in our story is therefore a subject immersed in his everyday life, taking part in various conversations; a node in various networks and an actor in various social forms. From his point of observation and action, he designs and co-designs his action on the world operating as a bricoleur: he looks for usable materials around him (products and services, but also ideas and knowledge) and, adapting and reinterpreting them, he uses them to compose his life project.

The current novelty, brought by the social and cultural innovation in progress, is that more and more often our protagonist thinks about her life project, or part of it, in a collaborative way. She discovers (or rather rediscovers) the strength in doing things together with other people. So, at the core of this book, we take a look at this innovative phenomenon: a growing number of people have broken and are breaking with routine, and are experimenting with new, more collaborative ways of living and producing. In short, a growing number of people are promoting a new, big wave of social innovation.

Recent opinion holds that social innovation should be supported. It is acknowledged that it produces concrete, practical answers to difficult problems, such as those of an aging population, treatment for chronic diseases, the cultural integration of immigrants, and the requalification of cities and the informal settlements surrounding them. However, social innovation is, or could be, much more than this. Often, these ways of living and producing manage to bring individual interest into line with social and environmental interest. For this reason they can be seen as concrete steps toward sustainability: local applications of an idea of well-being based on a new ecology of relationships between people, and between people and their environment. This is an opportunity through which new tendencies have been opening unprecedented possibilities.

In the past decade the diffusion of the Internet, mobile phones, and social media, converging with social innovation, has enabled the creation of a new generation of services that not only offer unprecedented solutions to difficult social problems but also challenge our ideas of welfare and the relationship between citizen and state. Parallel to this great convergence, a second is now in the making. The explosive technological innovation under way in the field of fabrication systems, with the miniaturization of productive units, offers the possibility of creating new production and

consumption networks: distributed systems. The possible convergence of distributed systems with social innovation could give rise to networks of microenterprise capable of revolutionizing the production system, enhancing the local dimension and redistributing production activities and job opportunities in the opposite direction to what has been dominant in past decades.

The possibility of accelerating and directing this double convergence calls for a design research program. Considering that, in the transition, the whole of society should be seen as a huge laboratory of social experiment, the first thing to do is to foster and orient these experiments at all levels and in all application fields. The second is to enhance two lines of action: to replicate the best solutions and to connect them. Experimenting and replicating are two complementary procedures: in the transition, we need to experiment with new solutions and then consolidate and replicate the best ones. Finally, they must be connected so that a multiplicity of small initiatives may make a great impact.

Experiment, replicate, connect are three lines of action that call for both diffuse and expert design capacity. Together they should constitute the basic practices of a huge design project: open-design experimenting, able to embrace and align a multiplicity of initiatives throughout the world toward shared objectives.

4. This book seeks to be a contribution to design culture; a contribution to the cultural background that designers, whether expert or nonexpert, should elaborate and use, so as to do better what, in any case, they find themselves and will continue to find themselves doing. On the other hand, since culture is bound to context, as it should be, we can say that it is an Italian contribution to an international conversation. That is, a contribution that starts in a well-defined cultural context.

The book crosses various specialist ambits that mingle together in design practice, seeking to elaborate its own point of view and its own language: in short, its own culture. So, although it touches on different disciplinary fields, it is not an interdisciplinary book; it is a contribution to a specific design culture, parallel and complementary to others. This is a culture to whose growth all other social actors may contribute, but it is the design experts who should be its major producers.

It is therefore a book for everyone who is interested in digging deeper than usual into the design issues with which we find ourselves currently grappling. For this reason, it tries to open a conversation on social innovation that places alongside the fundamental issue of problem solving

another, which in my opinion is equally important, that of the sense of things. This means discussing the cultural dimension of social innovation and how this cultural innovation may be supported by an innovative design culture.

The book seeks to contribute to an international debate on these themes. It is based on a long series of experiences in various parts of the world which I have had the chance to have while coordinating DESIS, an international network of laboratories located in design schools and focusing on social innovation. On the other hand, I cannot and do not wish to separate myself from the culture I have received in the cultural world I come from. What the book proposes is therefore a contribution to an international debate put forward by a "situated author": an author who is collocated in a context and presents himself, openly, as an expression of a local culture. For this reason, the reflections offered in this book not only take shape from experiences lived, but also and above all they are supported by a system of values and references that come from how and where I have been educated and began to think.

My hope is that it may be a useful contribution to the development of a culture that is, as in my view it should be, in a sustainable perspective: a culture that is open to a global conversation, but is also a multiple culture, rich in diversity. An ecology of design cultures that are at the same time open to the world and local; rich in those profound differences that "the local," i.e., being rooted in a place, can offer.

In conclusion, I have another hope: that this book may also be a tribute to Italian design culture and to its great history. Indeed I would be happy if it were seen as an Italian design contribution to the emerging issues it deals with. Is there anything that links the Italian design culture that I come from with this participatory design for social innovation? I believe so. But to explain where this conviction comes from would require another book. So, if there are any readers who are really interested, I leave them the task of seeking these connections for themselves.

Part 1 Social Innovation and Design

1 Innovation, toward a New Civilization

When confronted with new problems, human beings tend to use their innate creativity and design capacity to invent and realize something new: they innovate. It has always been like that, but today these everyday innovations are spreading, appearing in unprecedented forms and making themselves felt with greater force. Their diffusion and character result from the combination of two main factors. The first is, of course, the nature of the problems to be dealt with on different scales, including everyday experience. The second is the pervasive diffusion of information and communication technologies and their potential in terms of organizational change. In such a situation, it is likely that a growing number of people facing a problem also see an opportunity and find a new way to solve it.

However, maybe what is happening goes beyond that. These people may not only be solving their own problems. In doing what they do, they may also be setting the basis of a new civilization.

Social innovation

"In 2005 in Liuzhou, Guangxi province (China), a group of citizens found that they could not access good, safe food in ordinary markets. They went to villages, about a two-hour drive from the city, and found that traditional agriculture models, though struggling, still survived in the remote countryside. With the intention of helping these farmers and developing a stable channel of organic food, they founded a social enterprise: a farmers' association called Ainonghui."[1] This story is one of the many collected by Fang Zhong for her PhD thesis on collaborative services in China. For several reasons I find it particularly telling: it is a wonderful case of social innovation, in which a group of citizens and farmers imagined and put into practice an original way to solve their problems and open new opportunities (example 1.1).

Example 1.1

AINONGHUI, A CASE OF COMMUNITY-SUPPORTED AGRICULTURE, LIUZHOU (CHINA)

Ainonghui is a farmers' association in Liuzhou, Guangxi province (China). It has been set up by a group of farmers and citizens to produce and deliver organic food. In practice it is an application of the community-supported agriculture idea in China. "Today, beyond producing and delivering food, Ainonghui farmers' association manages four organic restaurants and a community organic food store. By selling traditionally sourced food to citizens, they also educate them on what traditional/organic agriculture is and introduce a sustainable lifestyle into the city. Thanks to Ainonghui and the direct links it has created between citizens and farmers, the incomes of farmers are now better able to sustain traditional farming while allowing them to lead a better and respected life. What's more, several farmers have returned to the countryside to join the organic food network."[2] The core of this example is the unprecedented relationship between farmers rooted in their village, cultivating their traditional knowledge and expertise, and citizens who have been exposed to ideas circulating in worldwide networks and who are endowed with a particular design and entrepreneurial capacity. Recognizing the complementary nature of their motivations and capabilities, they have been able to bridge the culture gap and overcome mutual prejudices to generate a solution that, otherwise, would have been impossible.

But, in my view, this case is also much more than that: it is a working example of a brand-new production and economic model. The production model is based on the idea of creating direct links between production (in this case, farming) and consumption; one that is connected on a local scale but also open to the global flow of people and ideas (which makes it a *distributed production system*).[3] The economic model operates in the framework of a new *social economy* in which different economies coexist and in which "everybody wins":[4] the group of citizens who started it (and who now have the good, safe food they wanted) and the farmers involved.

Ainonghui is a wonderful example of the growing number of initiatives worldwide that are dealing with fresh, organic, healthy food and its links with farming: from farmers' markets to food coops, zero-mile food, and community-supported agriculture. As we have already observed for Ainonghui, what all these initiatives propose is not only a new way of eating but a new way of producing, a new kind of relationship between production and consumption and between cities and their surrounding countryside.

Once we start to observe society, looking for initiatives like these, a variety of other interesting cases appears: groups of families who decide to share some services to reduce the economic and environmental costs, but also to create new forms of neighborhoods (cohousing and a variety of forms of sharing and mutual help within a residential building or neighborhood); new forms of exchange and barter (from simple barter initiatives to time banks and local money); services where the young and the elderly help each other, promoting a new idea of welfare (collaborative social services); neighborhood gardens set up and managed by citizens who, by doing so, improve the quality of the city and of the social fabric (guerrilla gardens, community gardens, green roofs); systems of mobility in alternative to individual cars (car sharing, carpooling, the rediscovery of the possibilities offered by bicycles); new models of production based on local resources and engaging local communities (social enterprises); fair and direct trade between producers and consumers (fair trade initiatives).

The first and most evident common characteristic of these initiatives is that *they emerge from the creative recombination of existing assets (from social capital to historical heritage, from traditional craftsmanship to accessible advanced technology), which aim to achieve socially recognized goals in a new way.* This common trait also give us a first definition of what social innovation is and why it appears.

Ideas that work in meeting social goals[5]

"We define social innovations as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society's capacity to act."[6] On the basis of this formal definition, we understand that social innovation has always existed; but nowadays, for various reasons, it is becoming widespread practice, assuming unprecedented characteristics: on one hand, information and communication technology is spreading, with the new social forms it makes possible; on the other, an increasing number of people in different contexts, for one reason or another, are finding they have to reinvent their lives. Evidently this is the crux of the problem: today, in many western (traditionally rich) countries, the present economic crisis has been compelling more and more people to learn how to live, and if possible to live well, while reducing their consumption and redefining their ideas about well-being (and work). At the same time, the majority of people in fast-growing economies are driven to shift quickly from their traditional socioeconomic contexts to new ones, which we will refer to as "modern":[7] they have to radically redefine the way they live and their ideas of well-being.

Against this background, millions of other people are forced by poverty, wars, and environmental disasters to move from villages to cities (but it would be better to say from villages to shantytowns, bidonvilles, or favelas, depending on the region) and from their original country to others (where they hope to find a better and safer life). Each of these problems is a challenge for society as a whole and for its political institutions and agencies, on every scale from local to global. Each of them is a vast, worldwide social problem the solution to which cannot be found in traditional economic models and in top-down initiatives (even though these initiatives are desperately needed too). NGOs and civil society associations must play a role, and, most importantly, individuals, families, and communities must actively and collaboratively participate. This is where social innovation can help. Of course, the way this will happen is totally open, but there is no doubt that, everywhere and every day, millions of people are driven to change something in their way of living (and, beyond that, in their way of thinking and their idea of well-being). In this state of things, social innovation steps in as a potentially powerful agent of change in the entire sociotechnical system.

Solutions to intractable problems

In the last few years, social innovation has moved from the fringe to the center of the political agenda of several governments and, more generally, of public discussions.[8] So, we can ask ourselves, why has this happened?

A first answer to this question is very simple: social innovation works in solving problems that had previously been seen as very difficult, if not intractable. "The main reason," write Murray, Caulier-Grice, and Mulgan, "is that existing structures and policies have found it impossible to crack some of the most pressing issues of our times."[9] They are referring to issues such as worldwide epidemics of chronic disease, widening inequality, aging societies, or threats to social cohesion in multicultural societies. Mulgan and his colleagues refer to these as *intractable social problems*: problems to which "the classic tools of government policy on the one hand, and market solutions on the other, have proved grossly inadequate."[10] When facing these intractable problems, social innovation appears important because, as anticipated, it indicates viable ways of dealing with them: solutions that break the traditional economic models and propose new ones, operating on the basis of a multiplicity of actors' motivations and expectations.

These new, complex organizational models challenge traditional mainstream ones, going well beyond the conventional polarities of private versus public, local versus global, consumer versus producer, need versus wish. The solutions of social innovation propose models where these polarities

blur. They are, at the same time, both local (i.e., rooted in a place) and global (i.e., internationally connected to similar models); producer and user roles tend to overlap (given that everybody tends to actively participate); the personal motivations of wish and need tend to coincide, since people participate because they like it, but at the same time, because they need to. In particular, as far as this last polarity is concerned, the relative weight of these wishes and needs may change from region to region and from one time to another.[11] However, in all the observed cases, social innovations seem to happen only if there is both need and the will to do something about it (that is, an appropriate combination of wishes and needs).

Doing things in a (radically) different way

We have already seen that, in practical terms, what these innovations do is to recombine existing resources and capabilities to create new functions and new meanings. In doing so, they introduce ways of thinking and problem-solving strategies that represent *discontinuities* with what is locally mainstream, i.e., with the ways of thinking and doing that are considered "normal" and are most widely applied in the sociotechnical context in which they operate (see box 1.1).

For instance, in view of the widespread problem of a growing elderly population, the question could be: "How can we take care of all these elderly people?" In mature industrial societies and in the more globalized parts of emerging ones, i.e., in modernized societies, the mainstream answer is: "Create more dedicated professional social services." However, the radically innovative one is: "Consider the elderly not only as a problem but also as possible agents for its solution; support their capabilities and their will to be actively involved, and optimize use of their social networks." This initial revolutionary move of considering the elderly not only for what they need but also for what they are able and willing to do has led to a number of social inventions and enhancements. These range from circles of care and cohousing for the elderly (where elderly people are supported in different forms of mutual help), to effective symbiosis between the elderly and young people (as in the "Hosting a Student" example, where elderly people living in large houses offer a room to students who are willing to help),[12] to several other models of intergenerational residences in which residents of different ages agree to help each other.

We can consider these examples as cases of radical innovation because, given a problem that looks very difficult (if not totally unsolvable) from a mainstream point of view, they propose a different way of looking at it (in this case, recognizing that elderly people are not only people with problems

Box 1.1

Local discontinuities

What does it mean to create a discontinuity with the current way of being and doing? In general terms, it means to create something that breaks the routine by proposing ways of behaving that are radically new. However, when dealing with social innovation, what does "radically new" mean? The first and obvious answer is that it cannot be defined in general terms, because the same idea and the same organization are not new to the same degree in different contexts. For instance, mutual help between neighbors is mainstream in a Rajasthan village in India, where it is part of a living tradition, but it may be radically new in a middle-class neighborhood in London or Milan. A farmer selling his or her products in an African market is a "normal" expression of the local food and agriculture system, whereas farmers selling their vegetables and fruit at Union Square Farmers' Market in New York are a radical innovation compared to the conventional food and agriculture systems in the United States.

As these examples clearly indicate, what is "radically new" in these organizations is context-dependent. In other words: setting up a collaborative organization based on mutual help in London and Milan is highly innovative, even though it may be similar in many ways to what normally happens in a Rajasthan village. Obviously, the same can be said for the Farmers' Market in Union Square in New York, compared to one in an African village.

and needs and that, given the right conditions, many of them can change their role and actively participate in solving their own problems together with those of their peers). Once this change in outlook has been achieved, new viable solutions appear and with them a range of unforeseen positive outcomes. In fact, just like all radical innovations, these examples not only indicate a new strategy to solve a given problem, they reformulate the same problem, leading to very different results. In other words, responding to some urgent questions, radical innovations generate *answers that change the questions themselves*.

Social economy in practice

We can observe that, in the economic model on which these innovations are built, societal and environmental interests converge. Careful study of these models has led them to be seen as an expression of an emerging economy: a *social economy* where, as Robin Murray states, the market, the state, and the grant economy coexist with self- and mutual help, barter, charity,

and other pro bono activities (which Murray includes as part of the household economy).[13] Murray writes: "I describe it as a 'social economy' because it melds features which are very different from economies based on the production and consumption of commodities. Its key features include: The intensive use of distributed networks to sustain and manage relationships, helped by broadband, mobile and other means of communication. Blurred boundaries between production and consumption. An emphasis on collaboration and on repeated interactions, care and maintenance rather than one-off consumption. A strong role for values and missions."[14]

The result is that, even though it is still far from mainstream thinking, in several countries, especially those the present crisis is hitting the most, social innovation is attracting growing interest precisely because of the new social and economic models on which its results are based. In other words, there is "a growing recognition that societies need to speed up testing and diffusion of programs that can really deliver results for less money and alleviate the worst harm of the recession."[15]

As a matter of fact, I think that the hope of "deliver[ing] results for less money" has undoubtedly been the main driver in bringing social innovation to the political agenda of several governments, both for better and for worse. The positive side is that politically and socially this motivation touches very sensitive issues, and therefore it can really boost public interest in what social innovation can do. On the other hand, the risk is that social innovation could become the acceptable face of a program of cuts in public social budgets (supporting this program with the assumption that civil society should step in and deliver services previously delivered by the welfare state).[16] For me this is a very negative perspective, based on a mistaken interpretation of what social innovation can bring and of how collaborative organizations can work.

In my view, in attempting to deal with the apparently intractable problems we are now considering, innovation of this kind could lead to a *new generation of social services* based on a renewed pact between citizens and the state. In this perspective, the state, far from being minimized, becomes an active and influential partner along with citizens and social enterprises.[17] This last sentence leads us to widen our discussion from the intractable but relatively focused problems we have been considering to a much broader view. In fact, the problems that are triggering social innovation and which social innovation contributes to solve are, in my view, even greater than the ones we have been discussing. They include the crisis in the mainstream ideas of well-being, of work, and of the current production model: a crisis that not only demands specific solutions but calls for a new, hopefully wiser, civilization.

Sociotechnical systems and innovation

Before going on, we must draw attention to a theoretical point. Given that there are no human societies without technology, every change that concerns them is, at the same time, social and technical. Therefore, referring to social innovation is a simplification in terms. To be more precise, in these cases we should talk about innovation in the sociotechnical system triggered by a social change. By this I mean that by introducing a new social form that uses existing technologies but uses and combines them in new ways, it effectively changes the technical system.

Up to now, talking about social innovation in this simplified way has made sense because it enabled us to highlight the existence of change driven by social innovation, whereas the only driver of change considered for a century had been technical (or better still, technoscientific). Today this unilateral vision is no longer possible: the evidence before us shows that innovation in the sociotechnical system does not come only from the technical side; it is also socially and culturally driven. However, having made this general point (and justified the simplification that leads us to separate technology and social innovation), we must immediately complicate the picture: there is now, for reasons we shall see, a growing area of innovation in which it is very difficult, if not impossible, to make such a separation.

The point is this: the more technical systems penetrate society (meaning the more far-reaching and more diffuse the interface between technology and society), the faster and more far-reaching will be their impact on the social systems in which they operate. In addition (and this is what most interests us here), the more people are exposed to these technologies, the greater their opportunity and ability to absorb them and understand how they can be used or adapted for purposes that the technical inventors and developers of the systems never dreamed of. This is clearly what has happened with information and communication technologies: rapidly penetrating into society, they have been quickly "normalized." This means that in just a few years they have become, for many people, the organizational platform for much of their day and indeed their life. In addition, many of these people have adapted them to their needs or invented totally new and unexpected ways of using them. All this has become so evident that many products are now offered to the general public in an openly incomplete version (the "beta version"), in order to be able to harvest the improvements or extensions that are suggested by users (who will therefore effectively become co-designers).

It follows that, in more and more cases, it is becoming increasingly difficult to make the simplification that led us to distinguish between technical

and social innovation. For a growing area of sociotechnical innovations, the discussion about which of the two sides (technical or social) made the first move tends to resemble the chicken-or-egg debate.

Distributed and resilient systems

While social innovation merging with technological innovation may find new ways to solve specific problems, this meeting itself is transforming infrastructure and production/consumption systems.

Over recent decades, a new generation of sociotechnical systems has emerged and in some cases become widespread. As a whole, we can refer to them as *distributed systems*: sociotechnical systems that are scattered in many different but connected, relatively autonomous parts, which are mutually linked within wider networks. Chris Ryan, one of the main experts on this topic, defines them in this way: "The distributed model sees infrastructure and critical service systems (for water, food and energy etc.) positioned close to resources and points of demand. Individual systems may operate as separate, adaptive units but are also linked within ever-wider networks of exchange—at the local, regional or global level. Services traditionally provided by large centralized systems are instead delivered via the collective capacity of many smaller diverse systems. Each is tailored to the needs and opportunities of unique locations but has the capacity to transfer resources across a wider area."[18] By enabling a new kind of relationship between small and large scale, and between the local and the global, distributed systems challenge mainstream production models and their technological infrastructure. The potential of these systems has been increasingly recognized thanks to their technological effectiveness and the enthusiasm of a growing number of people, making them entirely coherent with the ongoing social innovation we are dealing with here.

Distributed systems are of course firmly based on technological innovation. However, their essentially distributed nature emerges out of more complex, innovative processes in which the technological side cannot be separated from the social one. While centralized systems can, in principle at least, be developed without considering the social fabric in which they will be implemented, this is impossible when the technological solution in question is a distributed one. In fact, the more a system is scattered and networked, the larger and more connected is its interface with society and the more the social side of innovation has to be considered. In other words, with regard to our discussion here, we can say that *no distributed system can be implemented without social innovation*: distributed solutions (such as

small-scale production and use of renewable resources, localized food networks, microfactories) can only work if groups of dedicated people decide to adopt them and commit themselves to their implementation.[19]

Looking more attentively at how these distributed systems have appeared and spread, we can observe that it has happened at different moments and for different reasons: different waves of innovation that are gradually converging.

The first of these, which has become the technical support for all the others, occurred when information systems shifted from their old hierarchical architecture to a new, networked one (*distributed intelligence*), with the radical changes in sociotechnical organizations that this made viable. The result has been that, as new distributed forms of knowledge and decision making have become more common, the rigid, vertical models that were dominant in industrialized society have started to melt into fluid, horizontal ones.[20] The success of this innovation has been such that today networked architecture is considered an obvious "quasi-natural" state (but of course, as we have seen, this is not the case: before laptops and the Internet, information systems were based on large mainframe computers and their consequently hierarchical architecture).

Distributed infrastructure

The second wave of innovation has been affecting energy systems, and will affect water supply. As far as energy is concerned, a cluster of converging innovations has appeared that has put the energy sector into a new perspective: small, highly efficient power plants, renewable energy systems, and the "smart" grids that connect them have made it possible to move toward distributed solutions (*distributed power generation*). These solutions are challenging the as yet mainstream systems with their large power plants and hierarchical ("stupid," fragile) grids. They are now a major field of investment and competition within the strong, ongoing "green technology" trend. It is reasonable to think that these technologies will strongly impact the whole system and that, at the end of the day, the whole energy system will evolve in a trajectory similar to that of information systems, moving from a hierarchical architecture toward a distributed one.[21]

It is more than probable that a similar trajectory will be followed by water provision systems. In fact, climate change and the increase in water demand call for a new approach in water engineering and management. Also in this case, what is happening is a shift from centralized systems (with fresh water collected and stored from rivers and streams and distributed to final users for all uses) to distributed ones. In the latter, freshwater is restricted to high-quality uses (such as drinking water and a few others);

all other water requirements are satisfied with local water: storm water and gray waste water locally retained and appropriately treated. This new distributed water system calls for specific planning (called *water-sensitive urban design*),[22] and for new attitudes and behavior on the part of citizens.

Distributed food networks

The third wave of innovation toward distributed systems concerns food and agriculture. Two streams of sociotechnical innovation converge here. One is driven by concern about agriculture's dependence on chemicals and oil, and therefore about its fragility, and promotes local food in order to make the system more resilient. This stream of innovation is exemplified by movements such as "transition towns,"[23] which propose to increase the self-sufficiency of local communities. The second stream of innovation is based on considerations about the quality of food and farming and is represented by movements like slow food.[24] In this case, the main motivation is a desire to improve the entire "food experience," linked to the "quality of proximity": a perceived quality deriving from a direct experience of the place where a product comes from and the people who produce it.

Beyond the difference in initial motivation, the two streams converge in their practical proposals. Both indicate solutions that aim to connect farming and food consumption (and often proximity tourism), as in zero-mile food and community-supported agriculture. It must be added that interest in distributed food production systems is growing rapidly, influencing not only sizeable minorities but also a growing number of city councils who are starting dedicated programs and urban renewal schemes.[25]

Distributed fabrication

A fourth wave of innovation challenges mainstream globalized production and consumption. It comes from the convergence of innovation in the field of production (with new, small, and effective machinery) and social networks (with unprecedented possibilities to integrate designers, manufacturers, and users). The result is worldwide experimentation in small-scale, high-tech design and fabrication systems capable of supporting new forms of open design and networked microfactories (such as the ones proposed by FabLabs and by the makers movement).[26] We can add that the distributed production idea is migrating from this area of high-tech fabrication to traditional craftsmanship and small and medium-scale enterprises, revitalizing them and giving them a new perspective. Although these trends are still in their initial phase, we can foresee that they will grow stronger; that the whole production system will move toward design and production

processes shaped by the principle of "making things as near as possible to where they will be used." There is little need to add that they have potential in terms of job creation and, most importantly, that their distributed nature enables them to bring these activities and related jobs to places where they have never been before, or where the processes of deindustrialization have led to their disappearance.

The motivations behind these trends may differ widely. One of these could be seen as an almost linear evolution of the lean production approach (a manufacturing model that has dominated industrial-sector innovation for the last thirty years). In fact, distributed systems can be seen as the lightest and most flexible of production systems, able to create products for specific clients not only when they need them (customized and just-in-time production) but also where they need them (or, at least, as near as possible to the place where they need them): point-of-use production. A further set of motivations comes from various radical groups, against a background of worries similar to those behind the emergence of distributed food networks: the quest for autonomy from the great centers of finance and decision making, but also for self-sufficiency and ultimately for resilience in the sociotechnical systems in which we live, produce, and consume.

Distributed economy

Finally, we can observe that, today, the interest in distributed systems is going beyond the discussion on infrastructure and production models and is starting to affect economic models. As Chris Ryan writes, "there is growing interest in the model of distributed systems as a way of reconceptualizing the organization of a sustainable economy."[27] In other words, it appears that a sustainable, resilient economy must also be a *distributed economy*: a local-global economy in which local economies operate as separate, adaptive units linked within ever-wider networks of exchange—at the local, regional, or global level.

It follows that distributed systems are emerging as an expression of the new, wider economic paradigm of a social economy. As Robin Murray writes, "The shift to a networked paradigm has the potential to transform the relationship between organisational centres and peripheries. Its distributed systems handle complexity not by standardisation and simplification imposed from the centre, but by distributing complexity to the margins—to households and service users, and in the workplace to local managers and workers. Those at the margins have what those at the centre can never have—a knowledge of detail—the specificity of time, of place, of particular events, and in the consumer's and citizen's case, of need and desire. This is

the potential. But to realise it requires new terms of engagement with users, new relations at work, new terms of employment and compensation."[28]

Resilient systems

As we have seen, interest in distributed systems is growing, along with interest in the value of proximity and self-sufficiency and in local economies and self-sufficiency (in food, energy, water, and fabricated products), in order to promote community resilience to external threats and problems.[29] In fact, by their very nature, distributed systems are more *resilient* than mainstream vertical ones, because they are able to create sociotechnical systems capable of recovering from the various unforeseeable problems that may occur, and to learn from them.[30] In my view, this issue of the resilience of sociotechnical systems is likely to become the most powerful driver toward distributed systems. Therefore, it is worth reflecting briefly on it.

For a long time, we have known that whatever our future society will be, it will be a "risk society"[31]—a society likely to be affected by different kinds of traumatic events (from natural catastrophes, to war and terrorism, to financial and economic crisis). We have therefore long known that the necessary condition for every possible sustainable society is resilience—its capability of overcoming the risks it will be exposed to and the stresses and breakdowns that will inevitably occur.[32] Today, the implications of this risk society are no longer only projected for the future. They are becoming evident worldwide in our daily life experiences. Therefore, the notion of resilience is moving into the vocabulary of more and more people, and it would be wise to accelerate its entrance into policymakers' agendas and into the design community's aims and practical actions. At the same time, we must keep to its original meaning, avoiding the tendency to normalize it and thus diminish its force, underestimating the risk to be withstood. In fact, when talking about enhancing resilience we are not referring to a modest, incremental change in existing (fragile and unsustainable) organizations. It is a systemic change that is required: a shift from vertical hierarchical systems to the distributed ones we have been discussing in this chapter. A shift that, to take place, asks not only for a sociotechnical change but for an equally important cultural one.

Cultures of resilience

In all its interpretations, the notion of resilience has been used heretofore in the framework of a defensive discourse: confronted by crises, we have to reorganize our society and make it more resilient in its current terms. But we can look at it also in a different, more positive and interesting way.

If, technically, resilience means diversity, redundancy, and continuous experimentation, it also means that the corresponding society must be a diversified, creative one. Taking seriously the meaning of resilience, this compelling and deeply human image of society becomes much more than just a wish. It indicates the direction in which, very practically, we need to go if our society is to have any hope of lasting. In short: in a resilient society, cultural diversity and creativity must flourish. Indeed, cultural diversity and creativity must be an integral part of any scenarios of resilient societies.

In sum, to move away from the mainstream ideas of the past century, one of the first steps must be to reposition the notion of resilience: to move it from a mainly defensive meaning (resilience as a necessity imposed by the risky times in which we live) to a more positive one: resilience as a deeper expression of the human character and, at the same time, as ground for a possible reconciliation between human beings and nature, between human beings and the irreducible complexity of our world.

Multiple sustainable qualities

We have seen that the search for more resilient systems calls for a new culture; or better, for a metaculture capable of forming the ground on which a multiplicity of cultures (the *cultures of resilience*) would be able to flourish.[33] Here I will draw a picture of how, in my view, these new cultures are starting to emerge.

The convergence of social and technical innovation interacts with the way people are and think. The result is a cultural innovation that coevolves along with the social and technical ones. In this way, new behavior and values emerge, breaking with those that have been dominant and proffering new ideas on the quality of life, impacting what we count as well-being and the values on which we base our choices.

Looked at from this point of view, the people who set up the new collaborative organizations can be seen to be exploring some of these same ideas. We can call this exploration a search for quality. In turn, when putting their solutions into practice, they give these ideas or qualities visibility, making them recognizable to others and potentially attractive to a wider range of people.

Let me explain myself better.[34] People who conceive and set up new solutions and those who participate in them do so by choice. Largely because of this, in the solutions they produce there are certain features that they see as better than those proposed by the mainstream, unsustainable system of production and consumption. They choose solutions that make possible what they perceive to be a higher quality of life, and one that involves less

consumption (of products, energy, and space). In doing so, they compensate for reduced consumption with an increase in something else that they consider more valuable.

This "something else" is generally represented by the qualities of their physical and social environments. We can refer to them as *sustainable qualities*: qualities that call for more sustainable behavior; qualities that, as social innovation empirically demonstrates, can substitute for the unsustainable ones that were predominant in the past century. These qualities are very diverse in nature, yet interdependent. They are like different views of a broader picture, the different facets of a complex pluriverse which could eventually be considered a pattern of signals indicating an emerging culture and, hopefully, an emerging civilization.

Complexity and scale

All the cases of social innovation and the solutions they generate are intrinsically complex. As such, they cannot be reduced to single motivations and single results: both motivations and results are multiple, and their quality depends on their variety and configuration. Promoters and participants recognize this kind of complexity as a core value in their existence, i.e., as richness in the experiences they offer. With this kind of complexity, the traditional boundaries between designer, provider, and user of a solution become increasingly blurred. There is no stereotypical profile of participants. The emergence of this "enriching complexity" can be considered a value that reflects the true nature of human beings (the complexity of which cannot be expressed in unidimensional terms).

At the same time, this growing complexity is offset by a reduction in scale. Small-scale organizations are, generally speaking, more transparent and comprehensible and therefore closer to the local community. At the same time, many of these small-scale initiatives are connected to other similar or complementary ones. By jointly weaving a large distributed system, they hint at a new concept of globalization—a distributed globalization where, for each process of production, distribution, and consumption, much of the decision making, know-how, and economic value remains in the hands, minds, and pockets of the local community. Collaborative organizations seem to orient themselves in this direction for two different sets of reasons. On the one hand, they enable members to understand and manage (in an open and democratic way) complex sociotechnical systems. On the other hand, the human scale of the communities gives individuals the opportunity to carry out their activities, fulfilling their needs and building their desired futures, from within the framework of organizations where human relationships continue to be lively and personal.

Work and collaboration

Enriched complexity and small scale form the backdrop against which human activities can be reshaped. At the center of this new scene stands the (re)evaluation of work as a primary means of human expression. Both promoters and participants seem to move in this direction. In fact, they reevaluate work, seeing human beings as individuals carrying out meaningful activities—people active in "making something happen," in trying to shape the context of their lives and create viable futures. As such, they are in radical opposition to the mainstream system that mostly considers human beings as mere consumers, as users and spectators of shows that somebody else has produced; but they are also challenging the traditional idea of work, because they attribute far greater value to manual work and because they extend the idea of work to a broader range of activities. These include tasks that are not normally considered work, such as care activities, neighborhood management, and community building: activities that ultimately enable people to face problems of everyday life and constitute the basic fabric of day-to-day quality of life. This framework leads to the notion of "meaningful work."

In this process of reevaluation/redefinition of the notion of work, the value and the power of collaboration reappear. It is a necessary precondition for "making something happen" and for enabling people to play an active role in the construction of their chosen future. The majority of the solutions these innovative people generate are based on collaboration. They are groups of individuals who decide to connect in order to "make something happen." Participants freely decide to relinquish part of their individuality to create a system of links with other interested individuals. Ways of collaboration vary, as do the motivations for collaborating. In these initiatives there is a blend of discovery of the practical effectiveness of doing things together and the cultural value of sharing ideas and projects. In contrast to what used to happen in traditional communities, this form of collaboration is not mandatory: it is "collaboration by choice," where people can freely opt in or out. This intentional collaboration lies at the crossroads of two trajectories: one moving from the hyperindividualism of most industrialized societies toward a (re)discovery of the power of doing things together, and the other from traditional communities in less industrialized societies toward more flexible forms of intentional collaboration.

Relationships and time

The promising initiatives we are dealing with here are social organizations. Their structure is a system of interactions among people and between people,

places, and products. These interactions are what ultimately characterize such organizations. Promoters and participants seem to be particularly sensitive to these interactions and to complex, deep human relationships. In fact, in several cases it is exactly this interest in the quality of relationships that tends to guide behavioral choices. This shift from products to interactions is not new. The current mainstream system of production and consumption has already made this shift, but often by reducing interactions to shallow experiences (e.g., proposing life as a kind of reality-TV show, or living environments as theme parks). Collaborative organizations, on the contrary, are generating solutions that, even though they are very diverse, are endowed with lively relationships: we could say relationships with a human touch. And it is exactly these lively relationships that the participants value.

In turn, the search for lively relationships calls for new valuations, interpretations, and experiences of time: the time needed to build them. By this, we mean the time needed to link a multiplicity of actors, places, and products together and build several layers of meanings on them. Promoters and participants recognize this link and—unlike in contemporary accelerated time—they recognize slowness as a precondition for producing more profound qualities. The discovery of the "slow," of course, does not mean simply replacing the "fast time" dominant in the past century and up until now, with its opposite, "slow time." The time of complexity is an "ecology of times" where different types, with different characteristics and different paces, coexist.

Locality and openness

The small scale and interconnectedness of social organizations allow them to be deeply rooted in a place. Simultaneously, by being highly interconnected they can also be very open—to global flows of ideas, information, people, goods, and money. Promoters and participants tend to search for this balance between the local and the open: for a *cosmopolitan localism* capable of generating a new sense of place. As such, places are no longer isolated entities, but rather nodes in both short- and long-distance networks, where the short networks generate and regenerate the local socioeconomic fabric and the long ones connect a particular community to the rest of the world. Within this framework, a variety of new local, open, and highly contemporary activities are taking place, such as: the rediscovery of neighborhoods; the resurgence of local food and local crafts; the search for products developed close by, in order to have more direct experience of their origins; and the strategy of self-sufficiency to promote community resilience to external threats and problems.

An emerging civilization?

All these ideas, the activities they refer to, and the relationships they generate seem to me beautiful islands of applied cultural and socioeconomic wisdom. They are islands in the sea of unsustainable ways of being and doing that is, unfortunately, still the mainstream throughout the world. The good news is that the number of these islands is growing and generating a wide archipelago. An archipelago that could be seen as the emerging dry land of a rising continent: the already visible expression of a new civilization.

Is this way of interpreting it a valid one? Of course this is an open question, but in my view the image of an emerging new continent is not only wishful thinking. On the contrary, it is a concrete possibility. Or, to be more precise and pertinent to the spirit of this book, it is a design hypothesis: something that is not yet a reality, but that could become real if the necessary moves were made. Of course this metaphor, like all metaphors, has its limits: in the case of real islands the continent is already there, underwater, with all its characteristics, but this is not so for our metaphorical islands. What is emerging is a potentiality. The world that could arise out of it, for the most part, has still to take shape. What it will actually be like depends on us, on what we are able to do in the near future.

"A new world is possible" was the claim of the Social Forum in Puerto Alegre. It was the year 2001. In that meeting the Indian writer Arundhati Roy made a statement destined to become very famous: "Another world is not only possible, she is on her way. On a quiet day, I can hear her breathing." Now, fourteen years later, not only can we confirm that it is on its way and that it is clearly visible in the tangible results of social innovation that are multiplying worldwide, but we can also add that it is proposing both the vision of a future civilization *and* the direction in which to move in order to solve the great and growing problems we are facing today.

Of course this new civilization is not, and will not be, built simply by adding together millions of individual social innovation initiatives. Other moves must be made and other changes must take place at every scale, mobilizing all existing resources. However, several signals tell us that, in this century, given the changes that have already occurred and given the challenges we still have to face, social innovation will be the main driver of change. It will play the role that, for good or bad, technological innovation (and industrial development) played one century ago.

Final note: browsing through this chapter on social innovation as driver of change toward sustainability, some readers may observe that I have not discussed (unless very briefly) the powerful forces that are fighting against

the emergence of a new, sustainable world: the forces of those who do not want to change (in order to protect their existing interests) and those who (aiming to create new profitable opportunities) do want to change and are actively trying to do so, but are leading us in the wrong, unsustainable direction. Of course these economic, political, and cultural forces are in the background of the whole picture I have tried to outline. However, while writing this chapter, I thought that my role, as a *reflective designer*, was not to add a new analysis of the nature and dimension of the problems and of the "enemy forces." Other writers have done and will do this much better than I could ever do. Instead, what I have tried to do here is to offer an *oriented overview* of the state of things, meaning a view that aims to trigger, support, and orient possible design actions. Moving from here, it will (hopefully) be possible to contribute in the following chapters to the building of new design knowledge: design knowledge that, in my view, is desperately needed if we are to join the battle for a sustainable world with a greater hope of victory. Or, to use again my favorite metaphor, to collaborate in helping the new continent emerge.

2 Design in a Connected World

A century ago, a new culture and new practice appeared to deal with technological innovation and industrial development, making them part of everyday life and, more importantly, building a shared vision able to give them meaning. This new culture and practice was industrial design. In my view, something very similar should happen today. Social innovation has the potential to change the world, but a new culture and practice are needed. Design could become this new culture and practice, but to do so it must itself change and become a widespread activity, permeating the multiple nodes of the unprecedented sociotechnical networks in which we all live and operate. Is it possible that this will happen? Can there really be a design culture and practice in this new century able to assume this role in social and technological innovation? The short answer is: yes, but we have to work on it.

Conventions and design

In recent years the terms "design" and "designer" have been successfully applied to notions, activities, and people well beyond those found in the community traditionally acknowledged by these terms. The result is that today design is recognized by an increasing number of people as a way of thinking and behaving that is applicable to many situations. On the other hand, for this very reason, its meaning has become less clear than it seemed (to those in the field) to be in the past. So, nowadays, to this increase in the numbers of those who talk about it, and to the wide range of activities it is used in, there corresponds an equally wide spectrum of meanings and potential misunderstandings.

It is not difficult to understand the reason for all this (for design's success, and for the confusion over its meaning): in recent years we have seen

a fast and deep-reaching transformation of the social and the technical systems. Design, which by its very nature bridges the gap between them, could not avoid being transformed at its roots. Design itself has been (and still is) a fertile ground for social innovation. Indeed it is one of the most dynamic.

Therefore, before talking about how it can work for social innovation (something I shall do in the following chapters), it would be useful to look at how social innovation, together with technological innovation, has been changing design. This is what I shall try to do in this chapter. On the other hand, just because things have changed so profoundly, we shall have to go briefly back to design's origins, to the deeper meaning of the term and the cultures and practices it concerns.

Precisely because things have changed—because a growing number of people are increasingly called to use their "natural" designing abilities; because the sentence "we are all designers" no longer refers to a potential, but to a reality which we must face up to whether we wish to or not—I believe it is useful to start by looking at where design has come from: at the way we deal with the world. In other words, with the way we build our environment.

Let's start from this observation: our world, the world of human beings, is one that we build ourselves and fill with meaning. However, this construction process (in physical terms and in terms of meaning) does not always work in the same way. To simplify, we can limit ourselves to considering two ways: the *conventional mode* and the *design mode*.

Conventional mode

This is what we adopt when we can say: "We do it like this because we have always done so."[1] In other words, we are in conventional mode when tradition guides us in what we do and how we do it (and also in why we do it), and when social conventions enable all those interested in an activity or a given production process to know in advance what to do and how to do it (and everything happens in accordance with what everyone expects).

There is a certain wisdom in this way of proceeding. Following tradition is a rapid way of achieving tangible results that incorporate learning accumulated through a long series of previous experiences, through trial and error. It is a terse knowledge that has no need for specifications and prescriptions: things must be done "to the standards of the craft," and everybody in that particular sociocultural context knows exactly what this expression means; they do not need to ask or promise anything. Because of this, because it is such a terse know-how, it is also difficult to pass it on explicitly to others: it is empirical knowledge, implicit and initiatory, to

be learned by doing and, above all, by watching the master craftsman and copying his moves.

To be successful, the conventional mode requires a fundamental precondition: this "following tradition" and "doing things as they have always been done" must be feasible in practice and must achieve satisfactory results. It functions when the event or problem to be dealt with is a repetition of something that has happened before, or a problem that has previously arisen (and so we know how to solve it). It may even be something new, as long as it leaves us enough time to acquire new empirical knowledge by trial and error and reach a solution: a process that takes a very long time.[2]

When there is no time for this, when new events emerge and problems are posed that we have never had before, the urgent demand for rapid solutions overwhelms traditional know-how, indeed tradition as a whole. Anthony Giddens tells us that the more tradition is weakened, the more individuals find themselves having to negotiate and choose—from a multiplicity of possible options and referents—what lifestyles to adopt.[3] In our language this means that the more tradition is weakened, the more subjects must learn to design their own lives and shift from a prevalence of activities carried out in a traditional way to one in which choices are mainly of design.

Design mode

Design mode means the outcome of combining three human gifts: critical sense (the ability to look at the state of things and recognize what cannot, or should not be, acceptable), creativity (the ability to imagine something that does not yet exist), and practical sense (the ability to recognize feasible ways of getting things to happen). Integrating the three makes it possible to imagine something that is not there, but which could be if appropriate actions were taken. It is therefore a way of acting based on a capability proper to our species, a capability that we all possess and to which potentially we all have access. However, like all human talents, it must be stimulated and cultivated. So its presence and its role depend very much on the context in which subjects (whether individuals or collectives) find themselves operating: on the extent to which it stimulates and supports this ability, or else blocks it or diverts it in unworkable directions.

The conventional and the designing modes have always coexisted, but with different weight and visibility. Looking back over European history, we can see that the conventional mode was widely dominant all through the Middle Ages (everything from peasant cottages to cathedrals was built

in this way, without a real design, entrusting the project to the know-how of those directly concerned, or to specialists in the various crafts). Things started to change with the Renaissance and the scientific revolution. From this period onward, parallel to the speed of sociocultural, economic, and technological change, the design mode began to get a foothold and spread. The first and second industrial revolutions (especially the second, at the start of the twentieth century) sped up the process, and now, with the increase of connectivity[4] (i.e., the diffusion of networks and digital media), we are witnessing an explosive stage: everything is in movement, and traditional ways of thinking and doing things, along with traditional organizations, are melting away (box 2.1).

The consequence is that the design mode is becoming dominant in all fields, at all levels of human activity, and for every kind of "subject," whether individual or collective. This means that, in a highly connected world, with the rarefaction of traditions, organizations too (from businesses to public bodies and associations, from cities to regions and nations) are driven to present themselves and operate in design mode, in terms of both what to do and what to be like (box 2.2).

Human progress?

This great phenomenon can be seen and judged in different ways. For individuals and communities it is certainly easy to see its negative or problematic aspects. Although it is true that the current context encourages people to design their own lives, it is also true that the same context hinders them by creating expectations that cannot be satisfied, strewing difficulties in their path and reducing their practical possibility of realizing their life projects.

Nevertheless, I believe that things can and should be seen in another, more positive way. We could say that the diffusion of the design mode points to a possible way toward human progress, meaning the possibility of developing our most specifically human talents, such as being able to imagine and design. The diffusion of the design mode is compatible with a scenario in which people reflect on what they wish to do and be: in which more people define their own aims in life.[5] Obviously, this is an optimistic vision of a complex phenomenon, the outcome of which could be different. However, as I said, to me it looks possible, and therefore it is a question on which our collective designing capacity could be brought to bear.

To this theme, and the difficulties that individual and collective subjects meet in trying to put their designing capacity to good use, we shall return later (chapter 4). Here I would like to add some considerations on the various forms in which these capacities show themselves today.

Box 2.1

A connected world

The world today is characterized by a high and growing level of *connectivity* (meaning by this term the quantity and quality of interactions manageable by a subject within a system).

The hypothesis proposed here is that an increase in connectivity reduces the solidity of organizations. Therefore a world with high connectivity is also an (almost) fluid world. In effect connectivity seems to have the effect on an organization that temperature has on materials. Just as an increase in the latter loosens the ties between atoms and molecules, turning them into plastic and then fluid materials, so an increase in connectivity loosens the constraints on the configuration of organizations, making them plastic and then fluid.

The (low-connectivity) agricultural and industrial societies of the past were highly viscous, almost solid, sociotechnical systems: their social and productive organizations were (almost) solid, their personal ties were (almost) solid, and (almost) solid were their visions of well-being (which were in turn mainly founded on the solidity of things: land, the home, possessions and consumer goods). This (almost) solidity was to a large extent the consequence of low connectivity. Indeed the limits in the transmission and management of information (due to the difficult penetrability of space and limited communication tools) kept the general flow of people and ideas low, and made it difficult to manage information that was not fixed in rigid, hierarchical communication channels. It was just these difficulties in changing and redefining the communication channels that ultimately tended to maintain the form of organizations, and therefore to produce the (almost) solid organizations that remained prevalent for many years. Over time, the development of transport and communication systems led to an increase in the connectivity level of systems, reducing the stability of social conventions and cultural traditions and, therefore, lowering resistance to the transformation of organizations. Finally, in recent times the penetration of digital technology and the Internet have completed the dissolution, and the connected world is showing itself in all its turbulent, almost fluid nature, with all its implications: first of all, that this turbulent (quasi-) fluid world is the one that should evolve toward sustainability and, therefore, toward a more resilient state.

Problem solving and sense making

People wishing to talk about design, or more specifically about what design does, very often start with the definition Herbert Simon gives in his book *The Sciences of the Artificial*. He writes that design "is concerned with how things ought to be—how they ought to be in order to attain goals and to

Box 2.2

Design-driven organizations

Today, businesses, public administrations, associations, but also cities and regions must behave as *collective subjects* and define, or continuously redefine, their own identity, developing adequate strategies regarding the meaning of what they do.[6] At the same time, considering that they have to deal with increasingly complex problems (ranging from environmental transition to the effects of globalization, from aging populations to multiculturalism), they must develop strategies to face them and to build the coalitions needed to solve them.

Putting these two design necessities together, we can say that all organizations (whether public or private) are becoming *design-driven*: organizations whose programs are guided by design (a way of doing things that, until recently, was practiced only by a limited number of companies in well-defined commodity sectors, such as fashion and furnishing).

It follows that those who operate and hold responsibilities within these organizations tend to adopt a design approach which many people today refer to as *design thinking*:[7] a methodological approach and a mental attitude that all social actors should adopt when they find themselves faced with *wicked problems*[8] (i.e., with problems that are complex and ill-defined).

The prevalence among technicians, managers, and more recently policymakers and social entrepreneurs of the idea of adopting a design approach indicates a remarkable cultural change. In fact, a few years ago the term "design" was foreign to most of these professions. This is no longer the case: now, the potential of a design approach is understood by many, if not by all. That is, a lot has still to be done to spread the idea and clarify it, but today the importance of design is widely recognized not only by enterprises but by all stakeholders.

function."[9] The most immediate and common interpretation of this statement links the concept of design to that of the solution to problems and sees design as a *problem solver,* an agent for solving problems at all levels, from those in everyday life to those on a global scale.[10]

This interpretation of what design can do, though important and widely expressed, is not the only one: we can also talk about design while moving away from this approach, oriented toward problems to solve, and focus on a definition that highlights its role in the field of culture, and therefore of language and meaning.

How ought things to be?

Let's go back to Simon's definition that design "is concerned with how things ought to be …". So far so good, but how should things be? How are we going to decide whether and how far the new way things will be, the way achieved through design, will really be more satisfactory than what we have now? Quite apart from how we answer these questions, it is clear that such matters call for some kind of judgment. What is more, since judgments are made within sense systems, we discover that Simon's definition ultimately could be expressed as follows: design is concerned with making sense of things—how they ought to be in order to create new meaningful entities. Formulated in this way, design becomes a producer of sense. To be more precise: to the question "What does design do?," the new answer is: "It collaborates actively and proactively in the social construction of meaning."[11] And therefore, also, of quality, values, and beauty.

Clearly, this new definition does not replace the first. It is another way of putting it. The possibility and legitimacy of this double definition are based on the fact that design, like all human activities and all products of human activity, can be considered in two worlds:[12] the physical and biological world (where human beings live and things work) and the social one (where human beings converse and things become pregnant with possible meaning). Describing design as a problem solver means considering its role in the first world (physical and biological), but when we consider it as a sense maker, we are collocating it in the second (that of meanings and the conversations that produce them).

Two autonomous but interacting dimensions

Problem solving and sense making are not different ways of saying the same thing: they coexist, reminding us that the change in the state of things brought about by design always affects *both* the physical and biological world (where it resolves problems) *and* the social one (where it produces sense). They also tell us that, since these two worlds have their own autonomy even though they interact, the same is true for what design does within them: the story told by design as a problem solver and that of design as a sense maker coexist, interacting, influencing each other, but without one being a function of the other (box 2.3).

Consequently, although one is not an alternative to the other, the activities of problem solving and sense making can form a polarity and thus define a field of possibility. However, in order to use them in this way, we must avoid linking them with the ready question: "What does design do?"

Box 2.3

Form and function

Problem solving stands to sense making much as function stands to form (a relationship much discussed in the design community), or the useful to the beautiful.

Talking about utility and function in an artifact clearly means discussing it in terms of the physical and biological world: what that artifact does and how. Talking about form and beauty obviously means considering it in the world of language: what that artifact means and to whom. Both readings are possible and necessary. They tell us about the existence of artifacts in the two worlds. We must bear in mind that the two modes of existence are autonomous and that they interact without creating a reciprocal dependence, without one depending on the other in a deterministic way. In other words, for every artifact two stories can be told. The two stories are autonomous, but they affect each other. Consequently we cannot say that form follows function. Form and function have a complex relationship that must be uncovered or generated case by case. It is precisely in this complex interaction that design finds its deepest motivation. Design therefore does not operate only on the function of artifacts, nor only on their form. It operates on both, knowing full well that they are independent yet interacting.

These considerations, which design has traditionally made with regard to material products, must be extended to the new artifacts it is dealing with today. However, this is not easy: since its interest and its field of activity are shifting from products to relations (as in the design of interactions, services, and communications), it is sociotechnical organizations that design is contributing to building. Thus, it is a question of finding a language that enables us to talk about the function and form, the utility and beauty, not only of material objects but also of relationship systems.

(this because, as we have just seen, design always operates on two grounds at the same time). Instead, we must associate them with questions such as "What do we expect design to do?," meaning "What motivates the designer and what are the expectations of its potential beneficiaries?" If we pay careful attention to the debate and to design practice, we will see that various groups of actors working on different issues have different expectations about what design can do. Depending on the artifact in question and the cultural background of the speaker, one or other of the two worlds tends to take precedence. On the problem-solving side, we may find someone seeking to solve a problem reputed to be more or less well-formulated, such

as how to facilitate the lives of people suffering from diabetes; or how to purify water in an isolated village in an arid region of Africa. On the sense-making side, we may have someone who is talking about how to make things more attractive, interesting, and enjoyable, such as how to design furnishings for the new middle classes in emerging countries, or how to design shared space in a European cohousing project. The first two share the urgency of the problem and discuss it from a technical point of view (the question is: will it work?). The second two are discussing it in terms of cultural quality (the question here is: will our target user like it?).

While recognizing that in some cases, in order to make the discussion more effective, such simplifications may be made, and the conversation may focus on one or other of the two poles, in most situations discussion of design must include both dimensions, adjusting the balance to fit the case.

Diffuse and expert design

Let's start with the following statement: every human talent may evolve into a skill and sometimes into a discipline (meaning a culture, tools, and professional practice): everybody can run, but not everybody takes part in the marathon and few become professional athletes; everybody can tap out the beat with a tambourine, but not everybody plays in a group and few make a living playing it professionally. Similarly everybody is endowed with the ability to design, but not everybody is a competent designer and few become professional designers. Here lies the definition of a field of possibility for those who design, between the two poles of *diffuse design* and *expert design*, where *diffuse design* is put into play by "nonexperts," with their natural designing capacity, while *design experts* are people trained to operate professionally as designers, and who put themselves forward as design professionals. It is clear that these two poles with their corresponding profiles are an abstraction: what interests us is the extent of the field of possibility they indicate, the infinite variations that may appear within them, and especially their sociocultural dynamics.

To understand the nature of this polarity better, let's consider an ideal situation in which we tackle a problem and look for a solution. We can do so in various ways. We can apply our "natural" designing capacity, starting from zero (as if we were the first person in the world to consider the problem). We can use a skill acquired through previous or similar experience, or by exchanging information with peers who have found or find themselves facing a similar issue. Ultimately, when this skill proves inadequate, we can

ask the experts for help: people who are specially equipped with conceptual and operational tools to support designing processes.

New design knowledge

Design experts are therefore subjects endowed with specific knowledge permitting them to operate professionally in the design processes. In turn, this design knowledge can be defined from different points of view: from that of its content, its form, or its modality.

In terms of *content*, it includes a set of *tools* and, most importantly, a specific *culture*. The tools help the experts to understand the state of things and support the co-design process, from generation of the first concept to the final results. The *culture* is what is needed to feed both a critical sense (of the current state of things) and a constructive attitude (proposing the values and visions on which to imagine "the new"). However, this design knowledge can also be described in terms of how it is produced and how it can be transferred from one actor to others. In order to do that, we must introduce the notions of design-as-research and design research.

Discussing service design, but her observation can be generalized, Lucy Kimbell says that the practice of design experts is close to being a "constructivist enquiry," and is therefore becoming "an exploratory process that aims to create new kinds of value relation between diverse actors within a socio-material configuration."[13] It seems to me that this observation is of general value: when addressing issues that are as new as they are complex, design cannot but be an exploratory process. However, I believe that focusing on this modality of *design-as-research* does not deal exhaustively with the question of the relationship between design and research, and that we have to consider also a way of designing that takes shape as *design research*: an activity capable of producing knowledge useful to those who design. That is, *design* knowledge.[14]

There are several strong motivations driving design in this direction. The first and most evident is that the problems to be faced tend to grow in size and complexity. It follows that a design team cannot usually produce the required design knowledge for each individual project in the traditional design-as-research modality. Therefore, it is necessary to develop a design knowledge repository where the knowledge needed can be found and applied rapidly, when and where needed.

The second motivation for a new kind of design knowledge, and therefore a new kind of design research capable of producing it, is the change in design processes. In a connected world design processes tend to be

increasingly distributed among numerous actors who differ in culture, motivation, and professional development. In these conditions, traditional design knowledge, accumulated within the implicit knowledge of design experts, is no longer enough: too many subjects are involved and too many of them are not in the same place. Therefore, the required knowledge must be clearly expressed (by whoever produces it), easy to discuss (by many interested interlocutors), and easy to apply (by other designers), so that other researchers can use it as a starting point for producing further knowledge. In conclusion, this *explicit, discussable, transferrable, and accumulable* knowledge is what design research must produce (box 2.4).

In a connected world, designing networks also tend to become *design research networks*: research networks that produce "constructive enquiry"

Box 2.4

Design research

Design research is an activity producing design knowledge, i.e., it produces the knowledge that is needed in order to design. It is possible to outline several research methods that allow us to study different aspects of design activity. The first one is research that produces better conceptual and operational tools for designing; this is called research *for* design, whereas research that helps to understand the nature of design itself is called research *on* design. These two forms of research are usually conducted through methods proper to disciplines endowed with a consolidated research tradition, methods that are then adapted to design-specific requirements. In the field of research for design, these methods are typically those of ethnography, semiotics, ergonomics, and various technological and economic disciplines. In research on design, they are often drawn from history, sociology, or philosophy.

Conversely, research that produces visions and proposals usually adopts original methods, using tools and skills proper to designer culture and practice. We refer to this as research *through* design. In this case, the research modes are different from those of traditional scientific research. Research through design necessarily brings into play a level of subjectivity that would be inadmissible in the scientific tradition. Nevertheless, this is not typical "artistic research," totally guided by the subjective dimension. Design is a discipline that combines creativity and subjectivity with a dose of reflection and discussion about its own choices. The same is obviously true for research through design, with the added factor that, in this case, the knowledge produced cannot be implicit and integrated in the design but must be explicit, discussable, transferable, and compoundable.

at their nodes. This is the constructive enquiry we have been talking about and in which shared knowledge is produced by circulating results.

Design mode map

By crossing the polarities proposed above—between problem solving and sense making, and between expert and diffuse design—we obtain a map of the field of *design modes:* of the various ways of putting designing capacity into action, of "designing" and "being designers." Obviously, the warnings given for each of the two polarities separately are at least as valid when they are crossed. The map is therefore very rough, but I still think it can offer some useful indications to orient us along the path we are about to take.

If in principle everybody is capable of designing, and everything can be designed, the map will help us discuss what all these people are doing, in what capacity and role they are doing it, and with what motives. More particularly, it indicates who the design experts are and what they do (meaning those who are specifically qualified and have acquired special tools for designing).

The map is built on two dimensions: the "actors and competence" axis, which moves from *diffuse design* to *expert design*, and the "motivations and expectations" axis, which moves from *problem solving* to *sense making*. By crossing them we obtain four quadrants, each of which proposes a

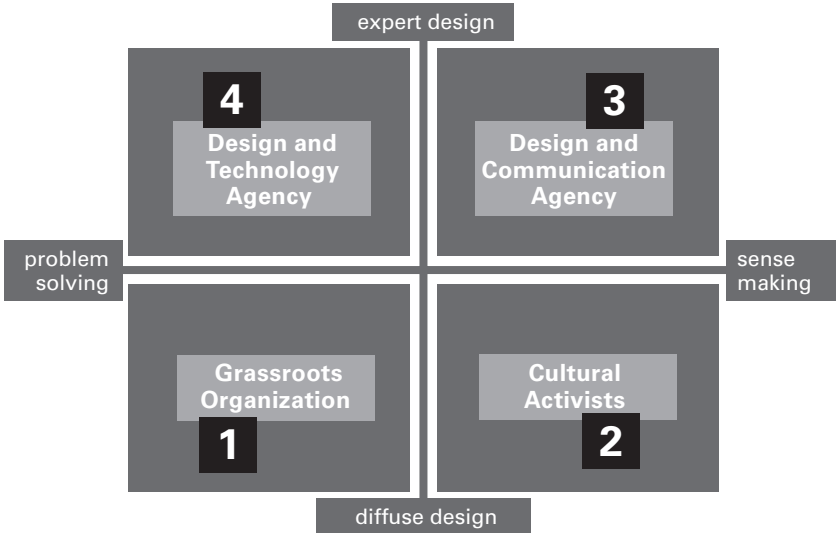


Figure 2.1
Design mode map.

characteristic design mode and its recent evolutions (figure 2.1). For each of these modes, I will indicate a "classic" version, meaning a way of being and doing that may have been "normal" in the past decade, and which is now useful as a benchmark to help us understand how things have evolved and what is happening now. On this basis, I will outline and discuss some emerging trends: transformations that are happening and that are particularly meaningful in relation to the topics we are dealing with here.[15]

Grassroots organization (diffuse design / problem solving quadrant)
This is the design mode used by groups of people who design initiatives that aim to deal with local problems such as lack of green space in a neighborhood, difficulty of access to organic food, alternative mobility. Often, though not necessarily, their activities were initially driven by strong ideological or political motives.[16]

In recent years this quadrant has witnessed quantitative and qualitative transformations. In quantitative terms there has been an increase in the number of people involved, with a corresponding change in the nature of the participation: from small ideological groups to networks that include wider strata of the population.

A series of different but converging forces have driven this transformation: the growing awareness and urgency of new problems in everyday life (the acuteness of the economic and social crisis that has hit some countries), and the availability of examples of feasible solutions that have, in the meantime, been able to prove their effectiveness and make themselves known (by circulating in global information networks). At the same time, the possibilities offered by the Internet and by digital media have made solutions feasible that are more effective, open, and flexible, which makes them accessible to more and wider sectors of society. The result is that these grassroots organizations (which, as we have said, have always been minorities and often used to be ideologically based) are becoming more open and flexible, consisting of differently motivated people: they are evolving into collaborative organizations (chapters 1 and 4). Larger groups of people are thus being asked to cultivate their design capacity, and becoming more competent in doing it. That is, they are adopting a design mode that can be defined as *diffuse and competent design*.

Cultural activists (diffuse design / sense making quadrant)
This is the design mode of people who are interested in cultural activities (in both professional and nonprofessional terms), who set up venues to promote their areas of interest and to create occasions for exhibiting,

presenting and exchanging experiences, and debating. These venues may range from cine-forums to street art, from reading groups to rock bands, from local radios to the self-managed social centers. Often (though not necessarily) the participants are young people who operate in an urban environment, for whom the city is a stimulus to creativity and a theater for their performances.

This modality used to be performed by culturally productive minorities, significant in these terms but not in terms of numbers.[17] More recently things have changed and together the participants now form a sizeable social group.[18] In particular, the diffusion of social media is transforming the figure of cultural activist, giving many people the possibility of cultivating and staging their interests and cultural and artistic abilities.

Nowadays, a considerable part of contemporary society (at least of the part that is urban and modernized) consists of cultural activists, in the current sense of the term: people who, in different ways, play an active role in the cultural systems they are part of.[19] If they can do so, it is because they make best use of their design capacity. In fact, they must design the specific contents they want to present and, very often, they have to imagine and enhance a strategy to make them visible.

Design and communication agency (expert design / sense making quadrant)

This is the design mode of experts who use their specific knowledge and tools to conceive and develop original products, services, and communicative artifacts.

This design modality includes most of the traditional design and communication agencies, many of which carry out their work focusing attention on consolidated products and services (from furnishings to hotels, from fashion to shops). In some cases, there is an exasperated search for visibility;[20] in other cases, this modality brings products and services in line with current expectations in terms of quality, prices, and environmental sensitivity (but not necessarily in line with what is needed to take some real steps toward sustainability).

Against this traditional background, we can recognize some emerging modes: expert designers working as *place makers* for local communities, cities, and regions; *design activists* aiming at creating change in cultural attitudes and behaviors;[21] *design-production microenterprises* operating in networks as open, distributed systems. The common denominator is that all of them are progressively shifting from dealing with traditional products and communication artifacts toward design processes in which what have to be

designed are hybrid, dynamic artifacts where products, services, and communication are systemized and presented as a whole.

Design and technology agency (expert design / problem solving quadrant)

This is the design mode of experts with a highly technical background, aiming at solving complex problems by bridging technical and social issues.

This design mode is normally performed by design agencies based on interdisciplinary teams.[22] It addresses a variety of clients ranging from businesses to public bodies and citizen associations. Over the past decade its field of application has widened to include increasingly complex social and environmental problems, collaborating with a variety of interlocutors.[23] In the same period it has been strongly influenced on one side by the user-centered design approach and methodology and by co-designing on the other. Recently there have also been experiences in the open design and distributed production field to verify the potential of this new approach. In this framework, the specific role of design experts is to trigger and support large design processes by building the necessary coalitions among different partners; to analyze existing resources; and to enable the active participation of people who are immediately concerned.

Emerging design cultures

On the basis of this map, we can look at current trends in view of the interweaving social, technical, and cultural innovation we discussed in the previous chapter. In particular, we can recognize a variety of *emerging design cultures* characterized by their innovative practices, meaning design cultures that have emerged thanks to a positive loop between new ideas on problem solving and on sense making. In general terms we can observe that the traditional polarization between problem solving and sense making often tends to blur: when the innovations are radical, new practical solutions almost inevitably imply new meanings, and vice versa (figure 2.2).

Design and emerging qualities

Several examples show us that, in the face of complex issues and different possibilities for solving them, problem solving and sense making cannot be separated.

In the past there have been design modes in which this separation seemed possible. It happened when all participants in the design process implicitly or explicitly agreed on the sense of what they were doing (as

in my earlier examples of designing a device to support diabetes sufferers, or a water-purifying system for African villages). Nowadays, it is increasingly rare for this separation to be considered acceptable. In fact, when the problems are complex there are always several ways of tackling them. For instance, today we know that there are many strategies for improving the lives of people with diabetes, based on different kinds of social organization that entail differing relationships between patient and health services, and among patients themselves.[24] In view of these possibilities it is clear that discussion cannot be limited to technical ground; it must also concern the realm of meaning: the meaning of the various solutions in question, and the meaning that each should have if it is to be truly workable. A similar passage, from technical discussion to discussing the significance of the proposals, can also be made for the question of water purification in the African village, where different strategies can be chosen involving different people.[25] When there is this kind of choice, no solution can be exclusively technical and no design process can be considered only in terms of problem solving. Therefore, if the sense-making side must be considered too, the question is who has the capability and the authority to decide what to do and how. Of course, this is not an easy question, and the answer too is not a simple one. Nevertheless, looking to what is happening in the design field, one point is clear: several design modes that were initially rooted in the

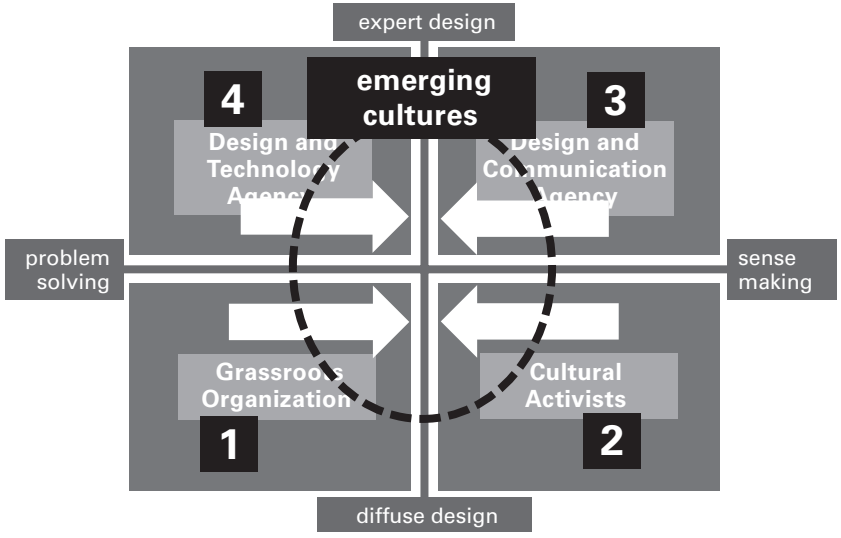


Figure 2.2
Emerging cultures.

problem-solving side, whether as design expert or grassroots organizations, are now moving toward the sense-making side.

For design experts this signifies, first and foremost, that they should apply a user-centered approach that focuses not only on single individuals but also on communities. After this initial move, they should go on to set up a co-designing project where all those interested may bring their contribution to bear, not only in finding the technical solution to the problem but also in building its meaning, so that it will make sense to all involved. In short, it has become apparent that this is the only way of making sure that the technical solution found will actually be culturally and socially acceptable to the people and communities it is to benefit.

The same tight interaction between problem solving and sense making can be observed in the initiatives of grassroots organizations. In fact, we can recognize that they are not only proposing unprecedented solutions to complex problems, but are also generating new ideas (new ideas of time, place, relationships, and work) that are the cultural dimension of the actions they have taken to live and produce in more a sustainable way.[26] The quality and values emerging here are still embryonic but, as we have seen in chapter 1, may well be the start of a new culture: the culture of a sustainable society.

Design as place maker

Various design experts, from both the problem-solving and the sense-making sides, are converging in a central area of the map to develop projects at local or regional scale. They are aiming at regenerating "the local" by creating a new ecology of places: an ecosystem in which local culture and production are able to live and regenerate in a balanced relationship between local and global.

In this area of the map, design experts meet and collaborate with institutions and associations, using their expert design capacities to develop local and regional projects. These include: creating services in the informal or marginal settlements of the new metropolises; redefining relations between city and countryside; creating social services rooted in neighborhoods and communities; setting up local and regional alternative mobility systems.[27]

For the design discipline in general, this interest in places represents an important change: in the past, in the same way that industrial products were thought of as independent of the places where they were designed, produced, used, and consumed, expert design has essentially been considered as a deterritorialized activity. In other words, for design in the last

century, the question of where production took place and where products would be used did not seem to be a significant issue.[28]

Now, as anticipated, we can observe that different kinds of design experts are converging toward designing for and with the local. In other words, they are designing as "place makers": an activity in which the two dimensions of problem solving and sense making converge, and where new practices and cultures must be co-produced (I will come back to this issue in chapter 10).

Design as activism

Cultural activists, grassroots organizations, and design activists are converging toward a range of initiatives whose purpose is not to offer immediate solutions to problems, but to spark interest in these areas and show, often paradoxically or provocatively, that there are different ways of seeing and resolving them.

The cultural role of social minorities was recognized and discussed several years ago. Think for instance of groups of urban young people, the street style they have produced and their influence on fashion; or the subcultures generated by communities of enthusiasts, such as bikers or surfers, just to name a couple of the many examples.[29] Alongside the emblematic value and media visibility of these groups, other groups of cultural and design activists are also growing in visibility and impact.

The ways and the fields in which they operate may be very different: raising awareness on the question of public green space by creating a garden on a traffic island or pavement (Guerrilla Gardening), affirming the rights of cyclists by organizing cycle rallies in city traffic (Critical Mass), and reclaiming public space by organizing a street dinner are just some examples. Such groups, which may be acknowledged by the institutions or may be in conflict with them, operate by creating design teams in which both volunteers and expert designers take part: organizing a festival, setting up and managing a self-run social center, or creating a special event in a city are all activities that require out-of-the-ordinary designing and strategic skills to conceive them, to realize the events, and to determine who to join forces with.[30] Therefore, even though these activities are mainly driven by cultural motivations (i.e., they appear in the sense-making quadrants), they require the resolution of some very concrete problems and call for a high level of problem-solving capability.

Design as making

An interesting line of evolution for the expert design mode is toward the diffusion of microenterprises based on the notions of open design and

distributed production: a design mode where design experts are, at the same time, designers, makers, and entrepreneurs.[31] This tendency is highly interesting because, far from being a simple proliferation of small traditional design agencies, it considers microenterprises operating in networks to be open, distributed systems.

In recent years, the diffusion of the Internet and social media has created the technological platform on which the idea of open design has been conceived and experimented with. Today, the miniaturization of production units offers the possibility of extending this platform to fabrication processes, creating new production and consumption networks called distributed systems.

In the near future, the possible convergence of distributed systems with social innovation could give rise to networks of microenterprises capable of enhancing the local dimension and distributing production activities and job opportunities in, or near, cities, and doing so in the same way in all regions of the world (in the opposite direction to what has been dominant in past decades and in tune with the scenario of distributed systems; chapter 1).

Seen in this broad perspective, we can say that this expert design mode is the one that most radically calls into question the tradition of product design. By experimenting with the possibility of rethinking the entire production system, it offers the opportunity of redesigning all material products by answering one simple question: What would they be like if they were entirely or for the most part produced for well-defined clients and as near as possible to the place where they will be used?[32] To answer this question requires up-to-date product design skills and culture. But not only this. In my view, it also requires the contribution of all the design disciplines, above all of strategic and service design, and it involves both technical and cultural considerations. This is the newly emerging culture of *designing and making*.

Social innovation *in* design

Talking about social innovation, we have seen that, driven by necessity or the desire to use their "natural" designing capacity, and sustained by the diffusion of digital media and the new social networks, many people take active part and collaborate to create new forms of organization (creative communities and collaborative organizations), participating en masse in solving complex problems and becoming content producers for the new digital media.[33] Looking at the emerging trends in terms of the design mode map, we can say that various individual and collective subjects developing

new design skills are moving away from the area of diffuse design toward that of expert design, creating a very interesting dynamic near the center of the map: the number of nonexpert actors who are nevertheless skilled and experienced in design is growing. These people, who are operating in a *diffuse and competent* design mode,[34] are interacting with a growing number of design experts who are willing to accompany them in the design process. Thus, they are creating a new kind of *co-design process*. The result is that, today, in a networked society, *all design processes tend to become co-design processes* (box 2.5).

Co-design as social conversations

Obviously, the notion of co-design intended here is not the standard one found in formalized processes where a team of stakeholders discusses round a table, trying to create a common language and shared visions and strategies. What I mean by co-design is more like a vast, multifaceted

Box 2.5

Connectivity and co-design

In the history of material culture, meaning the places and artifacts that go to make up our habitat, the choices of some have always influenced those of others. Thus, throughout the long period of its construction, human habitat has always emerged from the interaction of a multiplicity of actors, often far apart in time and in space. Even the market, in the medium term, with its game of demand and offer, leads to products that owe their existence to a sort of co-designing between design experts, producers, and user/consumers. However, the long time perspective of material history and the medium time perspective of the market, together with low connectivity, saw to it that in the past the design activity of experts could be considered as more or less separate from their context; and that the designing process could be described as the activity of a team that, after collecting the necessary information, concluded the project within the four walls of its office (producing a "finished product" in all its detail, ready to be produced and launched onto the market).

Today things no longer work in this way. In our connected world, where everybody interacts with everyone else almost independently of time and distance, this separation of the design team from the rest of the world no longer stands. In addition, many different kinds of designer are at work, each able to develop their own designing initiative. So, in a connected world, all designing processes are in fact co-designing processes, unless special barriers are set up to isolate the work of the design team from its context.

conversation among individuals and groups who set design initiatives rolling at the nodes of the networks they are part of: a *social conversation* in which different actors interact in different ways (from collaborating to conflicting) and at different times (in real time or off-line).[35]

Taking up the reflections and experience in participatory design of Pelle Ehn and his group Medea at the University of Malmö in Sweden (which I will extend to co-design), we can say that these co-design processes are characterized as follows:

Highly dynamic processes: these include linear co-design processes and consensus-building methodologies (i.e., the most traditional view on participatory design and co-design processes). However, they can go far beyond these to become complex, interconnected, but often contradictory processes.
Creative and proactive activities, where the design experts' role is one of mediator (between different interests) and facilitator (of other participants' ideas and initiatives), but also includes the design experts' creativity and culture (i.e., their ability to conceive large scenarios and/or original design proposals) and the possibility of using them to trigger the social conversation and to feed it with new ideas.
Complex design activities that call for specific tools (to visualize ideas and make them tangible through different kinds of prototypes): a set of dedicated and designed artifacts that it is the design experts' responsibility to conceive and create.

To describe how these co-design processes may take place, we can start from a conceptual model in which the actors involved are scattered over the different nodes of the sociotechnical network and operate independently. However, at the same time, because they are connected, they act as designing networks: networks in which everybody, nonexpert and expert alike, designs.[36] Moving from conceptual model to reality, we can see that the network that connects the various actors is never homogeneous and undifferentiated. More or less strong, dense, stable relationships may be formed within it, creating different types of designing networks.

Networks and coalitions

Here we consider networks of separate, mutually independent actors (individuals or design teams operating as collective entities) to be *designing networks*. In this case, their different initiatives interact (provided they are connected) and thus influence each other and influence the result, even though they are working without a shared idea of what it could or should

be like. In this case, the co-design process takes place de facto, thanks to interactions that are not only uncoordinated but can even be conflictual.

On the other hand, we consider *designing coalitions* to be those result-oriented networks that coordinate different actors within wider sociotechnical networks (individual and collective, of design experts and nonexperts) that share a vision on what to do and how, and decide to do it together (figure 2.3).

In short, *designing networks* are looser networks, in which the various activities interact in an uncoordinated way, while *designing coalitions* are tighter networks, whose members collaborate to achieve shared results. It can be added that this collaboration can be either "horizontal" or "vertical," between different types or different levels. Obviously these coalitions do not exist by chance. They are themselves the result of design: an activity proper to the strategic design discipline that seeks to identify a suitable group of partners and to build shared values and converging interests with them.

Design programs

Designing networks evolve over time, modifying the architecture and intensity of their interactions. This evolution is the co-designing process in its most general form. In this framework, when some of the actors form a coalition it tends to produce a series of coordinated activities that together

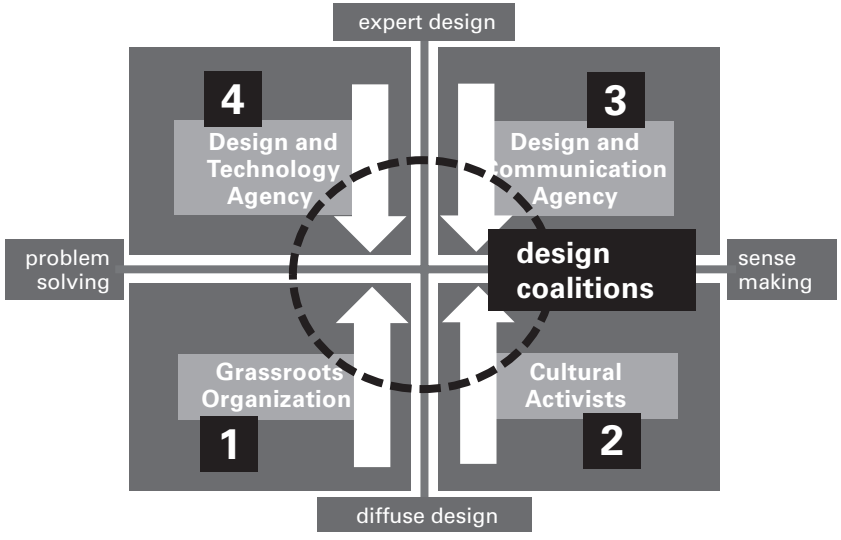


Figure 2.3
Social innovation in design.

constitute a program or, in other words, a coherent succession of stages in a design process.

Obviously, this program does not come about by chance either but, like the coalition that produced it, is the result of strategic design. On the other hand, when we are operating in a turbulent environment, the formal coherence of the succession of stages envisaged in a program is often upset by reality, so the course of events is in fact less linear. The strategic designing capacity of the coalition must be able to navigate this sea, moving in the expected direction but taking into account the feedback from, and changes imposed by, the context. Thus, it frequently happens that the programs set up are not expected to achieve a result that was entirely planned in advance. They are dialogical programs,[37] in which a wider vision frames a series of small-scale moves. This allows for trial and error receiving feedback from the system, in response to which the following moves can be made in full awareness of potentially critical points.

Design processes and design initiatives

What we have seen so far highlights the way social innovation is generating an important transformation in design processes (especially apparent when the issues to be dealt with are far-reaching and complex). In short, it is a question of separating the overall *design process* from its single design interventions by design experts, *design initiatives*. As we have seen, the former is a complex activity involving the participation of multiple actors that are not necessarily coordinated; whereas design initiatives are projects that are clearly defined in terms of time and mode, conceived and developed by equally well-defined entities: designing coalitions, design agencies, or individual designers (box 2.6).

This distinction between the co-designing process as a whole, with its open-ended nature,[38] and the individual design initiatives, which will occur at definite times and in definite ways,[39] is to my mind of crucial importance for understanding what design (design experts, in this case) can and must do to deal with far-reaching, complex issues (as often happens today).

So, in this conceptual framework, the role of design experts is to conceive and enhance a multiplicity of *design initiatives* to be promoted at the different nodes of the designing network. These design initiatives are coherent sequences of design actions geared to triggering and supporting a co-design process. For example: carrying out and communicating an ethnographic analysis; effectively mapping the physical and social resources in a particular area; creating communicative artifacts geared to fueling conversation about the future that fosters choices between alternatives; creating a

Box 2.6

Open-ended processes

In the past, or rather for simpler, more traditional projects, design processes and design initiatives corresponded. Thus the result of a design action was the "finished product" (whether this was a material product, a service, or a communicative artifact). Therefore, for instance, to present themselves and to be evaluated, designers presented their book of finished products. The same was true, on a larger scale, for a design agency, or even a design school wishing to display the design activities carried out by its teachers, researchers, and students. Nowadays, things hardly ever work like this. As we said, design processes are very often open-ended: they never finish because there is no longer a clear separation between the design and management stages of a project (the result is always a "beta version," to which the currently active participants may bring their corrective and ameliorating contributions).

Furthermore, at any given moment, what is being put forward as the result is the tangible expression of converging actions by different actors, and it is extremely difficult, if not impossible, to say who did what. This is obviously also true for work specifically done by the expert designer, which becomes an integral part of the overall result. Therefore, what the expert designer must point to, in order to demonstrate what he has done, is the series of design initiatives he or she has set up, or in which he or she has actively taken part.

prototype or pilot project to make an opportunity more tangible to wider audiences. Each of these initiatives is conceived as a more or less autonomous project, so its results should be read on two levels. In the first its impact on particular co-designing processes is assessed, and therefore how far it has furthered its purposes (regenerating a neighborhood, for example, or building a new food network, setting up a new mobility system, creating new job opportunities, and so on). On a second level, its impact on the wider context is considered: on the culture, institutions, or visions that are shared by those living there. At times these results may weigh differently. When the first type of result is given more importance, the design expert can be said to work *in* the coalition; if greater importance is given to the second then he is said to work *for* the coalition. To be more exact:

Working *in* specific coalitions means playing the role of trigger (introducing ideas and visions to feed and orient the conversation within the coalition) and of facilitator (helping the other participants in the coalition to make best use of their design skills, and augment them).

Working *for* coalitions (whether existing or potential) means collaborating with other experts and appointed bodies in making the whole environment more favorable (in terms of policies, technological infrastructure, public and semipublic spaces).

With regard to the latter point, design experts play a special, fundamental role: they collaborate in the creation of an environment favorable to such coalitions, meaning (social, economic, and technological) ecosystems in which diffuse designing capability can emerge, increase in competence, and give life to a variety of design processes. In this case, design experts must use their design culture (and its characterizing critical constructiveness) to steer the turbulence around us toward sustainability.

Design, a new description

The map proposed here and the trends we have observed enable us to look at design through the filter of a new conceptual model that is (hopefully) better able than the traditional one to describe what is meant today by the term "design"

The traditional model was constructed in the Europe of the early twentieth century, with reference to the industrial production of the time. It gave rise to the idea of design as an expert activity, aimed at the design of products for serial production using the industrial technology of the period. Since then much has changed and the initial model of design has gradually been redefined, with successive additions generated by the need to widen its field of application (from products to services and to organizations), to embrace new actors (from experts in other disciplines to end users), and to change its relationships with time (from closed-ended to open-ended processes). This adaptation by successive additions has advanced the traditional model but has also made it more complicated, difficult to use and, consequently, potentially more open to misinterpretation. So the time may have come to change it. In the light of what we have seen in the previous paragraphs, I will now try to do so. More than a definition, I am offering a *short description of* design: how, in my view, the notion of design in its widest sense should be presented today:

Design is a culture and a practice concerning how things ought to be in order to attain desired functions and meanings. It takes place within open-ended co-design processes in which all the involved actors participate in different ways. It is based on a human capability that everyone can cultivate and which for some—the design experts—becomes a profession. The

role of design experts is to trigger and support these open-ended co-design processes, using their design knowledge to conceive and enhance clear-cut, focused design initiatives.

This description must be augmented with one further observation:

In the transition toward a networked and sustainable society, all design is (or should be) a design research activity and should promote sociotechnical experiments.

This transition is a broad, complex *social learning process*, by which everything that belongs to the mainstream way of thinking and behaving in the old world will have to be reinvented: from everyday life to the very idea of well-being.

To do this we should look at the whole of society as a huge laboratory of sociotechnical experimentation, which in turn calls for producing and spreading design knowledge able to empower individuals, communities, institutions, and companies in inventing and enhancing original ways of being and doing things. This experimentation phase will last as long as the transition: a short period in the history of humanity but a very long time for us and our children. In practice, this experimental approach will become the "normal" approach in our future.

3 Design for Social Innovation

In the twenty-first century, social innovation will be interwoven with design as both stimulus and objective. That is, it will stimulate design as much as technical innovation did in the twentieth century, and at the same time social innovation will be what a growing proportion of design activities will be seeking to achieve. As a matter of fact, design has all the potentialities to play a major role in triggering and supporting social change and therefore becoming *design for social innovation*. Today we are at the beginning of this journey and we still need a better understanding of the possibilities, the limits, and the implications of this emerging design mode, but what is already clear is that design for social innovation is not a new discipline: it is simply one of the ways in which contemporary design is appearing. Therefore, what it requires is not so much a specific set of skills and methods as a new culture, a new way of looking at the world and at what design can do with and for people living in it.

What it is

Before proceeding to a more analytical observation of what design for social innovation is and how it works, I would like to make it more concrete by describing four noteworthy examples. The first two illustrate what its "normal" way of operating is and what I think will become customary design practice in the twenty-first century. The second two are exceptional cases, the promoters of which have managed to unite the local with a wider national and international dimension, generating profound, large-scale changes. These two extraordinary examples started many years ago but still today indicate a possibility: what design for social innovation can do and, I would add, what it ought to be able to do in order to deal with the problems and opportunities that present themselves today.

Everyday life projects

The first is a well-known example, which we can use as a benchmark of what social innovation design can be, the processes it can support, the results it can achieve, and of course the difficulties it may find. It is the Circle, in the UK: a membership organization of elderly people supported by local neighborhood helpers and professional social workers.

It was developed by a design company, Participle Ltd, which moved from an existing idea (the idea of creating a "circle" of peers able and willing to exchange help and care) and build an innovative economic and organizational model around it.[1] To do so, it systemized the different motivations and resources and started a co-design process capable of activating a large number of potentially interested actors right from the start. In short, Participle managed to create a coalition model in which public and private actors, local associations, individual volunteers, and elderly people agree on the idea of a circle of care and, working from their different positions, start acting to create it.

The model raised the interest of several councils in London and in other UK cities, and the number of Circles increased. However, we must note that some of them have since been closed as public funding ended (example 3.1).

The second example concerns a program of activities focusing on *collaborative housing,* developed by the DESIS Lab at the Politecnico di Milano in collaboration with a partner network. The first stage of the program was to concentrate on cohousing, creating a platform of promotional services

Example 3.1

CIRCLE, UK

Circle was first proposed by Participle, a London-based social enterprise, in 2007. Participle succeeded in building a public-private partnership (with Southwark Council, Sky, and the Department for Work and Pensions) and in starting up a co-design process involving over 250 elderly people and their families. The first prototype was launched in Southwark in 2009. The result was the definition of a new service idea based on an innovative economic and organizational model that includes horizontal p2p collaboration and mutual help, and vertical collaboration in terms of voluntary and paid work. A digital platform was to coordinate the variety of activities that the Circle would offer and organize.

On the basis of this service idea, the first prototype was launched in Southwark in 2009. Since then, seven other Circles have been started in the UK, and other local councils have expressed their interest. In 2014 some of these Circles were closed, including the Southwark one, as public funding came to an end. Hilary Cottam, Participle's principal partner, has commented: "What has failed, in some cases, but not all, is the ability to find the finance to scale them up and the vision to embed them as part of the wider eco-system of public services."[2]

and activating a co-design project for some cohousing communities in the Milan area (a dedicated company was set up for the purpose: Cohousing.it).[3] The second stage extended the theme to the more general idea of collaborative housing,[4] meaning a kind of residential housing in which certain spaces are shared and residents take active part in their design and management. This stage led to various parallel activities: new cohousing projects, master's degree theses,[5] a master's program focusing on the topic,[6] and lastly the adoption of the idea of collaborative housing as a social innovation project by Fondazione Housing Sociale (FHS), an important institution in Milan dedicated to developing social housing in Italy (example 3.2).[7]

In this program's development from its first phase (the cohousing project) to the second (the collaborative housing one), we can recognize an open-ended co-design process driven by evolving coalitions, in which both partners and objectives have changed over time. Since its beginning in 2006, several semi-independent projects have been conceived and enhanced: from the initial survey on potential demand for collaborative housing in Milan, to the digital platform conceived as a cohousing community

Example 3.2

COLLABORATIVE HOUSING PROGRAM, MILAN

The cohousing idea has been applied in Europe and worldwide for many years. For several reasons, however, the number of completed cohousing complexes is still very low. Although a growing number of people have expressed interest, various difficulties seem to prevent them from moving on to implement a viable project.

Some years ago (2006), this contradiction between potentially interested people and practical fulfilment seemed particularly evident in Italy, and in Milan in particular. Moving from this observation, the DESIS Lab of the Politecnico di Milano, together with a socially oriented enterprise, developed a program aimed at the development of a cohousing project for a larger number of people. The first result of the program was the creation of a dedicated company (Cohousing.it) which has been promoting cohousing initiatives in Milan and has become the model for several other enabling platforms in Milan and other Italian cities, multiplying the number of cohousing initiatives in the country. The second result is that experiences in the first phase became the basis for other initiatives, such as a doctoral thesis and a new master's program at the Politecnico di Milano specifically dedicated to the issue of collaborative housing. It aims to multiply these experiences and develop further reflection on them. Finally, and most importantly, these experiences have been further developed by the Fondazione Housing Sociale (Social Housing Foundation, FHS)—an institution dedicated to the support of social housing in Italy. FHS now integrates the notion of *collaborative housing* in its programs, utilizing several design ideas and tools from previous cohousing experience.[8]

organizer, to specific initiatives and dedicated toolkits, cultural programs to promote collaborative living values, and master's programs and doctoral theses studying them in greater depth and developing new conceptual and practical tools.[9] This example has also taught us another important lesson: having initiated the first phase of the project with a research orientation, it has been possible to transfer the experience acquired not only to other parallel projects but also to the various different initiatives in the second phase. In short, we can say that the collaborative housing program can be seen as an open-ended co-design process, where *every design activity, considered as part of a larger design research program, created new design knowledge: knowledge that was transferable from one project to another*.

Even though these two cases (Circle and the collaborative housing program) are different in many ways, they have some common characteristics that can be generalized regarding both their process and the specificity of the design role in promoting and supporting them.

In terms of process, their relatively long histories demonstrate how social innovation can develop from an original social invention (the ideas of a circle of care and of cohousing) to more structured prototypes and social enterprises. They also show the importance of a correct interplay between autonomous initiatives, with the social enterprises they may generate, and public institutions: these social innovations are living entities that can survive and flourish only in a favorable environment, and creating this favorable regulatory and economic ecosystem is the specific contribution that the national and local institutions should bring to the process.

In terms of the design role, several observations can be made. The most basic one is that in both cases, the first move of design experts has been to use their skills and competences to recognize existing social inventions and transform them into more effective, attractive, lasting, and potentially replicable solutions. This observation can be generalized. Traditionally, design experts were asked to recognize technological innovation and translate it into socially acceptable products and services. This activity, of course, remains valid. But now, to support social innovation, something else has to be done. The bridge between technology and society has to be trodden in the opposite direction too. In fact, *to promote social innovation, design experts must use their design skills and competences to recognize promising cases when and where they appear and to reinforce them. That is, to help them to be more accessible, effective, lasting, and replicable*.

A second common characteristic is that both examples used admittedly advanced but still "normal" skills and capabilities (taken from all the design disciplines, from product design to service design, from communication to

interior design, from interaction design to strategic design). Both of them also show that two of these design disciplines are particularly relevant to design for social innovation: *service design* (to conceive and develop solution ideas that take into account the quality of the interactions involved) and *strategic design* (to promote and support partnerships between the different actors involved). Design for social innovation is not a new design discipline. It is the application of what, today, design as a whole should be. It follows that, to promote and support social innovation, all the design skills and capabilities are used, blended in different ways case by case. We can also observe that strategic and service design components are included in all these cases.

A third common trait is that in both examples the activities that take place are supported by an appropriate set of products, services, and communication activities. For instance, in the cohousing example, starting up and co-designing have been enabled by creating a dedicated digital platform and a set of services (to support the meetings of the potential cohousers, the building of the community, and the co-designing of services to be shared). In parallel to that, a co-design tool has been designed to facilitate the overall design process

A similar platform, not only for communication but also for organizing, has been set up for the different Circles. In both cases, these platforms, services, and co-design and co-production support tools constitute the enabling solution that has made each individual intervention more accessible to the people concerned. In addition, it has made them more easily and more effectively replicable (and both of them have actually been replicated).

The general observation that we can draw from all this is that appropriate enabling solutions can not only sustain a single action but also create a scaling-out effect: the creation of horizontal synergies that lead to the replication of the most promising solutions in other contexts (I shall come back to this point in chapter 9).

Big changes

Now I shall move on to two cases that succeeded in uniting a multiplicity of local initiatives into a general vision, and transforming this vision into a project for change on a much larger scale. I am referring here to the work of two great Italian social innovators, Franco Basaglia and Carlo Petrini, and the associations they created, Democratic Psychiatry and Slow Food.

Basaglia and Petrini are two extraordinary characters who worked with widely differing problems, adopting a similar approach and radically changing the then dominant ways of seeing and doing things (regarding mental

illness on the one hand and the quality of food and food systems on the other). To avoid misunderstanding, I must stress immediately that neither Basaglia nor Petrini are officially designers. In my opinion, however, both of them are, to all intents and purposes, great innovators and, de facto, designers. And their stories say a lot about what designers could and should do in this field.

Franco Basaglia was an exceptional psychiatrist who, in the seventies, founded the democratic psychiatry movement. In practical terms what he did was to close the psychiatric hospital in Trieste (a city in the northeast of Italy), where he was director, and at the same time start up cooperative production and service groups which brought ex-patients, nurses, and doctors together in enterprises that had to be effective in economic terms (real enterprises, not entities whose very existence depends on financial backing from the state). In doing this, Basaglia proposed a more general discussion on democracy and civilization (it is not by chance that the movement is called democratic psychiatry) and, at the same time, he clearly indicated that this process had to be adequately supported: that there had to be facilities (services, places, and tools) to enable people (in this case the mentally ill) to overcome their difficulties and fulfill their potential capabilities (example 3.3).

Carlo Petrini, who founded the slow food movement in 1989, followed a similar course, generating a radical new vision of what an advanced food

Example 3.3

DEMOCRATIC PSYCHIATRY, ITALY

"Opening the institution [the psychiatric hospital] does not signify opening a door, it means opening ourselves toward the 'patient.' I would say we are starting to have confidence in these people."[10] Basaglia's (and democratic psychiatry's) theme was mental illness, and his revolutionary (for the times) approach was to see a person with a mental disability not only as a patient but also as an individual with capabilities. When seen only as a patient, such a person retreats into his or her illness; but if we see the patient as a person, we can support him or her to overcome these problems and find fulfillment in some positive activity. Nowadays the path laid out more than 40 years ago in Trieste by Basaglia has become normal practice in Italy (or at least it should be). In 1978, thanks to him, a national law was passed that opened up all psychiatric hospitals and set up new forms of assistance to the mentally ill. Since then restaurants, holiday villages, hotels, and carpentry workshops have started up, all run by "madmen." Many of these activities have worked well. Some have become really successful commercial enterprises (e.g., a cooperative of ex-patients is currently running a bar, restaurant, and bookshop in the ex-psychiatric hospital in Milan, and every year organizes an important cultural festival).

system could be like. Adopting a strategic design approach, he created a number of local organizations to enable previously weak farmers to produce high-quality products and find channels for their sale at a fair price to consumers capable of recognizing their quality. In so doing, slow food set up a whole system of products and services aiming to empower the social actors involved and, at the same time, to protect the quality of traditional products and productions, and therefore the local cultures and economies involved and, ultimately, their physical environments (example 3.4).

These two examples, like the previous ones, have common traits that are worth highlighting. The first and, in this case, most apparent is the role of the promoters: both examples show clearly how the events that led to these two great social innovations cannot be separated from the personalities, energy, and charisma of their promoters. However, we must also say that both owe their success and their long-lastingness to another special ability of Basaglia and Peterini: their capacity to create around themselves a group of capable enthusiasts, to create an organization and also act on an institutional level. Ultimately, if the processes they were able to activate have consolidated into lasting organizations and institutions, it is because both of them knew how to operate on all these levels, and they did so extremely well.

Example 3.4

SLOW FOOD, ITALY (AND WORLDWIDE)

"We believe that everyone has a fundamental right to pleasure and consequently the responsibility to protect the heritage of food, tradition and culture that makes this pleasure possible." This is the first sentence of the slow food manifesto written by Carlo Petrini in 1989 to found, with friends, the international slow food movement. This manifesto goes on to say: "We consider ourselves co-producers, not consumers, because by being informed about how our food is produced and actively supporting those who produce it, we become a part of and a partner in the production."[11] In other words, slow food proposed a new way of looking at food consumption, but not only that. Driven by the same basic motivation, slow food has operated on the supply and valorization of food products that otherwise would gradually have disappeared, as they were not economically viable in the economics of the dominant agroindustrial system. In practical terms, it has cultivated food awareness on the demand side (through the actions of consumer-producer organizations: the Condotte, known outside Italy as Convivia) and consequently a market for these high-quality products. On the supply side, it has addressed farmers, breeders, fishermen, and the firms that process their products, and with them it has promoted local organizations (the Presidia) to back them by connecting them to each other and to their market.

Several general lessons can be drawn from all this. First, *social inventions and the early stages of social innovation may come about, and indeed often do come about, thanks to the personalities and energy of a few "social heroes." However, to last over time, to grow and multiply, linking the local to a larger scale, requires organization and the creation of a more favorable cultural, economic, and institutional environment.*

The second common characteristic is that these cases clearly show how design for social innovation is (or should be) an inextricable tangle of far-reaching, culturally profound visions of how the world could be improved, of a special capacity to relate to people directly concerned and give them a voice, and an equally special creativity needed to imagine feasible solutions and create the conditions to tap the social energy available. In other words, this evident common trait *confirms the critical, cultural and creative dimension of design for social innovation.* Without it, neither democratic psychiatry nor slow food could have existed.

A third important characteristic concerns their strategic dimension. Each of these movements started by identifying a problem in both its local and its general dimension. From there, each produced both a deep and far-reaching vision and a feasible proposal for local action (yet capable of producing radical change). In this procedure, general proposals are made tangible by successful, concrete, local actions. Vice versa, local initiatives are made stronger by being part of a wider vision and design: a "framework design" focused on creating a more favorable culture, institutional system and public policy.

A first definition

To help frame a discussion of what design for social innovation is and what it does, I will propose a rough but, in my view, already meaningful definition:

Design for social innovation is everything that expert design can do to activate, sustain, and orient processes of social change toward sustainability.

By giving this definition I simply mean that, in order to talk about this topic, we do not need to introduce new models or new definitions, beyond those we have already used when discussing design in general and the forms it takes in the networked world. Design for social innovation (from now on this expression will be used to mean social innovation toward sustainability) is not a new kind of design: it is one of the ways in which contemporary design already functions. However, since it requires a special sensitivity and a few conceptual and operational tools, it seems to me useful to give

it a name and focus on its peculiarities. By the above definition, design for social innovation refers to a vast field resulting from the intersection of the entire range of social innovation phenomena (outlined in chapter 1) with expert design in all its contemporary shapes and forms (outlined in chapter 2). It is therefore a constellation of activities, each characterized by a different sense of these two terms.

The vast range of possibilities that emerge do, however, have one common trait: they are all contributions to the *social conversation* about what to do and how do it. This is really a collection of conversations for action that in Terry Winograd's words (and in the spirit of the Language/Action perspective) are "the central coordinating structures for human organizations."[12] In our case, these conversations occur between various social actors who are all interested in achieving the same result (i.e., in resolving a problem or opening a new possibility), and who follow an innovative path to achieve it, breaking with established ways of thinking and doing things.

This social conversation is, to all intents and purposes, a co-designing activity: a dynamic process in which participants intervene bringing their own particular knowledge and designing capacity. Among these there are obviously also design experts who express their skills and abilities in social innovation design.

We can say, then, that design for social innovation is the expert design contribution to a co-design process aiming at social change. In practical terms, it is a blend of different components: original ideas and visions (from design culture), practical design tools (from different design disciplines), and creativity (which is a personal gift), within the framework of a design approach (deriving from previous reflexive design experience).

What it is not

To focus more clearly on what design for social innovation is and what it does, it is helpful to pause a moment and also consider what it is not and what it does not do.

Not all design is design for social innovation

The first and most obvious assertion to make is that, although the definition of design for social innovation is very wide, this does not mean that all design is part of it. Design for social innovation entails a sociotechnical transformation driven by and oriented toward social change. Not all transformations have these characteristics: there are, and there will always be, changes in the overall system, and therefore also in its social dimension,

that are driven by technical innovation. The appearance of a new material, a new functional technology, or a new production system has always led to the designing of products, services, and systems that may have considerable social effects. In these cases, however, we do not talk about design for social innovation, because the driving force in this transformation is technological and not social.

Obviously, the distinction is easier to make in some cases than in others. I have already talked about this in chapter 1 when discussing innovation in sociotechnical systems: the more far-reaching and diffuse the interface between technology and society, the faster and more far-reaching will be their impact on the social systems in which they operate. And vice versa: the more people are exposed to these technologies, the greater their opportunity and capability to absorb them and understand how they can be used or adapted for different purposes. When things are like this, in my opinion it is not particularly useful to discuss whether something is technical or social innovation. The same is true for its design.

Social design is not (though it could be) design for social innovation

The notion of *design for social innovation* is frequently considered as similar, if not identical, to that of *social design*. In my view, this is an error: the two expressions refer to different activities and have very different implications.

The problem begins with the double meaning commonly attributed to the adjective "social." The first sense, which is the one in use in the expression *design for social innovation*, refers to social forms as such; that is, to the way in which a society is built.[13] In the second sense it indicates the existence of particularly problematic situations (such as extreme poverty, illness, or social exclusion, and circumstances after catastrophic events) to which both the market and the state fail to find solutions, and which therefore pose (or should pose) the need for urgent intervention from some other quarter. It is in this second meaning that the adjective made its entrance into the design debate several decades ago, generating the expression *social design* (box 3.1).[14]

Design for social innovation starts from quite different premises. The first, as already mentioned, is that it takes "social" in its more precise sense (that is, related to the ways in which people generate social forms). The second is that what it produces are meaningful social innovations; that is, solutions based on new social forms and economic models. The third is that it deals with all kinds of social change toward sustainability: the ones that concern the poor, of course, but also the ones that concern the middle and upper classes, changes making it possible for them to reduce

Box 3.1

Social design

In its original meaning, social design is a design activity that deals with problems that are not dealt with by the market or by the state, and in which the people involved do not normally have a voice (for the simple reason that they do not have the economic or political means to generate a formal demand). From here arises the noble ethical nature of social design. But also its limit: if the people involved in these socially sensitive issues do not express a formal demand, neither can they sustain the costs of design; and therefore design experts must work for free, in a charity mode (in some cases, they can work for a charity organization and be paid for that; however, this occurs within the framework of initiatives that, on the whole, are charitable in nature). By implication, there is a normal design that operates in economic terms, and another that is promoted out of ethical motivations and in a charity mode. Thus social design is intrinsically a complementary activity: a design that, to exist, asks for someone else who can and will generously pay for it.

their environmental impact, regenerate common goods, and reinforce the social fabric.

For this reason, design for social innovation, though still very far from being mainstream, is not intrinsically a complementary design activity. It is, or at least it could be, a forerunner of the design of the twenty-first century. And therefore, and very pragmatically, it proposes a design activity in which, if the more favorable scenario should be realized, the majority of design experts could have a role and make their living.

It should be added that, in contemporary reality, this differentiation between social design and design for social innovation tends to blur, as the two tend to converge and create areas of objective (and very productive) overlap. Social design is increasingly oriented toward social innovation, recognizing that this offers the only chance for solving the problems it traditionally deals with. In turn, design for social innovation, facing the extension of the economic crisis, is more and more frequently involved in initiatives that involve socially sensitive issues.

It is not just a process facilitator

In my experience, the design expert's role in co-design processes is very often reduced to a narrow, administrative activity, where creative ideas and design culture tend to disappear: an activity in which design experts take

a step backward and consider their role simply as that of "process facilitators." Or better put, they consider their facilitator role in a very narrow way: to ask other actors for their opinions and wishes, write them on small pieces of paper, and stick them on the wall and then synthesize them, following a more or less formalized process. We can call this way of doing things *post-it design*. In my view, expert design's contribution to co-design processes, and therefore also to social innovation, should be much more than that.

Design is a specific culture, and design experts should be selected for their creativity and trained to use that creativity to transform their design culture into visions and proposals. This design culture and this creativity are what design experts should bring to social innovation and to the co-design processes that support it. The problem is, of course, how to do so without falling into the old "big-ego design" approach, i.e., without trying to impose the design expert's visions and ideas as if they were the only possible solution (box 3.2).

Box 3.2

Big-ego design and post-it design

Big-ego design is left over from the last century's demiurgic vision, in which design was the act of particularly gifted individuals capable of imprinting their personal stamp on artifacts and environments. Even though this may still mean something in some very specific design fields, this way of thinking and doing becomes highly dangerous when applied to complex social problems. Therefore, it is important to react against the idea that design in general may be reduced to big-ego design.

Post-it design is a way of seeing the design process that emerges from the positive idea of considering all the social actors, ordinary citizens included, as potential resources for the solution of a given problem: as people with something significant to bring to the design process. For sure, the post-it design approach is also motivated by a reaction against big-ego design. The problem is that, starting from this intention of countering big-ego design, post-it design ends up by transforming design experts into administrative actors, with no specific contributions to bring, other than aiding the process with their post-its (and at the end, maybe, with some pleasing visualizations). In other words, from the post-it design perspective the design process is reduced to a polite conversation around the table of some participatory design exercise. In my view, the social conversation on which the co-design process is based is much more than that.

I think the way to avoid this risk is to consider design actions as a blend of creativity, design culture, and *dialogic collaboration*, where the first two must be paralleled by the third (and vice versa).[15]

In fact, co-designing is a process in which everybody is allowed to bring ideas, even though these ideas could, at times, generate problems and tensions. In the end, what makes this complex mesh of initiatives a design process is the fact that the actors involved will be willing and able to listen to each other, to change their minds and converge toward a common view on the outcomes to be obtained. In short, this means that they are willing and able to establish *dialogic cooperation,* i.e., in Richard Sennett's words, a social conversation that "entails a special kind of openness":[16] a conversation in which listening is as important as speaking (because it enables interlocutors to understand and empathize with a different point of view and, on this basis, search for solutions).

Therefore, in my view, design experts should be at the same time critical, creative, and dialogic. That is, they should feed the conversation with visions and ideas (using their personal skills and specific culture), listen to the feedback from other interlocutors (as well as, more in general, listening to feedback from the whole environment in which they operate), and then, in view of the feedback, they should introduce new, more mature proposals into the conversation.

Making things happen

To avoid both the post-it and big-ego design risks, design experts should cultivate their specific creativity and culture *and* their dialogic capability at the same time.

We must stress that dialogic capability in the sense Sennett intends is not the application of a method but a very special skill: a kind of craft to be learned through practical exercises and experiences. The result is that they, the design experts, should consider their creativity and culture as tools to support the capability of other actors to design in a dialogic way. In other words, they should agree to be part of a broad design process that they can trigger, support, but not control.

Once they accept this view of themselves, and assume this blend of creativity, design knowledge, and dialogic capability as their specific cultural and operational profile, design experts are in a position to become effective agents of change. They spark off new initiatives, feed social conversations, and help the process of convergence toward commonly recognized visions and outcomes. In short, they *make things happen*.[17]

In my view, "to make things happen, to listen to the feedback and reorient the action," is the most concise (and precise) way of describing the design expert's role in the co-designing processes that we normally refer to when talking about design for social innovation.

How it works

Design for social innovation acts within open-ended processes through a multiplicity of design initiatives which have their own well-defined modes, timelines, and results. This way of acting, which is a distinctive feature of expert design, must be properly understood. If it is not, various kinds of problems may arise at the conceptual and practical levels.[18]

Thinking and acting by projects

Expert design is an activity in which people *think and act by projects*: they break the continuity of events and imagine a change in the state of things and how to bring it about. This has always been so (see what in chapter 2 I have called "design mode"), but in the past, when design was mainly product-oriented, the activity of the design expert equaled designing a product. Consequently, the design initiative began with the start of the product design process and ended, or apparently ended,[19] with the realization of the product itself. Today, and specifically when operating on social innovation, things are no longer like this. In today's turbulent environment, organizations evolve over time, calling for a constant upgrading of their way of working.

This is why the initiative of design experts must be developed in such a way that it can, in due course, be appropriately concluded. It must be able to reach a point where the partners who are directly concerned can become autonomous and take over the co-designing and co-production activities which may later arise. As Anna Meroni writes with reference to the development of this kind of project, the action of design experts may and indeed must accompany those directly interested until a special kind of prototype has been created, after which it will be up to those interested to decide the following moves. "The 'special' kind of prototype … is something that contributes to qualify and distinguish the method: it is, in fact, not a simple functional test of potential innovation, but is an engaging event (or sequence of events) which aims to activate the social innovators to move the initiative ahead and become independent of the designers. It is, in other words, a farewell action that must be carefully planned as a part of the exit strategy of the project."[20]

It seems to me that Andrea Botero is also moving along the same lines when, in describing the role of design in a social innovation process that leads to the creation of new organizations, she writes that, at a certain point, it is a question of "bridging them to the future horizons of the communal endeavor." This calls for "a type of engagement I will call tentatively here 'midwifing' … the caring and accompanying aspects before, during and after that are necessary to bridge communal endeavors towards a variety of possible horizons."[21]

Designing coalitions and design programs

Every design initiative is the result of coordinated action by a group of social actors who have come to an agreement about what to do and how to do it. These *designing coalitions* (chapter 2, "Networks and coalitions" section) do not emerge by chance; they are themselves the result of design: an activity proper to the discipline of strategic design that seeks to identify a suitable group of partners and build with them a set of shared values and converging interests.

Although every design initiative calls for a coalition that fosters, develops, and makes it operational, the importance of the necessary strategic activity varies according to the type of project. It is clear that a highly specific design-driven project (such as carrying out and communicating ethnographic research) will respond to a coalition that is easier to imagine and create than would be one necessary for a framework project concerning the transformation of a local area and of a large, complex sociotechnical system. In turn these coalitions define an action program that may include various coordinated initiatives and constitute a coherent succession of stages in a general co-design process. Clearly, given the complexity and turbulence of the world in transition in which we are immersed, these coalitions will have to exercise an elevated strategic and design capacity, so as to be able to adapt to changes and deal with emerging new demands and be capable of taking previous experience into account.

It follows that designing the coalition required to actualize the initiative and set out its program is the most delicate, if not the most important, aspect of what design for social innovation does or should do. The designing coalition must certainly include subjects who can bring all the necessary skills to bear, including those of the users/co-producers (who together constitute the design team in a strict sense). However, it must also involve the political figures required to give the ideas that may emerge some hope of success (in that they will promote them in the arenas to which they have access).

Building this coalition is then, to all intents and purposes, a strategic design activity in which visionary capacity must combine with dialogic ability. In fact, the coalition must be formed around a vision or program (of what to do and how to do it). At the same time, this vision and program can only take shape in the conversation among actors. Managing the delicate balance between the need to put forward ideas and that of gathering ideas from the others is the first and most fundamental capacity that design experts must show they possess.

Facilitators, activists, strategists, cultural promoters

All the design initiatives we have been talking about should be thought up and implemented as contributions to the social conversation about specific projects, such as a new collaborative organization, but also to the conversation about the future of a city, region, or the planet as a whole. They may also serve different purposes: they may give rise to the conversation itself, or may feed a conversation under way with new ideas, support it with facilitating tools, show its results, or create the conditions for it to start anew in another context. It follows that design experts too, who are the main actors in these designing initiatives, can play widely differing roles.

The modality that appears most obvious, though not necessarily the most commonly found, is when design experts facilitate existing cases of social innovation, helping them to become more effective, accessible, and potentially replicable. In doing that, their prerogative is to facilitate the conversation, helping it to take on and maintain a design approach. This can be done by bringing scenarios and proposals into the discussion, as instruments with which to foster the convergence of the various interlocutors on shared visions, or with which to make a more motivated choice between different alternatives.

Another modality, less obvious but very widespread and important, is what happens when there are no ongoing social innovations (or they are too weak). In this case design experts become *activists*, triggering or even initiating new collaborative organizations (replicating good ideas or starting up brand-new ones).[22] Naturally, for design experts to become activists does not mean they propose artistic provocation or organize political initiatives, as other social actors may and must do. Design experts operating in design activism mode focus general attention on ways of being and behaving that may be provocative in a certain context, but nevertheless offer opportunities that trigger very profitable discussion … and, hopefully, action.

As we have seen, in other cases the activity to be promoted may be a framework project which, by coordinating a variety of initiatives, creating coalitions, and developing programs, may lead to large systemic changes.[23]

In these cases, design experts must make best possible use of their strategic design capabilities. For this strategic modality too, design experts must find their own particular way of behaving. This means generating visions and proposals that are able to create collaboration (between actors) and synergies (between different projects); connecting local initiatives with those on a larger scale so they reinforce each other; interweaving economic and technical issues with cultural ones, so that the former make the latter more concrete, and the latter make the former more meaningful.

Finally, design experts can feed the social conversations with their specific culture, moving from criticizing the state of things toward presenting new ideas and values, in order to make the whole co-design process more meaningful. In this respect, design experts need to have theories and reflections at their disposal which are also action tools. At the same time, they need to develop actions that are also fertile ground for new reflections, thus generating a positive circle between action and reflection. In other words, they must exercise a critically constructive capacity based on their experience and discussions about their experiences.[24]

These four expert design modalities define the field of possibility for the way in which design for social innovation can operate. In reality, design experts place themselves at various points in this field, characterized by different combinations of the four modalities, privileging those that feel closer to their sensitivities and personal capabilities.

Potentially, each of them can make a positive contribution. Fulfilment of this potential depends on whether or not they find the right starting point. So finding the most suitable mix of intervention modalities for each context is the first and most fundamental strategic ability that our expert designer must be able to bring into play.

Having said this, design experts must be able to operate in these various modalities bringing the viewpoint, culture, and skills proper to design. This means they must guarantee that their way of being facilitators, activists, strategists, and critics of the existent is an expression of their technical culture and competence. This design knowledge is the specific contribution that design experts must bring to the more general co-designing processes in which they participate: knowledge that in part lies in the tradition of design and in part must be produced through opportune research.

A new design knowledge

Where and how is the needed design knowledge produced? Where and how will it be produced in future, given that the demand for it will inevitably

grow in the transition toward sustainability? The traditional answer falls on the existence of (and need to develop) public and private research centers.[25] However, in my view this answer is incomplete, and more importantly it leads us to think that the design research we are talking about can be limited to a few research professionals. In a connected world this is no longer so. In a connected world, designing networks also tend to become design research networks, producing constructive enquiry at their nodes.

Design research networks

These design research networks are the results of a social as well as technical transformation that is under way. To recognize it, we must consider the emerging scenario in which open-source and peer-to-peer approaches make new organizational frameworks possible. In this scenario, as well as at universities and research centers we can also find design agencies of all sizes that produce and publicize their results on the net: a flow of information and reflection that is laying the foundations of a new design culture and a new set of design tools.

On the other hand, this free flow of information could be made more effective through better use of the potential of the Internet (and the peer-to-peer and open-source approaches that it has made so popular). In fact, in this peer-to-peer and open-source spirit, different design teams may develop projects and research on the basis of their own resources and opportunities and, at the same time, act as a node within a larger network of similar teams. For instance, global challenges can be launched using an online global platform to stimulate creative people worldwide to send solutions that are discussed and shortlisted for further selection, reselection, and eventual implementation through a process led by the challenge sponsor and/or community members who want to bring the challenge ideas to life.[26] This way of doing, in my view, is coherent with an idea of design-as-research, applied utilizing the possibilities offered by an online digital platform.

The next step could be to use digital platforms of this kind and adopt a peer-to-peer approach to spark off a design research activity: an open-design research program thanks to which complex, socially relevant topics could be tackled and *explicit, discussable, transferrable, and accumulable* knowledge could be produced (such as scenarios, solutions, tools, and methods offered as contributions to larger co-design processes). Networks like these could operate in a very flexible way, as distributed systems, in which several interconnected design teams function as a large agency (while remaining sensitive to particular local cultural, social, and economic conditions). Given

this particular system architecture, they could offer the unique possibility of integrating local and global points of view, and promoting open-design programs in which a variety of projects converge, tackling complex problems and generating scenarios and solutions. As an example of how these open-design research programs might run, we can consider DESIS Network and, in particular, its Thematic Clusters: clusters of teams working on similar topics in a similar way. More precisely, what DESIS Network does is offer a free-choice platform that can help different design teams (the DESIS Labs) to align ongoing activities, create arenas for discussing their projects, and compare tools and results, as well as a place where new joint initiatives can be started (example 3.5).

Design schools as agent of change

Design schools, with their PhDs and doctoral programs, of course, but also with the tremendous potential of all their students' enthusiasm and their teachers' experience, could be very meaningful nodes in these design research networks, and in the resulting open programs. At the same time the existence and viability of these networks and programs are the conditions that can make this possibility real. In fact, without them the potentialities

Example 3.5

DESIS Thematic Clusters

DESIS (Design for Social Innovation and Sustainability) is a network of several (more than 40, as of spring 2014) autonomous but interconnected *design labs*: groups of academics, researchers, and students who orient their design and research activities toward social innovation. These labs operate at a local scale with local partners, and, in collaboration with other labs, they actively participate in large-scale projects and programs. One of the main DESIS initiatives is its Thematic Clusters.

DESIS *Thematic Clusters* are groups of design teams, based on different DESIS labs, working on similar topics in a similar way. Their aim is to build arenas for discussing ongoing projects and comparing tools and results, and to provide a place where new joint initiatives can be started: to create focused design research environments where specific design knowledge is produced and accumulated, where—in relation to a given design theme—a common language is built, a set of conceptual and practical tools created, and scenarios and solutions developed. They emerge from ongoing activities, thanks to the initiative of the design teams who, recognizing their common or converging interests, freely decide to align ongoing activities, establish a coordinated program of events, and, when possible, initiate future joint activities.[27]

of design schools would most probably remain only potential. Or better, the energy and capabilities that schools express would be wasted. However, if they use well the network possibilities, design schools become a *real social resource*.[28] They can generate original ideas and interact with local communities to trigger new initiatives or support ongoing ones while adopting a design research approach (as a matter of fact, it is not by chance that in many of the proposed examples, design schools played an important role in promoting and sustaining them, and reflecting on them in order to generate new design knowledge).

While doing this, design schools may work as *independent design research* agencies, meaning design agencies that can operate with a high degree of freedom: the freedom to decide with whom to work (i.e., with which communities, associations, companies, and institutions) and which kind of project to develop (i.e., where and how to improve the enabling ecosystems). And, most importantly, they can do so feeding the open-design research program, and more general social conversations, with precious unconventional, critical, alternative views.[29]

Part 2 Collaborative People

4 Collaborative Organizations

To go further into what design for social innovation does, and what it could do, we must focus on the protagonists of each particular innovation. This means looking at the people who take part and the social forms they generate, and especially at the social forms in which people collaborate in order to achieve a result they would not be able to achieve alone, and that produces or could produce wider social value as a side effect. These social forms (these collaborative organizations) appear with widely differing characters and purposes, but they have one clear characteristic in common: their existence requires the active, collaborative participation of all interested parties. This calls for radically different ways of being and acting from those currently dominant. The task of design for social innovation can therefore be described as follows: it is a design action that seeks to make these ways of being and doing things (that is, the existence of these collaborative organizations) both possible and likely.

New social forms

Social innovation occurs when people, expertise, and material assets come into contact in a new way that is able to create new meaning and unprecedented opportunities. So the likelihood of this happening depends largely on an encounter between people who collaborate to create value. There have always been encounters, and therefore collaborative organizations, of this kind, but today there is something special about them that comes from the specifics of the context in which are emerging. The way they occur today is an outcome of the way people's lives have evolved and the manner in which they are able to meet. As is easy to imagine, it comes from the fact that a growing number of people live in a world that is both highly problematic and highly connected.

A meaningful example

Tyze is a collaborative organization supported by a digital platform to share vital health information and provide a fluid and easy way to connect the complicated lives of friends, family, and neighbors who are willing to give care to someone in need. At the same time, it is a practical way to cultivate family, neighborhood, and friendship links in contemporary fluid contexts of life and therefore, most probably, to increase the possibility of their lasting over time (example 4.1).

"Here is our radical idea," the Tyze promoters write to describe the initiative's mission: "Create a meaningful and active role for friends, family, and neighbors who are a critical part of the care equation. Share vital health information with the people who love the individual who's facing a challenge. Connect people to each other and to good information. By nurturing the connections, relationships and activities within a person's natural support network, we lay the foundation for their care."[1] This presentation gives a clear idea of the Tyze motivation and way of working. What it doesn't say, and what in my view makes it so interesting and contemporary, is that it enhances a valuable resource that otherwise would have been lost.

Example 4.1

TYZE

Tyze is a service enabling personal, private, secure online networks that coordinate care and contribute to improved health and social outcomes. Their primary beneficiaries are people undergoing treatment for critical illness, seniors, and people with disabilities. Tyze works with organizations that recognize the need to use new tools to bridge formal and informal systems of care.

Tyze is a social venture created to accelerate the adoption of a networked model of care. In practical terms, it "leverages cloud computing to help people care for others." That is, it supports groups of friends, family, and neighbors willing to give care to someone, helping them create their own network using a secure, practical, web-based solution that helps connect them around the one in need. With Tyze, you can privately communicate with family, friends, and helpers about you or the person you care about; schedule appointments and events on a shared calendar; share files, photos, updates, and much more anywhere, anytime. Tyze has been created by the PLAN Institute for Caring Citizenship, a nonprofit organization dedicated to improving the lives of people with disabilities, their families, and their communities. It was launched in Vancouver, and is now moving to the UK.[2]

In fact, the care outcomes it offers could not happen without the hearty and active participation of friends, family, and neighbors—the precondition for making this whole initiative viable. It is also true that, without this digital platform, these friends, family, and neighbors would often be unable to give this care because their complicated lives would make it impossible. In fact, in the past, friends, family, and neighbors might have been able to take care of the "individual who's facing the challenge" simply because they would have been living nearby and, at least some of them, would have been able to stay at home and give the needed continuity in care. Today, for a growing number of people, life is quite different, and the wish to take care of someone is going to be frustrated if it is not supported by a platform that helps many to share this responsibility. Tyze is a practical solution that offers easy, flexible tools to coordinate their activities (who does what and when), and the most important information. In other words, Tyze coordinates, in an effective and sensitive way, the complicated lives of friends, family, and neighbors, transforming different partial contributions into the needed continuum of caring activities: "Tyze brings everyone on to the same page to create the best possible outcomes and to highlight reciprocity, exchange and meaning."

Between grassroots organizations and social networks

Like all the other examples of collaborative organizations, Tyze is clearly a very special case, closely bound to the specifics of the context it grew out of. What makes it stand out, and what has led me to choose it to open this chapter, is that it lies precisely at the intersection of two lines of innovation that together constitute the field of possibility for collaborative organizations. The first is driven by traditional grassroots organizations confronting new problems and getting connected. The other is driven by social networks supported by digital platforms, which are bridging digital and physical space and meeting real people with real-life problems.

Traditional grassroots organizations (box 4.1) and social networks (box 4.2) have a major point in common: the content and indeed the very existence of both depend on people who sustain them with their energy, their culture, their enthusiasm, and in particular their design capacity. In spite of this similarity, they have emerged in different contexts, driven by different motivations, and until a few years ago they were discussed and developed in different arenas. Grassroots organizations are created by groups of people living near each other who have decided to work together to solve tangible problems. Social networks, on the other hand, exist in digital space: an ecosystem where only information—texts, audio, music, photos, videos—can flow.

Box 4.1

Grassroots organizations

The notion of *grassroots organizations* has been around for a century. It denotes political initiatives driven by communities, as opposed to those decided and organized from the top: "The term implies that the creation of the movement and the group supporting it is natural and spontaneous, highlighting the differences between this and a movement that is orchestrated by traditional power structures."[3] Later, the notion was extended to different activities and in particular to "innovation," opening a new perspective on the concept of grassroots: the idea that the creativity and knowledge needed to solve grassroots problems (the problems of everyday life) can also be found at grassroots level. This means that ordinary people can be expert in the problem they are facing in their everyday life and that, given the right conditions, they can find, or participate in finding, the most appropriate solutions. In other words, they are capable of producing innovation: "We use the term 'grassroots innovations' to describe networks of activists and organizations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved."[4]

Traditionally, grassroots organizations have mainly been understood to be alternative organizations: that is, entities separated from larger sociotechnical systems. Often the result is that, as Gill Seyfang and Adrian Smith write, they tend to isolate themselves and become closed organizations*:* "Paradoxically, a key benefit of grassroots innovations, namely, the 'world within a world,' undermines diffusion. Whilst practices where 'the rules are different' have certain strengths, those strengths become barriers when in concerted opposition to incumbent regimes."[5]

Recently the distance between the two has started to shrink. On the one hand, as could be expected, grassroots organizations have been progressively penetrated by information and communication technologies. The result is that the use of dedicated websites has spread and these have gradually become the new grassroots organizing platforms. This organizational change has normally enabled such groups to become more effective, without radically modifying their system architecture or the main actors' role. Therefore we can now observe a substantial continuity between the original, low-tech grassroots organizations and the more mature and technologically empowered organizations into which they have evolved. The digital platform helps them do better something that could have been done without it, though admittedly with greater difficulty.

Box 4.2

Social networks

The notion of *social networks,* in the sense of social-media-based networks, is recent. The first ideas can be found in proposals for online communities in 1995. The current sense of this expression started in 2003, with the launch of My Space and LinkedIn. Normally, this expression refers to people and communities who, thanks to appropriate digital platforms—the *social media*—share ideas, pictures, posts, activities, events, interests, and real-life experiences and, on this basis, decide to co-create, discuss, and modify contents (user-generated contents). The social media used can be very diverse, for instance blogs, picture sharing, wall postings, music sharing, crowd sourcing. These technologies enable us to imagine and enhance different types of initiatives: collaborative projects (e.g., Wikipedia), content communities (e.g., YouTube), social networking sites (e.g., Facebook), blogs and microblogs (e.g., Twitter), virtual social worlds (e.g., Second Life), and portals enabling offline group meetings (e.g., Meetup). What is particularly interesting for us here is the emerging trend of "location-based" digital services. Thanks to mobile phones, and the GPS they integrate, these location-based social media bridge virtual and physical space. In fact, given that the contents created by the users can be automatically "geotagged," other people can immediately see what is going on nearby, in physical space, and, if they like, can physically join it.

On the other hand, social networks (with their virtual communities) have started an impressive journey from digital space (and *virtual reality*),[6] where they were born, to a hybrid space (and *augmented reality*):[7] a space where digital and physical dimensions coexist, where social media connect people (in digital space), to enable them to meet and act in the real world (i.e., in physical space). Today, surfing the web, we find thousands of websites that propose doing something together, with different motivations and modalities, but with a clear, strong common denominator: to create contact between scattered individuals who do not know each other, yet have similar visions and interests, and live not so far away (that is, they live near enough to make face-to-face encounters possible). On this basis, they propose very different kinds of meetings: from short, exceptional events in public space (*flash mobs*, meaning artistic performances or political acts)[8] to long-term groups for practicing sports (such as the association Walking Groups)[9] or for mutual help in health care (such as *circles of care* that propose an approach to health care based on social networks).[10]

Looking at these groups from the point of view of the participants, once the first meeting has taken place they do not appear so different from the collaborative organizations we are discussing here: at that point what emerge and make the initiative successful are the same relational elements that make all collaborative organizations work: motivations, effectiveness, empathy between participants; the digital platforms (Meetup or something similar) simply act as a technological and organizational support. Today, as we have seen with the Tyze case, we can also find initiatives that are quite different from both the traditional grassroots organizations and the "traditional" social-media-based ones right from the beginning: these initiatives are at the core of the new kind of social forms I am referring to as collaborative organizations.

Summing up: the trajectories of the original low-tech grassroots organizations (based on people willing and able to collaborate in physical space) and of high-tech initiatives (based on the potential of social networks in digital space) are converging and now largely overlap, creating a new kind of hybrid social form. In this converging process, a positive loop can be recognized. Social networks find meaning in grassroots organizations, and opportunities to penetrate the reality of everyday life with all the difficult problems people are facing there. In turn, grassroots organizations find in social networks the enabling tools they need to move toward more effective, longer-lasting, replicable organizations, and therefore to scale up and increase their impact on mainstream models of thinking and doing. The positive loop between these two trajectories is extending the area of overlap, where a new wave of sociotechnical innovation can be generated and unprecedented digitally supported organizations can flourish.

Bottom-up, top-down, and peer-to-peer

Even though collaborative organizations have been introduced as bottom-up innovations (that is, as innovations mainly deriving from actions "from the bottom"), a closer observation of their evolution from initial idea toward more mature forms of organization indicates that their long-term existence, and often even their start-up, depend on complex mechanisms, and that the initiative taken directly by the people concerned (bottom-up interaction) is always supported by information exchanges with other similar organizations (peer-to-peer interaction) and by different kinds of intervention from institutions, civic organizations, or companies (top-down interaction).

Given all that, it can be observed that collaborative organizations are in part grassroots organizations. In fact, the active and collaborative

involvement of the people directly concerned (the common and ordinary people) is the precondition for their very existence. However, to exist they *also* require the participation of other actors. In my view, the mix of bottom-up, top-down, and peer-to-peer interactions can be described better by the term "collaboration" than by "grassroots." In fact, grassroots normally refers to the activities of *ordinary people as distinct from institutions and experts,* whereas collaboration has a much more open meaning: derived from the Latin *cum* (with) and *laborare* (to work), *collaboration* means the act of working alongside someone to achieve something. In the collaborative organizations we are considering here, this collaboration is not limited to horizontal initiatives within grassroots groups, but can be extended to relationships established in all possible directions. Of course the meaning of grassroots could be stretched to include this complexity of interactions. But, in order to avoid misunderstanding when discussing this new phase in the grassroots story, it seems to me safer to use an expression like "collaborative organizations," which is newer, and therefore not charged with the historical, often obsolete connotations we might associate with "grassroots."

In sum, it can be said that *collaborative organizations should be considered as bottom-up initiatives not because everything happens at grassroots level, but because the precondition for their existence is the active involvement of people directly concerned.*

Collaborating by choice

At this point, I can give a more precise definition of collaborative organizations:

Collaborative organizations are social groups emerging in highly connected environments. Their members choose to collaborate with the aim of achieving specific results, and, in doing so, they also create social, economic, and environmental benefits. They are characterized by *freedom of choice* (their members can freely decide whether, when, and how to join or leave the group) and *openness* (they present a positive attitude toward "others": other people, other ideas, other organizations).

Given that, let's start by focusing on the role of free choice, meaning choices made by subjects who are free to decide what to do and how to do it. To go further into how expert design may foster and sustain them, we must start by observing the people involved more closely; we must consider how and why they can and want to define *life projects* that entail being active and collaborative.

Life projects and collaborative behaviors

As was said in chapter 2, conceiving and putting into practice life projects is part of human nature. Nevertheless, in different times and places it has appeared and evolved in different ways. In particular, it is only with *modernity*[11] that human beings have started to recognize themselves as *subjects* in the sense that we usually use the term today (and that I am adopting in this book). In other words, it is only with modernity that, for growing numbers of people, it has become possible, and subsequently even mandatory, to build their own idea of well-being and to define (or at least to try to define) their own life projects. In fact, only with modernity does socialization not subordinate the subject to the community, and not confine the individual search for happiness within the strict rules on which that community is based (and that cause individual lives to be largely predetermined by the time, place, and social conditions in which each has happened to be born) (box 4.3).

How and to what extent modernity's promise of the designability of one's own life has been fulfilled is obviously an open question. Once expressed, however, this idea has become one of the fundamental grounds underlying socialization for millions of people, and one of the main regulators of many societies (at least for those social groups that, from this point of view, can be considered "modern" or "modernizing"). For the moment, let's be content to say that in a period of great, turbulent transformation like the present, for a growing number of people ideas on well-being must be invented (and reinvented) each day. So we can see them as subjects who must constantly define and redefine their life projects. They must ponder what well-being they are looking for, what possibilities they have of reaching it, and what steps they must take to get there. We should add that even though their choices are individual, the sense system in which they are made is in any case a collective artifact: a cultural construction resulting from a vast and complex social conversation; a sense system that anyone may confirm or reject, but that no one can ignore.

Collaborative organizations have emerged from this social conversation. That is, they are rooted in the spirit of modernity, at the point where its characterizing trend toward individualization clashes with the problems that this individualization itself generates. The result is that these collaborative organizations are free and reversible social forms, the members of which can freely decide whether, when, and how to join or leave. At the same time, they are organizations open to "others": to people who are not members of the same organization, and to the ideas they may express.

Box 4.3

Modernity and life projects

What we call modernity is a human condition in which, at least in principle, there are subjects who are free to choose and therefore able to formulate their own *life projects*. In the premodern condition, this was rarely possible. As Anthony Giddens writes,[12] for the majority of people there was no possibility of designing one's own life because, in fact, few options were permitted under the strong traditions and behavioral conventions of the time. As tradition weakened, people found themselves having to negotiate and choose—from a multiplicity of possible options and referents—what lifestyles to adopt. So, in moving from premodern to modern society, they had to learn to design their own lives. Ulrich Beck underlines how, today, this design orientation is no longer an option: when faced with alternatives, we are forced to make a decision (even if we may be unaware of all its implications).[13]

We should add that for the whole of the twentieth century the tendency toward needing to design one's own life went hand in hand with an ever-increasing *individualization* (this too to be seen in relation to the progressive weakening of traditions and the social ties that characterized them). The outcome of this twofold evolution is that, in our current modernized societies, people find themselves seeking to design their lives and having to do so alone, which is very often quite difficult and generates frustration. The social innovation we are concerned with here—and especially when it leads to the creation of collaborative organizations—demonstrates that it is also possible to follow another path and separate the question of life projects from that of individualization as we have known it up to now. The social innovation of recent years shows us that life projects in the sense of individual quests for one's own well-being are not the only ones possible. *Collaborative life projects* are also feasible. These are life projects based on the idea that doing things with others may lead to better results, and may even be more interesting and enjoyable.

This freedom, reversibility, and openness is what mostly distinguishes contemporary organizations from traditional communities. In fact, for traditional communities (in mature modern societies this means the communities of the past, but in several other regions of the world they are still alive, involving a large part of the population) collaboration was not a choice. For their members, the existence of a tight, dense fabric of social ties was a given condition: the social environment (family, clan, village, neighborhood) where they were born and where, most probably, they would have to live their entire life. These traditional communities are rather closed

organizations: their members relate mainly, if not only, to other members of the same community, with few opportunities and motivations to connect with people and situations external to that particular community.

Free, reversible, and open organizations

Collaborative organizations appear at the crossroads of two symmetrical sociocultural trajectories. The first is the "rediscovery of collaboration" in both mature modern societies and recently modernized ones. The second trajectory is what is sometimes called the process of "social leapfrogging," and it is happening in the other parts of the world.

Regarding the first one, I say "rediscovery" because historically, before the process of individualization took place, these societies had centuries of experience with traditional forms of collaboration. The rediscovery of collaboration happens among social groups in which the process of individualization resulting from the crisis of traditions is most evident. At the same time, and probably for the same reasons, these are also the contexts in which new collaborative organizations have become most visible. In other words, it is here that a growing number of people, experiencing the difficulties of extreme individualization, decide to cooperate to solve problems or to open new possibilities. That is, they *rediscover the power of doing things together.*

Exactly how the resulting collaborative organizations appear depends, of course, on the specificity of contexts, results to be achieved, and personal motivation, but they also have some common denominators. The first and most evident one is that, in all of them, there are two drivers: the search for practical results (in doing things together) and the quest for cultural value (the value of sharing ideas and projects).

Converging trajectories

Until recently, for collaborative organizations in mature modern societies and recently modernized ones, the quest for cultural value has been as strong as that for practical results, but in the last few years something in this picture has changed. On one hand, technical and organizational improvements have reduced the difficulty of access and increased the effectiveness of various collaborative organizations, thus reducing the need for strong cultural motivations (I will come back to this point in the following chapters). On the other hand, for a growing number of people in many places that have traditionally been the rich part of the world, the search for practical results is now tending to weigh more heavily. In fact, on finding themselves up against the current economic crisis, their needs are becoming

the main drivers of behavioral change. Such people are seeking new ways of living simply because they cannot afford to continue living as they did and they recognize in (some) collaborative organizations viable solutions to their present problems.[14]

Let's move on now to the second trajectory. This is the one that can be observed in regions where traditional communities still exist but where, facing new problems and exposed to global ideas, they are in a transitional phase. In these societies, we can observe groups of people who, instead of moving along the seemingly inevitable evolution toward modernization (a modernization in the form of extreme individualization), jump directly from traditional communities to new forms of collaborative organizations, blending traditional relationships with some degree of individual freedom.[15] With this option we have *social leapfrogging*: a direct jump from traditional communities to "open organizations" and "collaboration by choice," avoiding the extreme individualization of mainstream, twentieth-century modernity (box 4.4).

Box 4.4

Social leapfrogging

The expression *social leapfrogging* is an extension of the (until now) better-known concept of *technological leapfrogging*, i.e., a direct jump from traditional technologies to the most advanced ones (one very clear case is the diffusion of mobile telephones in Africa, avoiding the landline phase).[16] Social leapfrogging, by analogy, is the direct jump from a traditional community to a new form of collaborative organization. Examples of social leapfrogging can be found in countries defined as "emerging," such as China, India, and Brazil, but also in all the others, above all in Africa. In all these places, different traditional social forms can evolve into a new kind of community-by-choice, moving from traditional, closed and now fragile communities toward new, more open and more resilient ones. In several cases the use of mobile technologies and digital platforms has been crucial to creating brand-new forms of organization. Taking Africa as an example, we can note that the potential for social leapfrogging, and its connection with the diffusion of mobile technologies and digital platforms, are particularly tied to the notion of *ubuntu:* a specific and complex form of solidarity embedded in African cultures. Normally in African discourse this concept refers to traditional organizations. However, several new initiatives, many of them supported by digital devices, appear to be firmly linked to *ubuntu* traditions. Thus the same concept seems capable of inspiring design guidelines for new solutions.

Diffuse social enterprises

Collaborative organizations can be very different, but each of them, to exist, requires a high degree of entrepreneurship on the part of the participants and operates as a kind of enterprise: a diffuse social enterprise producing both specific results and social quality.

It must be stressed that we are speaking here of a special kind of social enterprise. Unlike the mainstream vision of social enterprise, where the predominant figure is someone who does something for someone else, the characterizing aspect here is that everyone concerned is directly and actively involved in achieving the result that the enterprise itself sets out to reach. In other words, these are collaborative organizations, in which people are active in helping each other and in creating a commonly recognized value. A second important difference is that, although some of these new social enterprises deal with highly critical social problems (empowering marginalized social groups or caring for the seriously ill), their specificity lies in extending the concept of "social" to a wider area of daily life by proposing solutions that are also tangible examples of new ways of being and doing.

Associations, services, and production enterprises

In practice, these social enterprises may play various roles, acting as citizens' associations, as social services, and also as new kinds of distributed and open production enterprise.

Collaborative associations are groups of people who work together to solve problems or open new possibilities (and who become co-producers of the results). Some examples of this category are groups of residents who transform an abandoned plot into a shared neighborhood garden; groups of people who love cooking and who use their skills to cook for a larger group, dining together in one of the members' houses; groups of people who exchange mutual help in terms of time and skills; groups of elderly people and teachers who organize vegetable gardens for children in elementary schools.

Collaborative services are a particular kind of service where final users are actively involved and assume the role of service co-designers and co-producers. Some examples are houses where elderly people of different ages live in a resource-sharing community suited to their diverse needs and lifestyles; services that facilitate house sharing between elderly and young people, where students find cheap, family-style accommodation while giving lonely but independent elderly people help, companionship, and financial support; self-organized nurseries for small groups of infants, making best

use of existing resources such as the capabilities (social resource) and houses (physical resource) of their parents.

Collaborative production enterprises are based on new models of production and distribution. In fact, the collaborative attitude of such organizations, when applied to production activities, is creating a new generation of small and micro production enterprises, endowed with special social value, ranging from advanced, high-tech ones (such as those proposed by Fab Labs and by the makers movement; see chapter 1) to those resulting from the renewal of traditional craftsmanship (in the emerging networked models of production) and of traditional farming (in the framework of the community-supported agriculture model).

Prototypes, mature solutions, and implemented ones

At the origins of each new idea of collaborative organization there is a *creative community*:[17] a group of people who have been able to imagine, develop, and manage it. With time, these creative communities evolve into our *collaborative organizations* which, if successful, continue to evolve as every innovation does.

More precisely, we can say that, like all innovation processes, collaborative organizations emerge, mature, and spread in an S curve from brand-new ideas to mature, implemented solutions.[18]

Among existing collaborative organizations, we can see that some of them are still at the prototype stage: they show that an idea is feasible and that somebody somewhere has been able to put it into practice. They might open up possibilities, but it is too early yet to know whether they will last over time and work independently of the special people who started them and/or the different contexts in which they have been created.

Other cases are relatively consolidated working solutions: they indicate that some solution ideas have been able to last over time and, sometimes, to inspire other groups of people in other places to do something similar. When they are successful these cases can be seen as social innovations that have been able to move on from the initial prototype stage to a more mature one. However, it is evident that they still require a very high investment in terms of time and attention on the part of the actors involved, and therefore people who are less motivated and less entrepreneurial may find it too difficult to start up similar initiatives, or even simply to participate in those that are already up and going.

Finally, some of the cases can be considered as mature, implemented solutions: collaborative organizations that are supported by specifically designed systems of products, services, and communication programs.

Some examples are very well known, for instance car sharing (a group of residents in a given area share a fleet of cars to be used and paid for only when required). Thanks to appropriate services and products, the adoption of specific innovative organizational models, and sometimes a mix of institutional interventions, this proposal has become easily accessible, effective, and replicable in different contexts. The more mature car sharing solutions can be accessed now by people who are not required to be exceptionally motivated. The same is true for those who want to start up such an activity as a new business opportunity. As this example (like other similar ones) shows, a growing number of collaborative organization ideas have been supported by designers, engineers, enterprises, and local institutions that have developed specific solutions to enable people to start up or participate in a collaborative organization.

Obviously, when this happens some of the characteristics of the initial invention and its early applications may be lost or modified. Car sharing is an emblematic example: the initial experience organized by a group of radicals, animated by a community spirit and severely critical of the dominant car culture, has developed into an easily accessible, highly effective service, the users of which generally recognize in it no particular social significance. I shall come back to this point in a later chapter; for the moment suffice it to say that as occurs in any other product or service development process, the ways by which to progress from an initial idea to a finished product or service are many. Thus the qualities and values that distinguish the original idea may evolve in different ways according to the development options chosen at each stage.

Enabling ecosystems

Collaborative organizations are living organisms that require a favorable environment to start, last, evolve into mature solutions, and spread. They call for an ecosystem of cultural and social structures, ranging from technical infrastructure to national institutions and neighborhood associations; from global products and production-consumption systems to local ones. It follows that it is the characteristics of this ecosystem, an *enabling ecosystem* consisting of widely differing entities, operating on many different scales, that will decide the probabilities of a collaborative organization emerging and being successful.

Given that, what can expert design do to create a more favorable enabling ecosystem?

Different logics and scales

Enabling ecosystems, like all ecosystems, are complex entities[19] that cannot be entirely changed with a single design project (i.e., with a single mode of intervention, based on a single way of thinking and seeing things). To change such an ecosystem requires a plurality of projects, operating on different levels and with different logics.

Taking the Collaborative Housing Program presented in chapter 3 as an example (though the same could be said for all the other examples in this book), we can recognize the existence of a general program and several quasi-independent projects. The program was based on views, hypotheses, and a methodological approach shared by a group of stakeholders. The specific projects varied widely: from the initial survey on the potential demand for collaborative housing in Milan, to the cultural activities aiming to promote the value of collaborative living, to the sets of services, digital platforms, and toolkits specifically conceived to support potential cohousers in the first phase, and social housing residents in the second.

Finally, we must add that the impact of this program and the projects it generated has been greater than the sum of its immediate results (in terms of the cohousing units and social-housing initiatives it triggered directly). Indeed, it has influenced other projects in various ways and has contributed to a more general cultural change in attitude toward housing and the value of sharing certain housing facilities and services. In short, not only have these various projects been part of a wider co-design process coordinated by the Collaborative Housing Program, but also the program and projects have together created favorable conditions for activating other projects at different scales, in a wider, more open and ultimately uncoordinated process of social co-designing.

This example clearly shows the distinction I introduced in chapter 3, between the overall design process (which is an open-ended process) and the multiplicity of design initiatives that enable the overall process to proceed. It also shows that every design initiative is a project in itself, with its own clearly defined results, modalities, and timelines.

Generalizing on what this example tells us, we can say that to create a more *supportive environment* it is necessary to move in different directions and with different attitudes. As a matter of fact, they may be very *specific, local projects*, targeting particular aspects of the enabling ecosystem, as for instance an ethnographic film about a cohousing community; a scenario to stimulate discussion about possible future nutrition; a method and tools

by which to choose among various social service options; a prototype that tangibly demonstrates the feasibility of a proposal. But they may also be *framework projects*: second-level projects that seek to align, coordinate, and systemize a multiplicity of enabling solutions and pinpoint projects and thus to have an impact on the local area (at city or regional level), or on the great sociotechnical systems such as health, social services, education, food and nutrition, and so on.

5 Collaborative Encounters

Collaborative organizations can be observed from various viewpoints, all important and all useful for expert design. However, design tends to express itself from the point of view of the people involved, that of the subjects who, in deciding to participate in a collaborative organization, become co-designers and/or co-producers. Looking at things from this point of view, the questions to answer are: Why do they decide to do so? Why do they steer their life projects in this direction? To reply to these questions, we need to pay more attention to what lies at the center of these organizations: the act itself of collaboration. In particular, this means looking carefully at the moment and the place in which people meet for this purpose: at their collaborative encounters. The most specific and original of the contributions that design for social innovation can bring is a design culture that is able to understand the collaborative encounters under way and that has both the words and the sensitivity and creativity to imagine, and help the involved actors to imagine, new ones.

Dimensions of collaborative encounters

"Cooperation can be defined, drily, as an exchange in which the participants benefit from the encounter." This is Richard Sennett in his book *Together: The Rituals, Pleasures, and Politics of Cooperation*.[1] The definition he gives is certainly a dry one, but it includes all the elements we need in order to discuss what cooperation is about. It tells us that collaboration takes place when people encounter each other and *exchange* something (time, care, experiences, expertise, etc.) in order to receive a benefit; in other words, they create a *shared value*.

This definition also tells us that each collaboration has a core, and this core is an encounter: the collaborative encounter in which two or more people meet and interact in order to do something they all recognize as a value. It is interesting to observe that this definition of collaboration is

practically the same as that of *service* and *service encounter*: in fact, each service can be defined as an interaction between people (and between people, things, and places) targeted to produce value.[2] Obviously, this definition of service does not refer to services as "productive organizations," but to the heart of the service itself, i.e., to the moments when these interactions take place: the *service encounters*.[3] On the other hand, since to all intents and purposes an interaction targeting value is collaboration, all service encounters are collaborative encounters (even though, as we shall see, the level and modality of the collaboration called for may vary widely). Thus the two expressions refer to the same type of event. The difference is that the second (collaborative encounters), in highlighting the collaborative dimension, is more useful when this collaboration is more evident; that is, in the encounters characterizing our collaborative organizations.[4] Therefore, the question we started from (Why should people choose to take part in collaborative organizations?) should become: Why should people choose to take part in such encounters?

Obviously the answer to this question will vary from case to case, depending on the specifics of those concerned, the context, and the results envisaged. However, certain characteristics of these collaborative encounters can be discussed in more general terms (in that they are independent of the specific results), and in the following paragraphs I shall look at four of these. Two of them concern the operational characteristics of such encounters: *active involvement* and *collaborative involvement*. The other two concern the nature of the interactions on which they are based: *social tie strength* and *relational intensity*.

Active involvement

More than 2,500 years ago Lao Tzu wrote: "Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime" (*Tao te ching*). He meant two things: that, to give people long-lasting well-being, we must make it possible for them to be active and capable of dealing with their own problems themselves; and that the access to appropriate knowledge and tools must be guaranteed.

Now more than ever, this ancient wisdom shows us the way out of the tunnel that a mistaken idea of well-being, and an equally mistaken idea of economic growth, have driven us into. In fact, in the last century the dominant idea, the idea generated and propagated throughout the world by the west, was: "If someone is hungry give them fast food or a tin of ready-to-eat (or, if they can afford it, give them a luxury restaurant)." Whatever you do, give them something that requires no effort, no thought, no knowledge of

how to prepare food; something that boosts the economic activities around food preparation. To be more precise, give them something that leads to a reduction in the informal economies of self-production and nonmonetary exchange and an increase in the formal economy where, to meet a demand for food, there are other entities (private enterprise or public networks) that produce and deliver the services and products necessary.

The case of food is obviously emblematic of a far wider phenomenon that tends to invade every aspect of our daily lives: from health care to children's education; from the maintenance of things to that of the homes and places we live in; from the basic ability to entertain ourselves (to be on our own without getting bored) to that of socializing (engaging in different forms of conversation with others) (box 5.1).

Box 5.1

A disabling well-being

Twentieth-century modernity has led us to an idea of well-being as liberation from the weight of everyday activities, where our own skills and capabilities are replaced by a growing series of products and services to be purchased on the market or received from the state. In this way, health care always requires not only good doctors but also more and more medicine. Our children's education requires not only schools and good teachers but also gyms, televisions, and more and more electronic gadgetry. The upkeep of our things is replaced by throwaway objects, the production of public space by visits to shopping malls or theme parks. Our ability to entertain ourselves and others is swept away by the wave of reality shows. All this, so it is said, turns the wheels of the economy and produces wealth—for everybody.

Quite apart from its evident environmental costs, this way of thinking and doing things entails an enormous social cost and, ultimately, an economic cost also: since its underlying reference is always to a well-being based on the reduction of any kind of obligation in terms of time, energy, attention, and ability, it tends to propagate the idea of passive and solitary, not to say lazy and incapable, subjects. Thus it encourages, and actually produces, social figures who are indeed like this. Furthermore, people who are induced to seek well-being in the passive, individual satisfaction of their own needs and desires are needy in all respects, but everything they need must be purchased, and to purchase it they need more money. Thus they must work more. The end result is a vicious circle by which, in the quest for a well-being based on the idea of reducing our obligation to do things ourselves (in terms of everyday life), we end up having to work more and more.

This way of thinking and doing began in the last century and for almost a century had no real, strong rival (indeed, even during the period when the world was dominated by two great politically antagonistic blocks, aspiration toward this kind of well-being was rife in both). Now, however, as we know, something is changing. Even though this idea of well-being is still as pervasive as ever, today it no longer holds the same ability to convince, or rather its predominance no longer goes unchallenged: nowadays other ideas and other proposals are circulating. As we have seen in chapter 1, a growing number of people all over the world are abandoning mainstream passive and individualistic lifestyles and moving toward more active and collaborative ways of living and working based on the simple but revolutionary idea that *people can (also) be considered as an asset* (and that, above all, they must consider themselves as an asset).

This "simple" idea calls for a paradigmatic shift in our way of facing problems to be solved or opportunities to be deployed. Those who have traditionally been considered as "people with problems" (i.e., service end users) can be recognized as "people with capabilities" (i.e., service co-producers): people with knowledge, time, and energy who can usefully contribute to the conception of a service and, most importantly, to its day-by-day production and delivery.[5]

This way of seeing things, with its far-off roots in the wisdom of Lao Tzu, was taken up again with a vengeance 25 years ago by the economist Amartya Sen and the philosopher Martha Nussbaum who, together, started a line of thinking named the *capability approach*. What Sen and Nussbaum propose moves from this very basic idea: instead of considering people as carriers of needs to be satisfied (by someone or something), it is better to consider them as *active subjects*, able to operate for their own well-being. In fact, according to Sen and Nussbaum, what determines well-being is neither goods nor their characteristics, but rather the possibility of doing various things making use of those goods or their characteristics.[6] It is exactly this opportunity that, in the best hypothesis, enables subjects to approach their idea of well-being, giving them a greater possibility of being what they want to be and doing what they want to do

To develop their ideas, Nussbaum and Sen introduce two very effective concepts: *functionings* and *capabilities*. *Functionings* are conditions of life that people perceive to be positive. For instance, Nussbaum and Sen give the examples of being adequately fed, housed, and clothed, being able to move around freely, being able to meet friends and have relationships with them, being able to appear in public without feeling ashamed, being able to communicate and participate, being able to follow one's own creative

instincts, and so on.[7] C*apabilities* are people's abilities to choose among alternatives and achieve results, i.e., desired sets of functionings. The capabilities available to each subject depend on the characteristics of his or her context (which I will refer to as his or her *enabling ecosystem*) and on his or her *personal resources*.

Personal resources may be of varying character and nature: physical skills, especially those which enable a person to do something concrete, are the most evident. However, personal resources also include the knowledge, organizational skills, entrepreneurial skills, and design capacities with which a subject can focus on a result, choose the solution to adopt, and activate all that is necessary to achieve the chosen objective. Finally, of course, the time and money available are also part of personal resources (box 5.2).

Using this conceptualization, we can say that our protagonists can choose between ways of acting (and therefore between collaborative encounters) that entail various different kinds of commitment in terms of time, energy, attention, and ability. For example, their proposals may call for minimal involvement, close to the passivity of standard services, such as shopping at a farmers' market; the involvement may be higher but call for basic, mechanical activity, such as at a self-service filling station or cash dispenser; they may call for deep but widely available human capabilities, like offering company and daily assistance to people in difficulty; or finally they may call for specific skills and abilities, like those needed to cultivate a vegetable garden or the specialist knowledge required to write an entry for Wikipedia.

Collaborative involvement

Describing cooperation, Sennett says that "mutual support is built into the genes of all social animals; they cooperate to accomplish what they can't do alone."[8] If so, we can assume that collaboration is intrinsic to the character of human beings as social animals. At the same time, being also cultural animals, we change over time and with the context, and thus the way in which we collaborate also changes with time and context.[9] In particular, in saying that cooperation is a craft (that is, a social artifact to be built using a specific skill, which may be either increased or lost), Sennett observes that "modern society is de-skilling people in practicing cooperation."[10] Why is this happening? The answer obviously lies in the tendency toward individualization typical of the twentieth century and still dominant today. More specifically it lies in the contrast between the quest for individual freedom and the rules of collaboration. To collaborate, it is necessary to come to an agreement with other people, and this is perceived as a limit to everyday

Box 5.2

Capability approach and design

The capability approach has been much discussed and has long been adopted with different applications and in different disciplinary fields. Here I will consider it from the point of view of design (both expert and nonexpert). In design, adopting this approach means thinking in terms of subjects who express preferences and intend to increase their own capabilities. Doing so, we move away from the idea of users and consumers seen as passive figures, waiting for someone or something to satisfy their needs, toward the image of subject-actors interested in increasing their own capabilities and who, to this end, actively participate in the production of value.

In this way of seeing things, the role of design experts is no longer that of developing finished products and services. Instead, their task is to design to expand the capabilities of people to lead the kind of lives they value. This means that, rather than trying to identify needs and design solutions to satisfy them, design experts should collaborate in creating favorable conditions for those directly concerned to come up with and put into practice ways of living and acting to which they themselves, the protagonists, attribute value. Naturally, adopting an approach that basically leaves people the responsibility of deciding for themselves what is best to do does not mean negating the responsibility of design experts for the choices that will ultimately be made and put into effect. Indeed, while design experts, by intervening in the design of the enabling solution, do not determine the way in which people will decide to operate, they do create *action platforms* and *sense systems* thanks to which different behavior may be more or less viable and more or less culturally commendable, and therefore more or less probable.

The role of the expert designer is therefore to participate with his or her special skills and abilities, and with his or her special culture and vision of the world, in the construction of action platforms and sense systems that give people, and the social groups taking part, a greater possibility of being what they want to be and doing what they want to do. In other words, it should give them a greater possibility of defining and putting (or at least trying to put) into practice their own life projects, and doing so in an active and collaborative way.

personal freedom (in this case meaning the idea people have of their freedom to choose how and when to do things).

Against this background, however, we can also observe that the social innovation of interest to us here and the collaborative organizations it has generated are signs that some kind of reskilling may be under way: they tell

us that a growing number of people are not only rediscovering the value of collaboration, but are also learning again to collaborate. Community gardens are good examples: alone, citizens who would like to live in a greener neighborhood can only grow some flowers on the window or in their small home garden (if they are lucky enough to have one). Together with others, they can create a beautiful garden. What's more, they can meet friends and feel part of a community. However, to do so they must find a compromise between two opposing tendencies: one toward the quest for personal freedom and the other toward collaboration and the advantages it brings. In practice, the result of this compromise is rules: the rules of collaboration. The example of the community garden shows this clearly: people who opt to take part choose at the same time to accept the rules of the community, the rules that make this particular collaboration possible.

Similar relationships between results, collaborative actions, and acceptance of some basic rules can be found in all collaborative organizations. The way in which it happens depends, of course, on contexts, results to be achieved, and personal motivations. But in all cases, participants show that they freely accept negotiating their perceived individual freedom for the sake of the collaborative results. In my opinion, the potential of these collaborative organizations in terms of reskilling society derives precisely from this, that they put people in the position of learning how to build collaboratively and collaboratively accept the necessary rules.

This relationship between collaboration and rules in itself is nothing new: it has always been like that. However, if we look more closely there is something new, and it goes deep. In the communities of the past, community rules, just like the community itself, were never in dispute. By contrast, today they are negotiated among participants (and, if necessary, renegotiated later). In other words, the rules of a new collaboration are the result of an ongoing conversation between the interested parties of which they are entirely aware (or at least should be) (box 5.3).

All this is possible today because we live in a highly connected world. On the other hand, this does not mean that this high degree of connectivity automatically leads to collaboration, nor that the collaboration it makes possible is always useful and socially positive. As we all know, the Internet is full of opportunities for collaborative encounters that are dubious or even undeniably harmful. The Internet can also foster the formation of criminal gangs, mafias, and terrorist groups: it can be what Sennett calls "the dark angel of cooperation."[11]

To put it better: Sennett correctly underlines that the weakening of cooperative attitudes is not the only risk to which present societies are

Box 5.3

Collaboration by choice

Collaboration by choice, on the basis of rules collectively discussed and accepted, is what characterizes current collaborative organizations and distinguishes them from traditional communities.

However, this characterization does not distinguish them from the cooperative movements that developed, in Europe and in the rest of the world, in the last century. These too came about by free choice, and rest on statutory regulations that rule their functioning. Nevertheless there are some important differences between the two types. The cooperative movements of the twentieth century developed in a context dominated by economic models and by collaboration rules based on the economy of scale and on a rigid task division (and in particular, with a clear distinction between producers and users). Therefore most of the coops that survived and flourished evolved into big, hierarchical enterprises in which the collaborative encounters (i.e., the interactions between members, staff, and management) have gradually changed from the direct, horizontal ones that the original small scale made possible to the mediated, hierarchical ones typical of big industrially organized entities.[12] By contrast, the collaborative organizations of today are expressions of a new context in which economy of scale tends to be replaced by other economies and where new organizational models have become viable and effective.

exposed. A second, equally dangerous one is that of turning the human demand for collaboration toward what he calls *tribalism*, a form of "cooperative exchange [that] can produce results destructive to others."[13] A risk that today looks very high and which we can recognize in several contexts. The most obvious is when cooperation is explicitly oriented toward damaging somebody else (see criminal gangs, mafias, or terrorist groups). However, we can also clearly recognize it in all cases in which people cooperate against someone else in the name of their specific identity (as happens among some ethnic and religious groups). Finally, seeds of tribalism can be found every time cooperation produces *closed* organizations: groups of people who separate themselves from, and potentially against, those who are not members of the same group (as in urban tribes, hooligans, and even residents of gated neighborhoods). In view of all this, it seems to me that the collaborative organizations we are talking about could be an effective antidote not only to the risk of losing the social skill of collaborating, but also to that of falling into new forms of tribalism.

In conclusion, all the experiences under way show that collaborative encounters may occur in various ways, and therefore with different rules of collaboration. The field of possibility ranges from asymmetric collaborations (similar to those in standard services) to those in which all participants collaborate to achieve a result; and from those in which the rules of collaboration are defined in detail (as in large industrial organizations) to those in which they are established during the course of collaboration.

Social tie strength

When entering into relationships with others, every participant in a collaborative encounter establishes ties with different characteristics. The first and most apparent is their strength. The strength of the social ties is therefore an important dimension to consider when describing the qualities of collaborative encounters, and therefore of the organizations that are based on them. The strength or weakness of these ties determines their characteristics in terms of stability or fluidity in time, and their closure or openness toward those who are not part of the group.

A theory of the strength (and weakness) of social ties was proposed by Granovetter in 1973.[14] He defined three types of interpersonal ties: strong, weak, and absent. "The tie strength can be measured as a combination of the amount of time, the affective intensity, the intimacy (mutual confiding), and the reciprocal services that characterize the tie. Strong ties take a long time to be built, whereas the weak ties can be established more rapidly."[15] There is, then, a clear correlation between tie strength and the time and personal commitment necessary to build the ties. From this observation follows another. Given a collaborative organization, by definition every intervention seeking to make the interactions between the people more simple, flexible, and open entails a weakening of its social ties, and therefore of the wider social fabric that it contributes to producing.

Collaborative organizations as they appear today are characterized by a variety of social ties of all strengths, ranging from the strongest to the weakest. The character of these ties partly arises from the very nature of the issue that the organization is dealing with (clearly, it is more likely that stable, long-lasting interactions will be established in a cohousing unit or a neighborhood association than in the organization of an event). However, this also depends on how the basic idea behind the organization evolves, moving from proposals in which it is essential to establish strong ties to ones in which there are various combinations of strong and weak ties.

To clarify these concepts further, and particularly the ways they apply to the field of collaborative organizations, I will refer to the results of Joon Baeck's doctoral research at the Politecnico di Milano.[16]

Baeck's specific aim was to study the effects of social media in collaborative organizations. To do that, he analyzed in depth how they appear in the field of new food networks. What he did was to compare existing, low-tech organizations that have been progressively empowered by digital technologies, and brand-new high-tech networks built on the possibilities offered by digital platforms. The most interesting result of this research for us here is that, in the high-tech, social-media-based organizations, it is the weak ties that tend to play a fundamental role (as opposed to the major role played by strong ties in previously existing low-tech collaborative organizations). Being mainly based on weak ties, social-media-based organizations are more flexible, with a lower entrance threshold (and are therefore more capable of growing and replicating). For the same reasons, however, they tend to lose their original capacity to improve the social fabric by creating new social ties, a characterizing factor of the originally low-tech cases. The conclusion is that one of the main design choices to be made in supporting them is to define the most appropriate balance between weak and strong ties.

Generalizing on these results and going back to Granovetter's ideas, it is evidently important to improve our understanding of weak ties and their role in a connected world.[17]

The first and maybe obvious reason for this is that, although in a now distant past the social situation might have been represented roughly in terms of a dualism between strong tie and no tie, today this is no longer possible: in a connected society in rapid transformation, for better or worse we must consider the role of weak ties.

The second reason is that it is precisely these weak ties that make the social system more open and able to communicate. Indeed, again in the words of Granovetter, when strong ties predominate "information is self-contained and experiences are not exchanged."[18] This means, in our case, that organizations tend to close in on themselves, not exchange experiences, and fail to evolve. Worse still, this communicative closure risks becoming a political and cultural closure.

The third reason for carefully considering the role of weak ties is that they contribute to making the organization more accessible, because they weigh more lightly in terms of personal commitment. I will come back to this point in the following chapter. To discuss the characteristics of collaborative encounters here, suffice it to say that the personal commitment called for by some forms of collaborative organizations based on strong ties

is for many an insurmountable barrier: not everyone is interested and not everyone is always participating, or indeed able to participate, in activities that require entering a system of relationships that appears rigid and that often calls for long-term commitment.

All this means that, while it is true that a healthy social fabric must include strong ties, this must not lead us to the simplistic equation by which, in order to foster the social fabric, we cultivate only the strong ties. What we must look for is an appropriate balance between strong and weak ties: an equilibrium that breaks with the tendency toward individualization typical of twentieth-century modernity (and therefore with the generalized reduction in the force of social ties), but that does not propose a nostalgic return to the closed communities of the premodern past.

The quest for an optimum mix of strong and weak social ties, and thus between more or less open organizations, is one of the central issues in determining an enabling solution, and therefore of what expert design can do in this field.

Relational intensity

Since it is an interaction between human beings, every collaborative encounter calls for some degree of personal engagement and empathy. This characteristic can be assessed in terms of relational intensity, taking the adjective "relational" in the sense that Martin Buber introduced (box 5.4).[19]

For Buber, a relationship is an encounter between human beings which is, by its very nature, as involving and deep as it is demanding and, ultimately, risky (a person who engages in a relationship with another opens up to the other person and because of this becomes vulnerable). It follows that encounters may be of different relational intensity: from a maximum, in which participants put themselves on the line at a personal level, to a minimum in which, in the words of Buber, the interaction becomes experience: a formalized interaction where the encounter between the people follows a predefined format.

Having said this, we must add that Buber wisely refrains from suggesting that the polarity of relational versus experiential encounter represents a contrast between what is good (the first) and what is bad (the second). Buber says that in life there are and there must be both. However, he criticizes, and rightly so, the fact that in current society (Buber wrote almost a century ago, but the overall situation has certainly not improved) relational encounters tend to be submerged by experiential ones, to the detriment of our deeper human dimension. Thus, what needs to be done is to create a better balance between the two types of encounter.

Box 5.4

Relations and experiences

"All actual life is encounter," writes Buber.[20] This encounter may appear in two forms: one based on relations (which Buber calls the "I-Thou" relationship) and the other on experience (which he describes as "I-It"). The *relational encounter* is one in which people stand face to face with one another and establish a deep relationship, which requires trust and implies intimacy; as Buber puts it, people become "thou" to each other: human beings present in that encounter in all their humanity. The *experiential encounter*, on the other hand, is one in which people render services. Thus, each expects of the other whatever the service entails: in the language of Buber, people see each other as "it," as entities to be experienced.

In this conceptual model, Buber maintains that an individual really becomes a person only when he or she engages with the other in a relational encounter, meaning only when he or she is truly in the presence of the other, with all the unpredictability that entails. In the experiential encounter, on the other hand, the other becomes an "object," since the service through which the encounter occurs is a known, fixed procedure.

Let's now try to use this conceptual aside in relation to our discussion on collaborative encounters. I shall start with work by Carla Cipolla in her doctoral thesis at the Politecnico di Milano, which aimed to bring Buber's reflections into the discussion on service design.[21] Following Buber, we know that relational encounters are deep expressions of our humanity. For this reason they are often sought after and seen as a contribution to the quality of life and, in particular, to the quality of collaborative organizations and collaborative encounters. On the other hand, this quality calls for a certain commitment. With reference to collaborative services, but the observation can be extended to all collaborative organizations, Cipolla writes: "All services rely on user participation. However, relational services require participation and engagement more than other kinds. It is necessary not only to be operationally active but also personally involved. … 'Users', in this perspective, bring not only knowledge and will, but bring also relational capabilities."[22] In their nature, however, lies also their limit. Everybody has resources, in terms of their willingness and practical ability to get involved, which, extensive as they may be, are not infinite. This means that during their life they cannot have relational encounters with everybody and for all the activities in which they find themselves involved. They must choose where to invest themselves.

It follows that, if we want to extend the influence of the collaborative mode in people's lives, we must increase the possibility of joining in "lightly." Thus we must cultivate all the ways of collaborating, from relational to experiential, and all the others which may emerge from the combination of relational and formalized interactions.[23]

To conclude, we can state that collaborative organizations, operating in various fields and in different ways, can be distinguished also by the degree of the relational intensity they require. On one side are those centered on highly relational encounters, with all the positive aspects (in terms of quality of relations) and all the difficulties (in establishing and managing these relations) that they entail. On the other side are those based on experiences, i.e., on formalized interactions, in which there are tasks to fulfill and rules to follow, where the positive aspects and difficulties are symmetrical with those of relational services (lower intensity of relations but greater ease in their management). The entire spectrum of possibilities between these two extremes needs to be experimented with, so as to offer more alternatives in terms of results to achieve and how to achieve them.

Mapping collaborative encounters

Active and *collaborative involvement*, *social tie strength*, and *relational intensity* are therefore four characterizing dimensions of collaborative encounters. They provide not only the language for talking about these encounters but also criteria for designing them (or more precisely, for designing the conditions that make them more possible). If we consider them as variables on four axes, they can be crossed to generate two complementary maps.

Before we do this, it is useful to remember what was said at the beginning: collaborative encounters are also service encounters (since every collaborative encounter is based on interaction targeted to produce value, it is a service encounter). For this reason, when talking about the first, I shall sometimes use terms usually used for the second. In particular, to refer to socially involved actors, in cases where there is a clear difference in role between participants, I shall use the terms "providers" and "users" typical of services, remembering however that in the end they are all service co-producers.

Participant involvement: PI map

Collaborative encounters occur in different modalities, and thus with different rules. At one extreme are highly symmetrical collaborations, similar to those in standard services, for which the rules are laid down by service

managers who are also the service providers. At the opposite extreme are collaborative encounters typical of more cohesive communities, in which the interlocutors decide the rules and provide the service on an equal basis (they are all co-designers and co-producers).

These two extreme types do not exhaust the range of possibilities; there are also intermediate models, in terms of ways of collaborating in the project and ways of managing operations. So a map may be useful to illustrate this field of possibility. From the previous discussion, it can be drawn up on the basis of two variables:

Degree of active involvement. This means what participants are asked to do in practical terms; it ranges from passive to active participation. In the first case the difference between participants seen as passive users and others who play the role of active providers is very clear: users are served by providers. In the second case, participants bring into play their personal resources (in terms of time, energy, attention, and specific skills), and the difference in role between users and providers blurs: in this case users are also co-producers.

Degree of collaborative involvement. This is the extent to which participants are engaged in some form of collaboration. It ranges from no collaboration to intense collaboration: from participants doing everything alone (being served or being active as individuals) to doing everything with peers (horizontal collaboration), or with other social actors such as experts, institutions, associations, businesses (vertical collaboration).

Considering these features as two axes and crossing them generates the map of *participant involvement*. It indicates the various ways users may be involved in order to achieve a result. Thus it illustrates the operational characteristics of the encounter: it tells us who does what and when (figure 5.1).

The map highlights four areas that correspond to four participant involvement modes:

Quadrant A: low involvement both in terms of activities to carry out and collaborations to set up. It is the traditional service mode, and that of some collaborative organizations with low participant involvement (participants play the user role). For example, the encounters of purchasers at a farmers' market, or the patients in a care service (who are not involved in the organization or provision of the service).

Quadrant B: low involvement of users in terms of practical activities but collaboration called for in the designing and management of the organization. This is the mode of traditional services and some collaborative organizations when they are co-designed and co-managed. For example, encounters

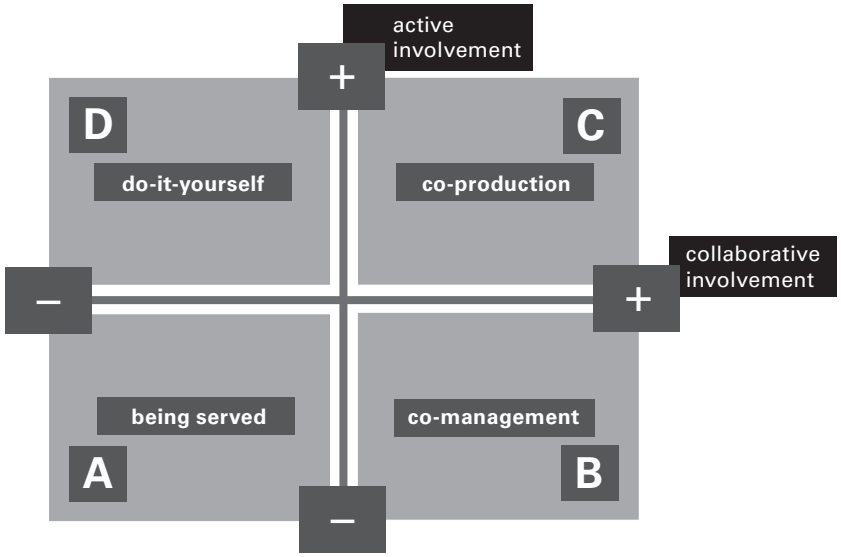


Figure 5.1
PI map.

with the promoters of a co-managed nursery and those between residents in a cohousing unit (where the services are not self-produced).
Quadrant C: intense involvement in practical activities to carry out in collaboration with others. This is the mode of collaborative organizations that maintain the characteristics of the creative communities from which they emerged. For example, the encounters of an ethical purchasing group or a community garden.
Quadrant D: intense involvement in activities to carry out individually. This is the mode of do-it-yourself-based services and collaborative organizations that have evolved in this direction. For example, encounters between the users of a car-sharing organization (who drive the vehicle themselves) or between members of a self-service food cooperative (where purchasers serve themselves).

Obviously, as happens when a map is constructed from polarities, what emerges is a schematic representation. Nevertheless, I believe it may help in characterizing collaborative encounters and describing their evolutionary trajectories: for example, the trajectory that leads from traditional services to various forms of DIY services (from quadrant A to quadrant D), or that involve users in co-designing and co-managing practices (from quadrant

A to quadrant C). Conversely we have trajectories that lead collaborative organizations to evolve from their first applications, characterized by an intense active and collaborative involvement, toward less demanding forms in terms of time and energy (from quadrant C to quadrant B or D).

Interaction quality: IQ map

A closer observation of collaborative encounters, and the interactions that take place within them, shows two extreme modalities: "light" encounters, both in terms of lasting commitment and of affective involvement, and encounters which by contrast we can describe as "heavy," in that they require a huge investment of time, in the long term, and of affective involvement. Along with these two extremes, in this case too there are intermediate situations as regards both tie strength and relational intensity. A map can illustrate the set of possibilities. To do this we shall consider two variables:

Social tie strength. This is the strength of social ties between participants, and therefore indicates the nature of the collaborative encounters in terms of their duration in time but also their rigidity, fluidity, and tendency toward closure, varying from a minimum, where there is no tie, to a maximum, where the tie exists but it risks generating closed social groups.
Relational intensity. This is the deeper nature of interactions, meaning the way in which people come into play from an affective and empathetic point of view. This variable moves along a hierarchy of interactions from those that are least relational, and thus more formalized, to those that are less formalized and therefore more relational, in which people involved open up to each other.

The resulting map illustrates the *interaction quality field*: the various ways in which these encounters may appear as far as their participants are concerned (figure 5.2).

This map highlights the nature of the interactions that characterize a collaborative encounter, and therefore also the quality of the social ties on which it is based and which in turn it collaborates to generate. It enables us to determine four types of encounter (according to the quality of their interactions):

Quadrant A: low relational intensity and weak ties. This is the mode of more formalized service encounters. For example, client/employee in a fast food restaurant or at a supermarket check-out.
Quadrant B: high relational intensity and weak ties. Though it does not call for much in terms of time and energy, or commitment for the future (the tie is weak), this mode requires a lot in affective terms, contributing to

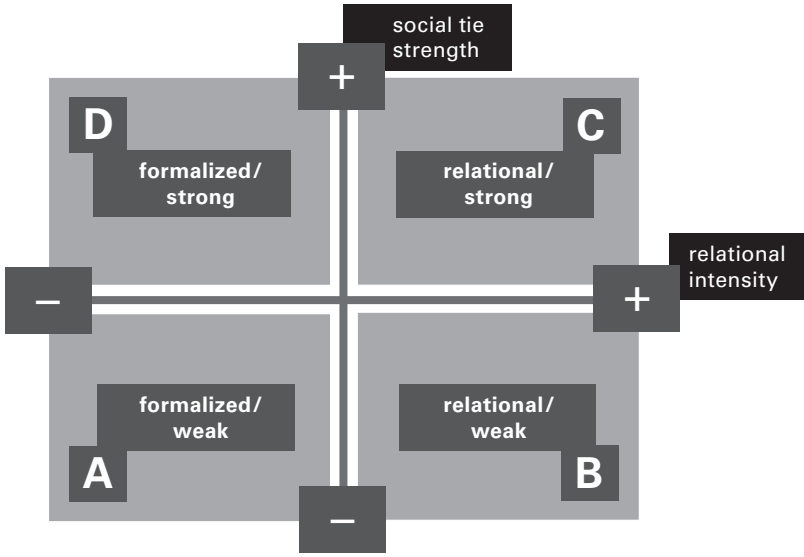


Figure 5.2
IQ map.

making the organization more friendly and convivial. For example, a convivial encounter between salesman and purchaser at a farmers' market or a meeting of the residents in a collaborative condominium.
Quadrant C: high relational intensity and strong ties. This mode characterizes traditional communities and grassroots collaborative organizations. For example, meetings of residents in a cohousing unit, or participants in an ethical purchasing group.
Quadrant D: low relational intensity and strong ties (because they are repeated over time in a long-lasting organization). In this quadrant we have encounters that take place within highly formalized organizations, whether companies or institutions. They may also occur between participants in collaborative organizations when these evolve into larger entities with more formalized relationships. For example, encounters between employees in a large-scale consumption cooperative.

Like the PI map, this one could be useful not only when discussing the different types of collaborative encounters, but also when talking about the evolutionary trajectories of the collaborative organizations based on them. Examples of this, in bottom-up organizations, are the way the initial creative communities (based on strong ties and high relational intensity)

may come to open up, lowering their entrance threshold and the affective investment called for (thus shifting from quadrant C toward quadrant B or D); or the kind of organization that may emerge from a digital platform when it tries to heighten its relational quality with face-to-face encounters in the real world (thus shifting from quadrant A to B or C).

Collaborative encounters, in practice

To apply what has been said so far to concrete cases, we must start from the fact that collaborative encounters live within organizations, in which there are usually a variety of collaborative encounters. For this reason, in order to talk about what the interactions are like in a particular collaborative organization, we must look at it more closely and focus on the various encounters taking place within it.

Although it may happen that one of these encounters determines the "tone" of the entire organization, to judge the latter with greater sensitivity and precision it is necessary to consider all the encounters it is based on. This is because, as we shall see, it is precisely the way in which all these work together that makes the organization attractive, or unacceptable. To make this more concrete and the sense of the map clearer, we shall now consider some real cases.

Hosting a Student (Milan)

This is an interesting case from various points of view, which we shall consider here in terms of the way it fosters collaboration between the elderly and young people. Promoted by Meglio Milano, a Milanese nonprofit organization, the initiative is based on the idea that elderly people living alone in their family homes could host and be helped by students searching for low-cost lodgings: a simple, win-win solution that brings advantages to both parties, making good use of existing assets (the homes of elderly people and the energy and enthusiasm of young students). But to make this happen, it is necessary to facilitate both their initial encounter and their living together, which means, first of all, creating good relationships and mutual trust (example 5.1).

The idea has been successful, and the secret of this success has been the ability to deal frankly and openly with different kinds of encounter: the face-to-face encounters between elderly people and students in their everyday lives (and the high relational intensity of their interactions); and the services delivered by experts and technicians to support both elderly and students in solving the different kinds of problems which may arise

Example 5.1

HOSTING A STUDENT (MILAN)

Hosting a Student (Prendi a casa uno studente)[24] is an initiative that has been operating in Milan since 2004 and is promoted by Meglio Milano, a Milanese nonprofit organization. Its starting point was the discovery of two potentially complementary problems: on the one hand the large number of elderly people living alone in their family homes (but with at least one room free); on the other, the number of university students from outside the city in search of low-cost lodgings. The idea behind the solution was that these two groups, with complementary personal resources (spare rooms on the part of the elderly; time, energy, and a small rental budget on the part of the younger group), could help each other; that a sort of symbiosis could be created between them. To do this, however, it was necessary to foster their encounter and facilitate their living together, by offering tools that could enable them to overcome possible difficulties and misunderstandings. In order to do that, Meglio Milano conceived and delivered a series of tools to make these encounters more probable and less problematic: in other words, it created the conditions whereby a student and an elderly person could establish a real relationship. The idea was successful, and over the past ten years more than 650 agreements have been reached (with a very low failure rate: only 8 in 10 years).

(which are a more formalized kind of encounter). In managing this, Hosting a Student has shown a profound understanding of the peculiarities of a relationship between elderly and young people, and of the difficulties that may appear: an understanding that went hand in hand with the process of trust building and with the design capability of transforming it into an articulated enabling solution.[25]

We can describe this initiative overall as a case of co-designing and co-production of results: the elderly hosts and the student guests decide together how to organize their living together and, to all intents and purposes, they exchange services. They do this by establishing long-term commitments and being open with each other. Therefore, the Hosting a Student initiative as a whole can be located in quadrant C of both the PI and the IQ maps.

However, the originality of this service lies not so much in this collaborative encounter as in the support that the organizers of Meglio Milano gave in order that it could come about, and in the best possible way. This support is manifest in two further collaborative encounters: one between the organizers and the elderly hosts; the other between organizers and student guests. These encounters are different in nature and lead to different

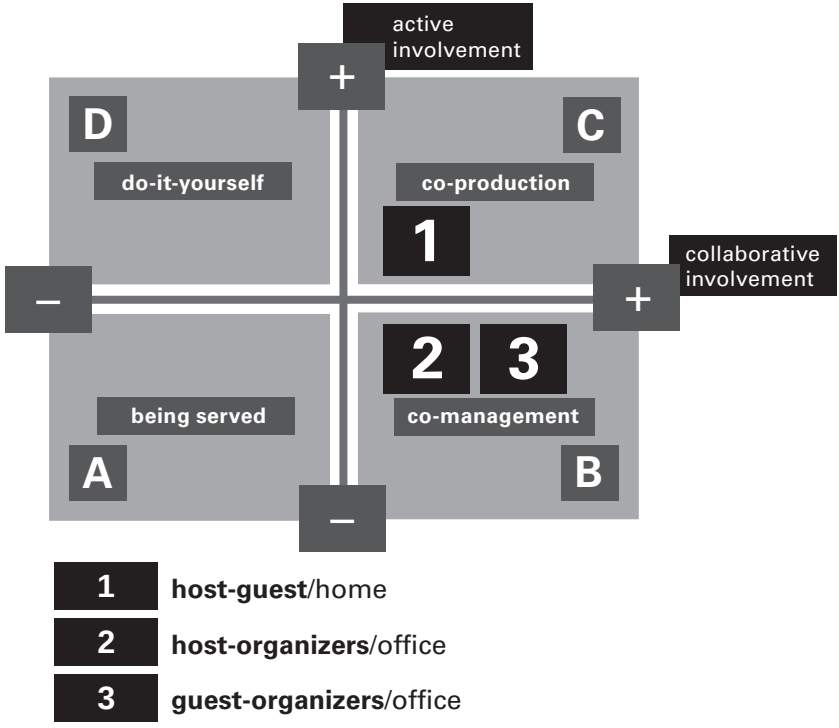


Figure 5.3
Hosting a Student PI map.

results both in terms of involvement (figure 5.3) and of interaction quality (figure 5.4).

As a way of dealing with the complex nature of relational services, Meglio Milano proposes the (upgraded) home of the elderly person as a free space where active, collaborative and relational encounters, which cannot be designed, can take place. At the same time it proposes appropriate, more formalized support for both the students and the elderly (based on encounters that can be situated in quadrant B of the PI map and quadrants D and A of the IQ map).

In short, the situation created specifically for the elderly and students in Hosting a Student, but which could be generalized, can be called a *supported relational encounter*. The participants in such an encounter are like circus trapeze artists: they can take risks (the risks inherent in relational encounters) in the knowledge that they have a safety net (the supporting services).

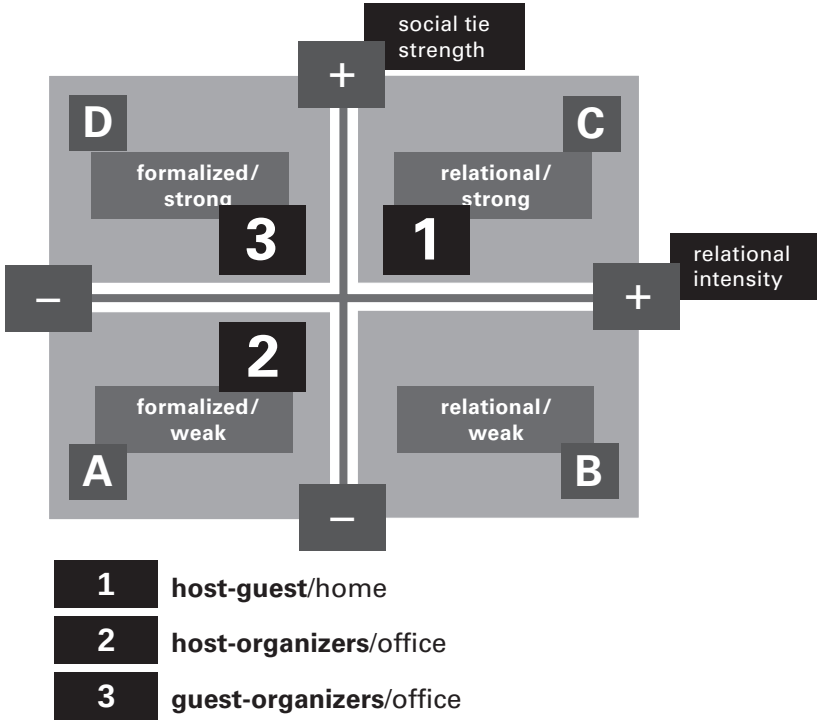


Figure 5.4
Hosting a Student IQ map.

Park Slope Food Coop (Brooklyn, New York)
This is a food store owned and managed by a cooperative, the members of which participate with their own labor (a few hours a month, in a flexible scheme). This choice has the double aim of making a concrete contribution to Food Coop activities and building mutual trust and friendly relationships (example 5.2).

In my view, this is a good example of a collaborative organization that achieves a socially valuable objective without demanding heavy involvement in terms of tie strength and relational intensity. Indeed, its success consists not only in the work of the coop members but also in the way this work becomes an occasion for the members to socialize together (figure 5.5 and figure 5.6).

As regards its main objective of providing its members with access to quality food products, the Food Coop is a self-service. Thus it can be located in quadrant D of the PI map and in quadrant A of the IQ map. However,

Example 5.2

PARK SLOPE FOOD COOP (BROOKLYN, NEW YORK)

The website for this initiative describes it thus: "The Park Slope Food Coop is a member-owned and operated food store—an alternative to commercial profit-oriented business. As members, we contribute our labor: working together builds trust through cooperation and teamwork and enables us to keep prices as low as possible within the context of our values and principles. Only members may shop, and we share responsibilities and benefits equally." Further on we read: "Every member of the Coop must work at the Coop. The work requirement is 2 hours and 45 minutes once every four weeks. At this rate, every member works 13 times per calendar year."[26]

It was decided that everybody should be asked to contribute a manageable amount of time and labor for two reasons: to make a concrete contribution to the management of the Food Coop, and to guarantee a sense of belonging and relational quality: the relational quality that, in cases like these, is a kind of by-product of working together.

Thanks to this choice, the Park Slope Food Coop is an emblematic example of how the enabling solution can be designed to support collaborative encounters by mixing different kinds of encounter. Doing so, Park Slope Food Coop is a good example of a collaborative organization customized to the profile of its participants, meaning to what they can accept in terms of practical and relational involvement.

since it is a cooperative, we can expect its members to participate in some way in its management and to do so in a collaborative way. Such encounters can be located in quadrant B of the PI map, with ties that are established over time but are basically formal and thus belong in quadrant D of the IQ map.

On top of this, the request for a few hours' work alongside other members of the coop introduces moments of active, collaborative participation (quadrant C of the PI map), in which moments of conviviality occur (quadrant B of the IQ map).

In conclusion, it seems to me that on the whole the proposal remains a "light one," not only because the work called for is limited to a few hours per month, but also because it takes place in a framework of shared rules and clearly defined roles. This reduces the relational intensity of these encounters and the need for people to be too involved. To be more precise: members of the Food Coop can build relationships, if they want to. Indeed,

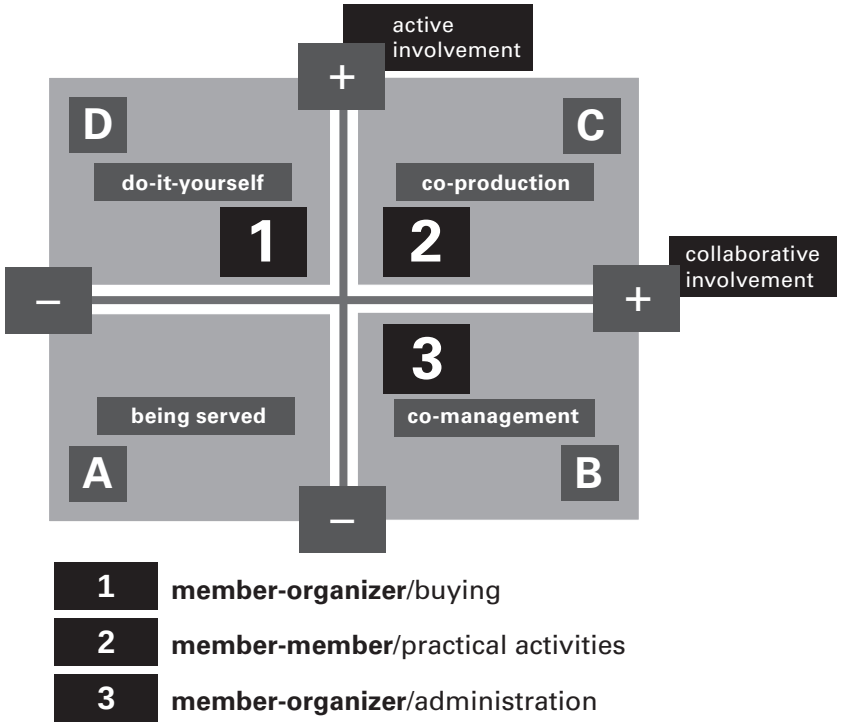


Figure 5.5
Food Coop PI map.

the environment facilitates this possibility, but in a gentle way: it is easy to do so, but nobody is forced to socialize.

Generalizing, we can say that collaborative organizations that on the whole are located in quadrant A of the IQ map (weak ties and low relational intensity) must propose well-defined procedures when they require collaboration, so as to ensure that participants know what is expected of them and what each can expect of the others. This is of course true for the main kinds of encounter happening in quadrant D of the PI map (in the Food Coop example, everybody knows what to do and how to behave when they buy or sell something in the Coop store). But it should also be true for the complementary kinds, situated in quadrant B of the IQ map (in this example, during the members' work duties): such encounters provide an opportunity to establish convivial relations among people who do not know each other and where, therefore, it should be clear to everybody who has to do what and when. Clear procedures are, in this case, the precondition for creating

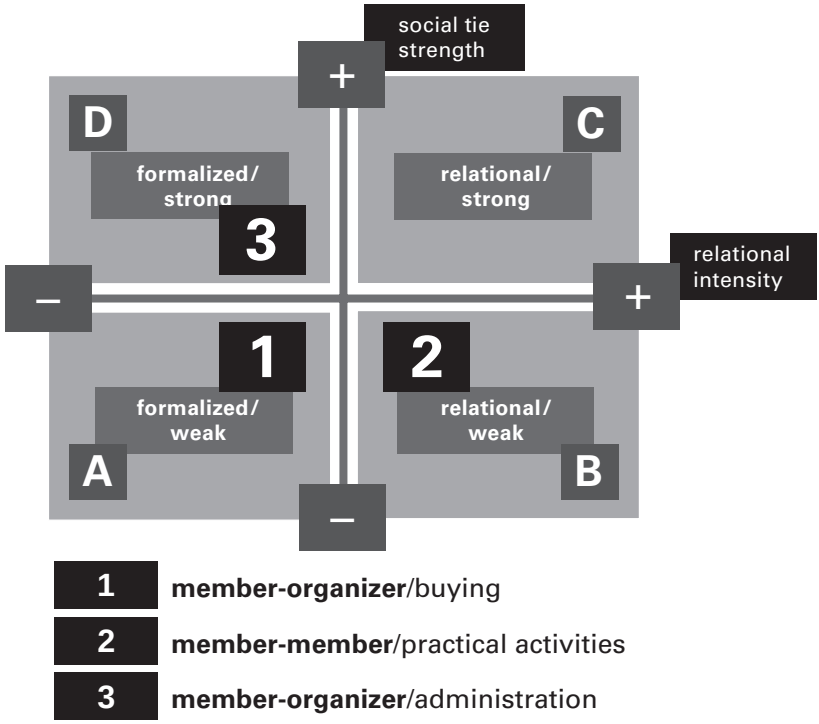


Figure 5.6
Food Coop IQ map.

an environment where relational interactions may happen. In other words, a certain degree of formalization is necessary for some degree of relationship to take place among people who have not met each other previously.

A variety of collaborative encounters

From what we have seen, it would appear that an idea for a collaborative organization[27] may be actualized in many different ways, each with a different mix of collaborative encounters which may be variously characterized on the basis of the four dimensions discussed above. Let's take the *idea* of community-supported agriculture as an example (example 5.3).

This idea is based on a whole constellation of collaborative encounters, some of which are fundamental to the workings of CSA itself while others are complementary. In terms of participant involvement (thus with reference to the PI map), the main collaborative encounters are: traditional service encounters, when users receive a weekly box of products (quadrant A);

Example 5.3

COMMUNITY-SUPPORTED AGRICULTURE (CSA)

Community-supported agriculture (CSA) is a food production and distribution system that directly connects farmers and groups of citizens. The basic aim is to share the risks and benefits of agricultural production. In practice, citizens and farmers become partners in production activities. This means that CSA members pay a sum at the start of the season to ensure a corresponding proportion of the harvest (this is then delivered weekly as crates of fruit, vegetables, and whatever else is produced by the member farms). Some farms also expect citizens to take part in some of the agricultural activities. Some supplement the cultivation of crops, which is the essence of CSA, with complementary activities such as processing the produce, providing accommodations, opening restaurants, or organizing gardening courses. Although all CSA enterprises today use information systems to support and coordinate activities, some are still mainly based on face-to-face participant encounters, while others have been conceived from the start as enterprises for the most part based on digital platforms.

As with many social inventions, the origins of CSA are controversial. The most generally accepted accounts hold that it started either in Japan or in Europe in the seventies, later consolidating in the United States during the eighties. In any case, it is certain that CSA has since spread all over the world, and there is now an international network called URGENCI (Urban-Rural Network: Generating New Forms of Exchange between Citizens).[28]

co-management encounters, when, in cofunding the agricultural activities, participants are involved in the management of the enterprise (quadrant B); co-production encounters, when they collaborate in certain phases of cultivation (quadrant C); do-it-yourself encounters, when they are assigned a particular tree from which to harvest their own fruit, or a piece of ground on which to cultivate their own vegetable garden (quadrant D). The list could continue with encounters associated with catering and tourism, or cultural and educational activities.

In this theoretical, schematic framework, the variables that come into play are the types of encounter, their relative weight, and the involvement they each call for. From an operational point of view, the various possible combinations lead to widely differing proposals, which may be more or less acceptable to those potentially interested.

On top of this, shifting our focus from their operational profile to the quality of their interactions, it emerges that for each of these possible encounters there are many other different ways of combining interactions

of various kinds. This obviously widens the field of alternatives even further. It follows that defining a proposal by locating it in such a wide field of possibility (which means positioning it on our PI and IQ maps) calls for a series of both problem-solving and sense-making design choices. In bottom-up collaborative organizations, which have developed from the work of a creative community, these choices are generally made intuitively. On the other hand, when there is some kind of top-down intervention, to improve an existing organization or to create a new one, these are made consciously, using the culture and tools of expert design.[29] When doing so, it is essential to make a clear distinction between *ideas* of collaborative organization (which are models of potential ways of working) and the infinite number of ways in which these may be implemented. This means that what designers can and must do is not only to participate in the creation of new ideas, but also to bring these ideas into being to meet differing specific needs and according to differing sense systems (to which expert design can and must contribute, on the basis of the culture and vision of the world proper to it).

We shall see how to do this later. For now I would like to return to our initial question, regarding life projects and their relationship with collaborative encounters. I view the enormous variety of proposals that may emerge for each organizational idea, by combining various modes of encounter and, for each of these, various ways of interacting, as something positive and an opportunity to be developed. Indeed, the variety that emerges enables more people to choose a proposal that is closer to their interests and possibilities: it enables them to decide where to invest their own physical and relational resources on the basis of their own cultural interests and priorities, and where to opt for less demanding forms of collaboration.

By way of conclusion, it seems to me that the realization of this variety of proposals and ways of doing things could generate a new extended idea of collaboration: a diffuse and diversified collaboration, based on an *ecology of collaborative encounters* and characterized by different requirements in terms of personal involvement.[30] Such a diffuse and diversified collaboration is, at the moment, still only a possibility. However, here too, as for many other issues, social innovation is making this possibility visible and tangible, and it is offering the ground on which to experiment in new promising directions.

Part 3 Making Things Happen

6 Making Things Visible and Tangible

The field of possibility within which people define their life projects is determined by the context in which they find themselves: by the characteristics of what we have called their enabling ecosystem. How can expert design contribute to making this ecosystem one in which active, collaborative, sustainable behavior is more probable? The first answer to this question does not deal directly with how to change the state of things. It concerns how to make it visible. The possibility of steering one's life project toward ways of being and doing other than those dominant, and to opt for active, collaborative behavior, depends first and foremost on what one is able to see from one's own vantage point: how one interprets the state of things and what opportunities one recognizes. So the first stage of our journey starts here: how can we make sense of the complexity of the present and the dynamics that stir it? How can we make viewpoints and wishes explicit? How can we imagine what doesn't exist but could? In short: how can we feed social conversation about the future?

Mapping and amplifying

The question of designing for visibility is a broad one, ranging from catalogs and instruction manuals to maps and infographic systems. In our case, given that we are dealing with complex problems and equally complex solutions, the issue of making them more accessible is certainly a crucial one. We can move from the mapping of prominent features and the physical and social resources in a given area to the mapping of highly complex social-technical phenomena.

"By rearranging numeric data, reinterpreting qualitative information, locating information geographically, and building visual taxonomies, we can develop a diagrammatic visualization—a sort of graphic shortcut—to describe and unveil the hidden connections of complex systems. Our

visualizations are open, inclusive, and preserve multiple interpretations of complex phenomena."[1] This is how DensityDesign, one of the research labs in the Design Department of the Politecnico di Milano, presents its work. In the same direction, the philosophic and practical work that Bruno Latour and others[2] are carrying out around the issue of representation appears noteworthy. No need to say that what expert design can do on this theme is a central topic from many points of view: for discussing democracy and complex societies, as Latour does, but also, and more specifically, to give people tools to orient their own life projects.

Here we shall consider another family of visualizations that is more directly linked to design for social innovation. They are widely differing cases but with a common denominator: in them the visualization process is also, and directly, a tool for community building.

Mapping and place making

First I would like to draw attention to the Green Map System: a nonprofit organization which, since 1995, has been using local mapmaking as a means to promote inclusive participation in sustainable community development (example 6.1).

Twenty years of experience indicate that this kind of mapmaking, both the resulting Green Maps and the process of making them, has effects that go far beyond the strict function of a map (even though they are important from this point of view too): "we support locally-led Green Map projects as they create perspective-changing community 'portraits' which act as comprehensive inventories for decision-making and as practical guides for residents and tourists."[3] The making of these community portraits strengthens local-global sustainability networks, expanding the demand for healthier, greener options and helping successful initiatives replicate and spread. What makes this case so interesting, both in general and for our present discussion, is not only that this participatory mapping process leads to a clear and effective vision of sustainability-related issues in a city or region, but also that, having created a kit that enables these maps to be created in open source and by nonexperts, it transforms the mapping into community building and therefore into a *place-making process*: a process that produces a new (or renewed) sense of place by connecting a space with the communities that inhabit it. "Many kinds of community mapping projects, when they are based on inclusive and creative learning processes and diverse partnerships between community, institutions and the private sector, can effectively bridge learning to planning, and space to place."[4] (I will come back to this point in chapter 10.)

Example 6.1

GREEN MAP SYSTEM, WORLDWIDE

Green Maps are locally created environmentally themed maps which use a universal symbol set, adaptable mapmaking resources, and an interactive mapping platform provided by the nonprofit Green Map System. Based on the principles of cartography, a Green Map plots the locations of a community's natural, cultural, and sustainable resources such as recycling centers, heritage sites, community gardens, and socially conscious businesses, along with such hazards as toxic waste sites. This movement started in New York City in 1995 and has since spread to over 885 cities, towns, and villages in 65 countries. Its general aim is "to connect the booming 'go local,' green development and ecotourism movements, empowering widespread participation in critical local environment, climate and equity issues worldwide."[5]

Each Green Map is a local project, created by people who live or work in the community. Each is independently managed, and all the involved groups share experiences to benefit others.

All projects receive help from GreenMap.org's continually expanding Tool Center, other members of the Green Map network, and the global office. In 2009, the Open Green Map was launched. Now used in 40 countries, this mapmaking website is based on open-source and familiar mapping technologies like Google Maps. The Open Green Map aims at creating "an interactive space for everyone to share their insights, images and impacts about local green sites of all kinds."

Amplifying and dynamizing

A second way to use visualization as a social organization tool is what we might call *weak signal amplification.* This process highlights little-known cases, with their characteristics and results and their underlying values, which may then feed the wider conversation on socially recognized values. To all intents and purposes, this too is a design intervention, and not only because it calls for the designing of communicative artifacts to make initiatives visible that would otherwise remain hidden. It is a design intervention also because a design choice underlies the decision of which cases to highlight: that of choosing the criteria by which to look at social dynamics, and on the basis of which to "extract" the promising cases.[6] This design activity, like many others, does not in itself need to be conducted by design experts: gathering these initiatives together, making them more accessible, and putting them forward as "promising cases" is an activity that can be done by any curious, attentive person who wishes to do so. However, expert design can play an important role in making this operation of amplifying weak signals more effective and more capable of sparking social conversation.

This can be done through relatively simple actions like preparing formats for presenting cases to be collected in dedicated archives. However, it can also be the result of more complex design initiatives, which connect the design of specific communicative artifacts (websites, films, exhibitions, festivals) with the organization of occasions for exchange and co-creation (workshops, seminars, courses) in which these promising cases can stimulate and suggest directions for new initiatives.

One example of this kind of approach is the DESIS Showcase. The aim of this project is to collect social innovation design initiatives from design schools across the globe in a dedicated repository, and to organize special events in which they can be shown and discussed.[7] Another, more complex activity, which gives a clearer idea of how amplifying weak signals may become a strategic move for promoting new initiatives, is Amplifying Creative Communities (example 6.2).

Eduardo Staszowski and Lara Penin, coordinators of the project, write: "Innovative grassroots practices are often below the radar of the general public and need to be acknowledged and sometimes 'normalized' to be

Example 6.2

AMPLIFYING CREATIVE COMMUNITIES, NEW YORK CITY

The project Amplifying Creative Communities in New York City takes a localized approach to new ideas that can make the transition to more sustainable cities. It is led by Parsons DESIS Lab at Parsons The New School for Design, in partnership with Green Map System, the Lower East Side Ecology Center, and the design firm IDEO. The project has been funded by the Rockefeller Foundation's NYC Cultural Innovation Fund 2009.

Its starting premise is that sustainable social innovation is present in less evident forms, in small self-organized groups that seek to improve their lives and environment through collaboration. The project offers insight on how designers and planners can stimulate sustainable and socially innovative solutions to urban everyday problems. In practice, the project proposes an *amplification* method to improve and expand the capacity of neighborhoods to identify, design, and diffuse social innovations at a local level, to *amplify* them to larger audiences. The amplifications are articulated around three main actions: (1) mapping of diffuse sustainable social innovations; (2) designing scenarios to promote synergies around shared visions and toolkits to stimulate the startup of new initiatives; and (3) communicating sustainable social innovations through (a) exhibitions, (b) workshops, and (c) websites to stimulate strategic conversations, create awareness, and promote change within communities.[8]

accepted as valid and desirable. In order to achieve this goal the project aims at defining and experimenting with a so called amplification method."[9] Different design strategies have been employed, such as an interactive exhibition of innovative practices in the local area under study: "the exhibition … more than a space for showing final results is a research tool and a method of interaction with local communities where mapping and designing activities can also take place and the content can change before, during and after the exhibit."[10]

Creating stories

One tool that enables us to deal with difficult topics, putting together what is there now and what we would like it to be, is storytelling: "a specific structure of narrative with a specific style and set of characters and which includes a sense of completeness. Through this sharing of experience we use stories to pass on accumulated wisdom, beliefs, and values."[11]

Storytelling is an age-old activity, but today it is acquiring a rather special importance. It enables us to communicate the complex ideas and values that today's co-designing processes must often deal with. It is also true that the new media have made it easier to produce content and therefore have greatly increased the number of people who have become more or less able storytellers.[12] At the same time, precisely because of this increased capacity to tell stories, the space for action in this field has also grown for design experts. By this I mean that design experts can support storytelling both technically, by integrating it with professional skills, and culturally, by proposing socially and environmentally sensitive contents. At the same time, they also help those engaged in social innovation to recognize the value of this tool and try out new ways of using it.

Reconstructing local identities

One example of this type of initiative is the project Imagine Milan promoted and developed by Imagis, a research group in the Design Department of the Politecnico di Milano in collaboration with Milan's city council (example 6.3).

Imagine Milan is an important initiative whose aim is to reconstruct the identity of some of the city's neighborhoods from the bottom up. An important part of the work was the creation of a series of short videos in which local citizens told stories about their neighborhood. By talking about what it used to be like, what it is like now, and what it could be like, they provided a vision of the city that is at once rich, multifaceted,

Example 6.3

URBAN STORYTELLING, MILAN

Imagine Milan is a didactic and research program started in 2009 at the Design Department of the Politecnico di Milano by Imagis research group. Its original aim, in collaboration with the Milan city council, was to experiment with the use of visual communication in processes of urban transformation. One specific project was to conceive and enhance a communication strategy based on 20 short videos related to 20 city zones. The background idea was that "the identity of an area is built from the personal and collective histories of its inhabitants, a set of polyphonic images, faces, voices, gestures and characters in a continuous juxtaposition (sometimes, stressful and conflictual) of historical memory, present complexity and future expectations."[13] These videos are instruments for dialogue among citizens, decision makers involved in the design of infrastructure, and, above all, promoters of a new idea of Milan as a sustainable city. Different audiovisual formats and genres have been produced to achieve different communication goals: in particular, brief documentaries using footage, iconographic repertories, and interviews to present people's individual stories and record transformations in progress and the good practices already being applied; and video scenarios for envisioning how the city would look if certain behaviors were to be supported and become common practice. Since 2009 the Imagine Milan program has been evolving, and it is now experimenting with the integration of transmedia narratives and social media advocacy.

and profound. This experience, like many others, shows how storytelling, especially video storytelling, can contribute to the rebuilding of relationships between people and the space they live in, and thus rebuilding the idea of place.

Digital storytelling

Another example of using video storytelling with reference to a local community is Life Stories, a series of videos created by Mobile for Development (a section of the association of mobile operators worldwide, GSMA).[14] On the Life Stories website there is a vast catalog of stories about how specific, concrete problems have been solved, using mobile technologies, in communities described as underserviced.[15] Together, these stories give a positive vision of how these technologies (especially the mobile phone) can help to solve problems, especially in difficult situations. Obviously the actual social and cultural implications of each of the solutions require

verification, but the communicative effectiveness of the storytelling is immediately evident. Using this technique makes the solutions proposed far more understandable and attractive than they would have been if presented in another way.

This effectiveness is easily verifiable for a global public interested, in this case, in the potentialities of Mobile for Development. The same is not necessarily true for the local people, meaning those more directly concerned with the problems and their possible solutions. This is not only because the videos are in English, but also because they have been shot with a style and rhetoric typical of professional filmmakers from outside the local communities. Would it be possible to tell stories in the first person produced by people directly concerned, using the new media but adapting them to the specifics of their local culture? Experimentation in this field means, in cases like these, verifying the possibility of moving directly from the oral storytelling tradition (still alive in these societies) to a contemporary way of telling stories, capable of dealing with the various issues involved in the transformations under way, and supported by the new media (which can be seen as a kind of *cultural leapfrogging*).[16]

An example of this kind of experimentation can be seen in the StoryBank project conducted in India. This was led by David Frohlich at the Digital World Research Centre, in partnership with a number of other UK universities and an Indian NGO called Voices.[17] The aim of this initiative was to verify whether and how the new media might be able "to support non-textual information sharing." More precisely, the project team said, "we wanted to see whether a cameraphone application could feasibly be used without text to create audiovisual stories for sharing on a community display" (example 6.4).[18]

The results of the project showed that "the system was usable by a cross section of the community and valued for its ability to express a mixture of development and community information in an accessible form." The research team members concluded: "this only scratches the surface of what might be done through more complex forms of story creation and distribution over a wider area network." With reference to another project with similar aims and talking about how much is still to be done in this field,[19] Mugendi M'Rithaa, professor of design at the Cape Peninsula University in Cape Town, said: "I have to admit so far we have been driven by passion and zeal, rather than by knowledge. Now the next step will be to say: we have a good story, but we need some technical inputs to make that storytelling effective."[20]

Example 6.4

DIGITAL STORYTELLING, BUDIKOTE, INDIA

The StoryBank project sought to verify whether and how cameraphones could be used to create and share audiovisual stories within a village community. Stories were created in audiophoto narratives on a mobile phone and shared via a situated display on the balcony of the village ICT center. The project was motivated by the need to support information sharing and economic development in rural India, where literacy rates were low, "to reverse migration to the urban centres. Budikote in south India was chosen because of its ongoing involvement with community radio, its openness to new technology, and proximity to Bangalore as a transport and high tech research hub."[21] The project culminated in a one-month field trial in which free-form audiovisual story creation and sharing took place. In practical terms, 10 customized cameraphones were used and a digital library of stories was created and displayed in the village. There were 137 stories, dealing with a wide variety of topics, created by 79 people (varying in age, gender and occupation).[22]

Hybrid realities

The contribution that expert design can bring to making storytelling more effective is not limited to narrative technique alone; it can also act on the cultural sphere. In particular, as the previous examples clearly indicate, the stories told can be very different in kind. Some of them relate real experiences (in practice they are ethnographic observations); others talk about desires or present simulations or prototypes of solutions that may be desirable but do not yet exist. Others again present a *hybrid reality*,[23] a mix of reality and imagination: "We can take the simulation and prototyping of possible solutions as the opposite pole of a line going from reality as it actually appears, to pictured reality that we reproduce and invent with our creativity and imagination."[24]

All this obviously raises ethical questions about the sense and role of these narratives, and the hybrid reality they present, in social conversation: "to talk about the role of storytelling in design for social innovation means … also to look at how one can make use of an idea of storytelling which cannot be accused of being manipulative, and how to avoid it becoming a mere rhetorical instrument."[25]

Clearly there is no single, definitive solution that guarantees a correct (i.e., nonmanipulative) use of storytelling. There is, however, a move one can make that in my opinion might work to reduce the risks: always make the motivations, the nature of the contents, and the story modes used

absolutely clear to the receiver of the message. In a way, it is a question of balancing the emotionally charged, captivating nature of the story with a colder and more rational sense system that it fits into, one that makes the story itself and the content it carries effectively debatable in the social conversation which it is intended to advance or support. One way of doing this is to introduce these stories in the framework of wider scenarios to be seen as designed and built to make conversation richer, more engaging, and more constructive (in other words, with less risk of ambiguity and misunderstanding).

Scenario building

To collaborate with others, people must share a similar vision of what to do and how to do it. So the existence of visions that groups of actors can share (visions of the future in general and of how to deal with specific problems) is one of the elements necessary to ensure a favorable environment for social innovation. However, these visions to do not come out of nothing: they are the result of social conversations that must somehow be able to produce them. An effective way of promoting this process is the building of scenarios.

The term scenario is used in various contexts, with different meanings. Here we mean it as a communicative artifact produced to further the social conversation about what to do; in other words, to sustain a more effective process of co-designing. We are therefore talking about a *design-orienting* scenario: a vision of what things could be like if certain conditions were fulfilled, of what could be achieved and how.[26]

Design-orienting scenarios

From this point of view, a scenario is a vision of a world not only different from the present one but also possible and, for some at least, desirable. The feasibility of such a vision is shown by indicating the main steps that would have to be taken to achieve it and the values that would uphold them. This is why a scenario is a useful tool for social conversation: the ideas it presents are actually *debatable*; they are proposed in such a way as to allow the various interlocutors to say what they like and what they don't, and whether or not they agree on the moves to be made in order to make them real. We should add that, in order to be a truly effective support for social conversation, there should always be more than one scenario, all of which are possible and acceptable, at least in principle and for some (box 6.1).

Box 6.1

Design-orienting scenarios

Design-orienting scenarios are a set of motivated, structured visions that aim to catalyze the energy of the various actors involved in the design process, generate a common vision, and hopefully cause their actions to converge in the same direction. They consist of three fundamental components: a *vision*, a *motivation*, and a *strategy*. These three components constitute the scenario architecture.

Vision: this is the most specific component of a scenario. It answers the basic question: "What would the world be like if … ?," and it does so by telling a story and/or sketching a picture of what things would be like if a set sequence of events were to take place.

Motivation: this is the component of the scenario that justifies its existence and confers its meaning. It answers the question: "Why is this scenario meaningful?," and it does so by explaining rationally what we wanted to do in building it, what the premises were, what surrounding conditions have been adopted, and finally how the various alternative propositions will be assessed (i.e., by what criteria and instruments).

Strategy: this is the component that adds consistency and viability to the vision. It answers the fundamental question: "How can we make it happen?" Different scenarios are based on different strategies, meaning the main steps to be done to implement them.

In general terms, the usefulness of scenarios in decision making grows with the turbulence of the contest, the complexity of the system operated on, and the number of actors involved (or to be involved). In fact, the greater the number of elements in the system, the more interdependent those elements are and the more uncertain and faster the changes in the context. Thus it becomes more difficult to produce a model, intuitively, of the reality we are referring to and working on. What's more, the greater the number of actors taking part in the decision making/design process (and the more complex the system and the reference context), the more difficult it is to lay the groundwork of shared ideas and values on which that process can effectively take place. When these conditions arise, as is now the case, scenario building not only allows people to overcome the limits of intuition and more simplistic model making, but also puts them in a better position to make an aware choice and argue their options through in the co-design process.

In this broad framework, design-orienting scenarios are built to contribute to a specific design process (i.e., in relation to specific problems and their possible solutions). However, they may also serve to create an environment more favorable to the emergence and development of multiple solutions: to feed the social conversation about the future of a local area (a neighborhood, city, or region) or a great social-technical system (such as a health system, educational system, or transport system). In the latter case, which is what concerns us more here, scenario building may take place in a course that is in my opinion very interesting: by presenting a body of existing, promising, yet little known cases in a coherent, reasoned way.

To make this proposition more concrete, I will take as an example the scenario-building initiative undertaken in Saint-Étienne, France, in 2008. On this occasion John Thackara had been charged by the Saint-Étienne Cité du Design to coordinate a program called City Eco Lab. The core of this program was a two-week exhibition whose purpose was to show a wider audience some promising cases, both in the city and elsewhere (though pertinent to the city), and give the citizens of Saint-Étienne an opportunity to discuss them and, hopefully, to start new ones themselves. This wider program included a process of scenario building, conceived and coordinated by François Jégou,[27] that started from this very general question: "What could more sustainable ways of living be like in Saint-Étienne?" To facilitate a discussion on this topic, a set of scenarios was built using the stories of six families who had been asked to imagine how their lives might look if they participated in different sustainable solutions presented in the exhibition (example 6.5).

The result was three scenarios based on a series of short stories that were, as Jégou says, "hybrid realities that are realistic enough to make us question our own lifestyles, but still sufficiently open-ended for us to be able to adapt them to our own lives."[28]

These City Eco Lab scenario features are typical of this kind of social-innovation-based scenario. They are clusters of stories including a metastory, which presents the overall vision, and several specific stories, presenting specific promising cases. All these stories are highly realistic (in the case of the City Eco Lab Scenarios, this is because the people and places are real, and because the proposed collaborative solutions are really up and running in the same city, or in other places), though they are in fact fictional. By putting different promising cases together and showing them as they could appear in people's daily lives (in this case in the daily lives of some families in Saint-Étienne), they generate a metavision of a possible but as yet

Example 6.5

CITY ECO LAB SCENARIOS, SAINT-ÉTIENNE

City Eco Lab was a co-design initiative that aimed to build scenarios of sustainable ways of living in Saint-Étienne, France. This scenario-building activity was part of a larger program in the framework of the International Design Biennale Saint-Étienne, 2010.

To create these scenarios, the design team involved six families in the construction of photo stories. They were asked to imagine what their lives might look like if they participated in different collaborative organizations working in the fields of food, mobility, water, and energy consumption, chosen from over 50 projects already functioning, at least in embryonic form, in Saint-Étienne (they involved productive urban gardens; low-energy food storage; communal composting solutions; rediscovery of hidden rivers; neighborhood energy dashboards; demotorized courier services; and a wide variety of software tools to help people share resources). These stories told by Saint-Étienne residents, photographed in their kitchens or in the streets, illustrated three viable scenarios for transition toward a sustainable city: the *quick* scenario, based on public services offering standard and easy access to sustainable solutions; the *slow* scenario, based on enabling solutions, allowing nonexperts to improve their performance and achieve a higher-quality result; and the *coop* scenario, based on collaborative networks and mutual assistance.

unrealized life: a kind of life that would be possible if all the projects were functioning in the same place and at the same time. In this way, for each scenario the vision (an overview of the existing cases on which the scenario is built), its motivations, and how it can be put it into practice (this can be clearly seen because the cases actually exist) are all proposed at the same time.

This kind of scenario seems to be particularly important for social innovation processes. By building on the fact that society is a laboratory of new ways of being and doing, they use selected clusters of existing cases as raw materials from which to realize larger visions. They then return these visions to society in order to promote and support new social innovations. In short, they are both *social-innovation-based scenarios* and *scenarios for social innovation.*

Visual Tools for Social Conversations (12 Visual Examples)

Whatever the initiatives promoted by design experts, they are supported by their own set of tools, the shared purpose of which is to make what is being proposed and discussed visible and tangible. In fact, design tools are artifacts specifically designed to trigger, support, and summarize social conversations. We can group them in three main categories: *conversation subjects*, *conversation prompts*, and *experience enablers*.

Every co-design process includes the co-creation of shared ideas on what to do and how. The shared ideas emerge from a conversation between the interested social actors. To start and feed this conversation, different tools can be used to show "what the world could be like if …". Consequently, we call them *conversation subjects* because they are conceived to stimulate reactions and interactions between different potentially interested actors. Conversation subjects may result from seminars and workshops and can be introduced into the conversation in different ways, e.g., through a designer's direct intervention in the real world with some provocative action (*design activism touch points*), or by the innovative use of traditional communication channels such as exhibitions, movies, and books (*visions of possible futures*).

Conversation prompts are communication artifacts aimed to facilitate social conversation in the different phases of the co-design process. For instance, they may be intended to illustrate the state of things (*state-of-things visualizations*) and viable alternatives (*viable alternatives visualizations* and *alternative cards*) in a more accessible way, or to consolidate output and offer the possibility of replicating it (*solution replication toolkits*).

Experience enablers can be prototypes, small-scale experiments, or even full-scale pilot projects. Their aim is twofold: they anticipate possible pinpoint solutions, and they are design devices that offer the interested actors a direct, tangible experience of what a solution could be like, so that they can make constructive criticism. Therefore, depending on when and how

they are conceived and used, experience enablers can be very different: on a hypothetical line of implementation, they vary in distance from a possible "real solution," so their roles will range from mainly sparking conversation and interaction (*concept solution prototypes*), to pilot projects very close to viable final results (*final solution prototypes*).

Each of these design tools can be used with different aims and at different stages of the conversation: to start it, to support its development by feeding it with new ideas and information, to summarize it with documents that consolidate and replicate the results. More often than not they must be conceived and realized ad hoc to fit specific co-design processes.

The following pages record a few examples that were conceived and developed by SDS-Strategic Design Scenario, a design agency based in Brussels that is very active in the field of design for social innovation (and with which the author has long been in fruitful collaboration). They have been sorted into the three categories (*conversation subjects*, *conversation prompts*, *experience enablers*) and are displayed as they were used in the project for which they were designed.

1. Conversation subjects
Design activism touch points: Teasing urban interventions
City Eco Lab, Saint-Étienne, 2008

The City Eco Lab exhibition in Saint-Étienne shows sustainable solutions that already exist in that city or have been developed elsewhere.

To enable visitors to envision their own lives in a sustainable city, the design team involved six families living in Saint-Étienne in the construction of photo stories: Emma, Gabriel, Marie, Margot, Martin, and Paul imagined what their own lives might look like when using short food networks, slow mobility, and consuming water and energy sparingly. The resulting series of images were like little "photo novels," imagined with Saint-Étienne residents, photographed in their kitchen or in the streets.

They were displayed on household photo screens in the exhibition and were also published in the local newspaper. Together they form a "hybrid reality" that is realistic enough to make us question our own lifestyles, but still sufficiently flexible to adapt to our own expectations.

2. Conversation subjects

Design activism touch points: Teasing urban interventions

Human Cities, Brussels, 2012

During the Human Cities 2012 festival, participants explored ways of reclaiming public space. Among the activities was a participatory action-walk through the Saint-Boniface neighborhood to explore a street exhibition. This displayed initiatives from the participating European countries and considered the replicability of such initiatives in Saint-Boniface.

To help create images of what could be set up in the neighborhood, participants were invited to use a dedicated toolkit composed of a set of cards showing examples of initiatives reclaiming public space. They took pictures of places with a card as an "added feature." This was a quick way to manually "Photoshop" a street, a place, or a store and give it a new feature.

Posted online by the participants, these pictures together constitute a "collective projection" of a partially transformed neighborhood to use when starting a conversation between local stakeholders.

3. Conversation subjects
Visions of possible futures: Traveling exhibition
Sustainable Everyday, 2003–2010

The first venue for the "Sustainable Everyday" exhibition, at the Triennale di Milano, Italy, stimulated debate among visitors on new and more sustainable ways of living. Several lighter and more flexible versions of the exhibition were designed to be carried in luggage or electronically, to meet all the different invitations worldwide from trade shows, conferences, projects, workshops, etc.

Each venue was an occasion for dialogue, disseminating scenarios to local stakeholders and collecting new local promising practices to increase understanding of the feasibility of scenarios with local user input.

The exhibition traveled to Milan, Brussels, Paris, New Delhi, Bratislava, Florence, Eindhoven, Montréal, Aalborg, Wuppertal, Tokyo, Saint-Étienne, Hammar, Genoa, Sofia, Bolzano …

4. Conversation prompts

Visions of possible futures: Video sketches

Sustainable Periurban, Nord-Pas-de-Calais region, 2010

What is the future of suburban areas in the densely urbanized north of France? In particular, what does it mean to develop this mixed sprawl of dormitory housing, dense road networks, intensive agriculture, and ever-decreasing nature? As an experiment, with the sustainable development department of the Nord-Pas-de-Calais region, the design team organized a workshop to picture sustainable suburban living.

The main output was a wide range of new services illustrated by short video sketches in which users act out "life bites" showing new sustainable solutions for commuting, food, leisure, and social life.

Together they constitute a new lifestyle in mosaic form, suggesting alternative development for the region.

5. Conversation prompts
Visualizations of the "state of things": Ethnographic-style visualization
One Planet Mobility Cities, Malmö, 2010

Barcelona, Freiburg, Lille, Malmö, and Sofia engaged with WWFs' One Planet Mobility Cities program: these five European cities joined forces to foster systemic change toward sustainable mobility. The two main action paths were the development of a localized assessment tool to compare carbon reductions induced by different policy measures, and the engagement of creative stakeholders in carrying out radical change.

A group of design students applying an ethnography-oriented approach observed a sample of families living in the city of Malmö, developing games to challenge their mobility patterns and co-designing scenarios with various stakeholders from the city.

This pilot project ended with a short movie mash-up of citizens' experiences, students' disruptive ideas, expert syntheses, and civil servants' or politicians' proposals concerning the implementation of potential solutions.

6. Conversation prompts
Visualizations of the "state of things": Citizen storytelling
Cité du Design, Saint-Étienne, 2006

The increasing success of the International Design Biennale encouraged Saint-Étienne to become the French "city of design." Beyond the construction and refurbishment of the building where the Cité du Design would be installed, a debate was needed to define the functionality and living systems in this new institution.

The design team engaged in a large participative process based on storytelling: the city council, the cultural institutions of the region, the design community, local and national industrialists, as well as inhabitants and shopkeepers from the neighborhood itself were asked to tell stories about how they imagined their daily living would be in the future Cité du Design. More than150 stories were collected and reorganized into 40 short movies and a booklet constituting a real collective projection.

The shared vision was then used to define the specifications of the project's macroservices and communicate them widely to the multiple publics of the Cité.

7. Conversation prompts
Alternative visualizations: Solution cards
VAP Urban Hitchhiking, Brussels, 2008

Hitchhiking in a city seemed to be a hopeless idea, although several interesting initiatives have been developed at a local scale, building on the lack of public transport, neighborhood solidarity, and the guilt feelings of drivers alone in their cars. One of these initiatives, the VAP in Brussels, started as a simple hitchhiking club with a membership card that ensures recognition and security between drivers and pedestrians.

To support the diffusion of initiatives in other periurban areas of Brussels, the design team analyzed how this grassroots innovation worked in the field in order to define the key elements of the solution and possible alternatives for each of them.

These alternatives became the contents of a set of cards that has been used by the promoters as a sort of Lego set, to enable new groups to grasp the solution, select the best option to fit their local context, and finally agree on their customized system.

8. Conversation prompts
Alternative visualizations: Innovation sample cards
My High School Tomorrow, France, 2010

My High School Tomorrow is a collaborative research project to support regional authorities in rethinking the way they develop high school. It was based on three parallel tracks:

- Immersion sessions of interdisciplinary design-led teams in four different French high schools;
- Visioning exercises with design students to produce breakthrough, inspiring new visions of high school infrastructures;
- Multi-stakeholder workshops hosted by Directorate for Education in two French regions.

Visions co-produced as output were gathered in an innovation sample box, with 100+ different visions for high schools. These were developed into concrete solutions to stimulate a creative conversation and inspire innovation within the complex and very bureaucratic development process of new regional high schools.

9. Conversation prompts
Solution replication toolkits: Urban microinterventions
Adopt a Tree, Brussels, 2010

Since 2007 the Brussels-Capital Region has supported the region's municipalities in the development of their Agenda 21 action plan, trying to balance top-down processes with local participation.

The design team proposed putting more plants in public space and, in particular, planting the squares of earth around street trees. With citizens already involved in this type of action together with the local government offices responsible for streets and parks, an Adopt a Tree toolkit was developed.

This is composed of: a set of postcards illustrating selected cases, to show the benefits of undertaking an Adopt a Tree initiative; a customizable, self-printed manual presenting a collection of many similar experiences in story form; and a simple annual plan to aid organization and match citizen initiatives with public authority actions.

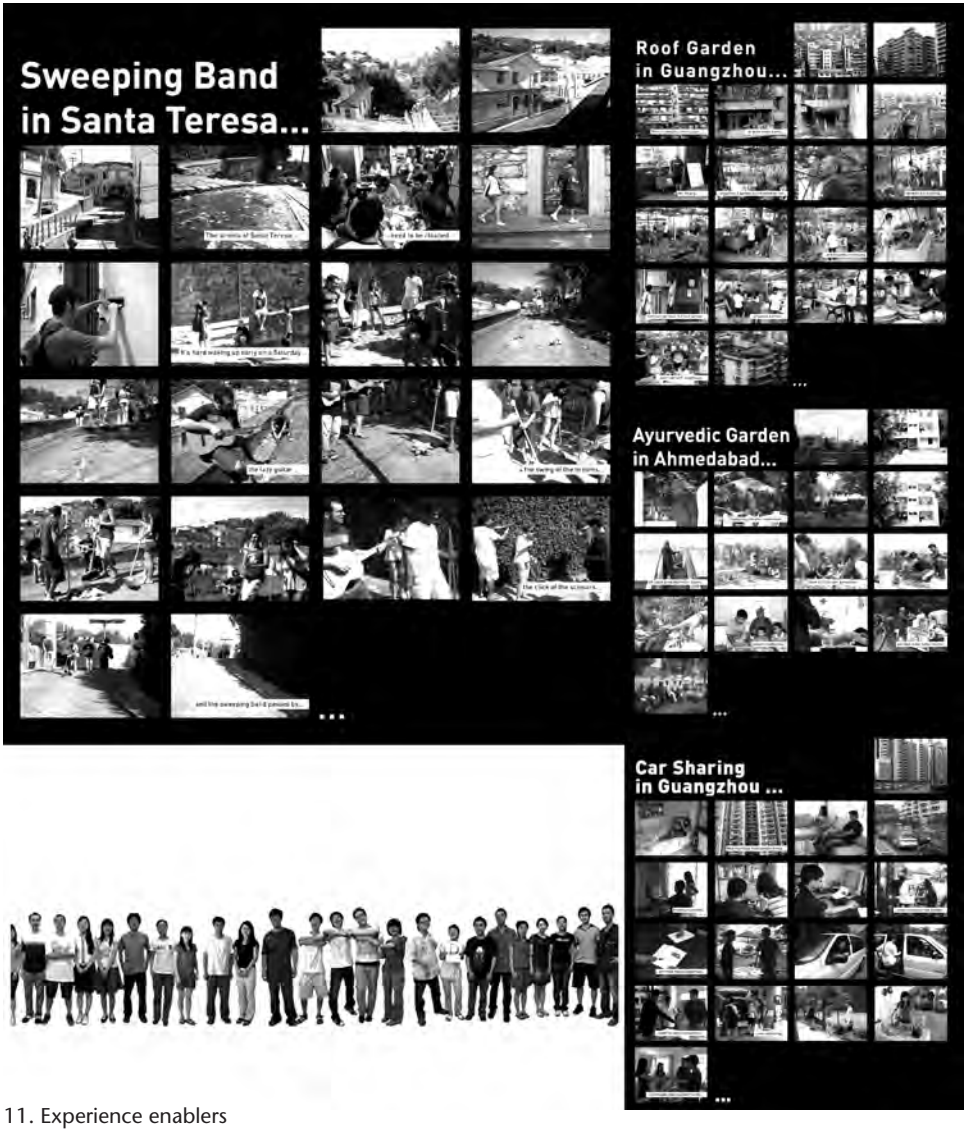
The aim of the toolkit is to gather together previous experience and practices and make them available in an accessible and easy-to-share set of materials to enable more such developments in Brussels.

10. Conversation prompts
Solution replication toolkits: Urban microinterventions
CORPUS, Sustainable Street 2030, European research project, 2010–2013

The CORPUS European research project seeks to develop a knowledge-brokering platform based on a series of offline interaction exercises and online interaction knowledge processes.

A toolkit has been designed to support the dissemination and use of the tools that come out of the research. In particular, it contains a series of posters showing teasing sustainable solutions for food, mobility, and housing in order to set a favorable context for a strategic conversation on sustainable transition.

The toolkit enables an exhibition, simulating a sustainable street in 2030, to be rapidly designed and set up around the participants. The material for this exhibition, visioning and backcasting tools, tips and notes, "making-of" and stakeholder comments are packaged in an e-book that works both as a set of resources and instructions for use.



11. Experience enablers
Concept solution prototyping: Quick experimentation
Creative Communities for Sustainable Lifestyles, 2006–2010

The research project Creative Communities for Sustainable Lifestyles investigated social innovation in Brazil, China, India, and Africa focusing on the kind of social initiatives they invent and how their action is likely to contribute to sustainable development.

Workshops with design schools, seminars with experts, and a series of design exercises have been conducted with design students in Brazil, China, India, and Africa.

Students focused on some potentially viable social innovations and simulated each solution in order to verify how it could work for themselves. Then they captured these simulations through pictures (photo stories) to make them visible to, and discussable by, a larger audience.

12. Experience enablers
Final solution prototyping: Well-defined prototyping
HiCS, European research project, 2001–2004

Developing food services for people with reduced mobility, including elderly and disabled people but also all those with temporarily reduced mobility, whether from a broken leg or a sick child or a busy day at work: the idea behind the HiCS European research project was to develop and test what it calls "Highly Customerized Solutions," aiming to form a platform providing customizable services to meet very different customer profiles using the same service infrastructure.

The research consortium developed three parallel projects in Spain, Belgium, and Italy. In Barcelona a prototype was created, serving two different target groups with the same delivery system. These were elderly disabled people dependent on local social services and employees of small and medium enterprises in the neighborhood.

The prototype was then piloted by the design team for one month so as to check the feasibility of the solution, its acceptability for users, and its economic, social, and environmental viability.

Credits

1. City Eco Lab

Organizer: International Design Biennale Saint-Étienne

Curator: John Thackara

Photo stories: Strategic Design Scenarios

2. Human Cities

Coordinator: ISACF La Cambre Architecture

Partners:
Pro Materia
Politecnico di Milano
Cité du Design
UPIRS
Strategic Design Scenarios

Funding agent: European Commission, Action program "Culture"

3. Sustainable Everyday

Coordinators:
Politecnico di Milano
Strategic Design Scenarios

Partners:
Triennale du Milano
PASS, Belgium
Centre Georges Pompidou
Doors of Perception, France and India
Consumer Citizenship Network
PERL Network (Partnership for Education and Research for Responsible Living)
UNEP
Terra Futura Florence
Designer Week Eindhoven
UQÀM, Canada
Aalborg University
CSCP, Germany
Eco 2006 Tokyo
Biennale Internationale Design Saint-Étienne

4. Sustainable Periurban

Coordinators: ENSCI Les Ateliers, France: F. Jégou, E. Manzini

Partners:
D2PE, Région Nord-Pas-de-Calais
SCoT du Grand Douaisis
Strategic Design Scenarios
PERL Network (Partnership for Education and Research for Responsible Living)

5. One Planet Mobility Cities

Coordinator: WWF, UK

Partners:
Strategic Design Scenarios
K3, University of Malmö
City of Malmö

Funding agent: WWF, Sweden

6. Cité du Design

Coordinator: Strategic Design Scenarios

Funding agent: Saint-Etienne Métropole

7. VAP Urban Hitchhiking

Coordinator: Strategic Design Scenarios

Partners:
VAP
ENSAV La Cambre

8. My High School Tomorrow

Coordinators: La 27e Région, France
Strategic Design Scenarios

Partners:
ENSCI Les Ateliers
Région Champagne-Ardennes
Région Nord-Pas-de-Calais

9. Adopt a Tree

Coordinator: Strategic Design Scenarios

Partners: Agenda 21, Municipality of Saint-Gilles

Funding agents: IBGE Brussels-Environment

10. CORPUS

Coordinator: Institut für ökologische Wirtschaftsforschung, Germany

Partners:
Bundesministerium für Land und Forstwirtschaft, Umwelt und Wasserwirtschaft, Austria
Copenhagen Business School
Copenhagen Resource Institute
Vrije Universiteit Brussel, Institute for European Studies
The Regional Environmental Center for Central and Eastern Europe, Hungary
Planète Publique
Strategic Design Scenarios
Statens Institutt for Forbruksforskning, Norway
Wirtschaftsuniverstität Wien
Finnish Ministry of the Environment

Funding agent: European Commission, FP7

11. Creative Communities for Sustainable Lifestyles

Coordinators:
Politecnico di Milano
Strategic Design Scenarios

Partners:
UNEP, United Nations Environment Program
LTDS Technology & Social Development Laboratory at UFRJ Rio de Janeiro Federal University, Brazil
SRISTI/HoneyBee, The Society for Research and Initiatives for Sustainable Technologies and Institutions, India
NID, National Institute of Design of Ahmedabad
ICS, Institute of Civil Society, Sun Yat-sen University, Guangzhou
GAFA, School of Design, Guangzhou Academy of Fine Art, Guangzhou
CPUT, Cape Peninsula University of Technology, Department of Industrial Design, Faculty of Informatics and Design

School of the Arts and Design, University of Nairobi
Department of Industrial Design and Technology, University of Botswana Gaborone
University of Science and Technology, Kumasi, Ghana

Funding agent: Regeringskansleit, Government Offices of Sweden

12. HiCS

Coordinator: Politecnico di Milano, Italy

Partners:
Cranfield University, UK
TNO, Netherlands
Strategic Design Scenarios
INETI, Portugal
CDN, Spain
Philips Design, Netherlands
DUNI, Belgium
BioLlogica, Italy
ACU, Italy

Funding agent: European Research Project funded by the GROWTH Program FP5

7 Making Things Possible and Probable

People's behavior cannot be designed. However, it is possible to create conditions that make some ways of being and doing things more probable than others. This is also true for active, participative behavior. How can we make it more possible for people to behave this way? How can we create the conditions by which they make this choice willingly, seeing it as a step toward a better way of living? Design for social innovation replies to these questions by intervening on the enabling ecosystem in various ways, at various moments and different levels. The common aim of all these interventions is to create a new *infrastructure*: a complex, structured platform capable of sustaining many autonomous but connected initiatives.

Supportive environments

Infrastructuring is a term introduced by Leigh Star[1] and taken up by Pelle Ehn and his school in Malmö University. In Ehn's words, "An infrastructure, like railroad tracks or the Internet is not reinvented every time, but is 'sunk into' other sociomaterial structures."[2] Bringing this traditional idea of infrastructure to designing enables us "to highlight how design could move beyond the 'design project' towards a more open-ended long term process where diverse stakeholders can innovate together."[3] It seems to me that the concept of infrastructuring indicates the nature of every design process that seeks to create favorable conditions for various life projects and various collaborative organizations. To do so, it requires a sequence of design initiatives.

Enabling infrastructures

To clarify this statement, I shall take as an example the work that Pelle Ehn himself and his colleagues at the University of Malmö[4] have been doing for years in one neighborhood of their city. They started by setting

up the Medea Living Labs: an innovation environment at the University of Malmö whose aim is "to collaborate with different stakeholders to explore how new services to tackle social issues could be developed."[5] These Living Labs lie at the base of a series of activities that Per-Anders Hillgren, Anna Seravalli, and Anders Emilson describe as "driven by what we define as 'infrastructuring.' This process focuses on long term commitment, but it also provides an open-ended design structure without predefined goals or fixed time lines. Infrastructuring is characterized by a continuous process of building relations with diverse actors and by a quite flexible allotment of time and resources. This more organic approach facilitates the emergence of possibilities along the way and new design opportunities can evolve through a continuous match-making process."[6] In one of these Living Labs, which was located in a multiethnic neighborhood considered to have extensive social problems (at least by Swedish standards), the result of infrastructuring was a constellation of initiatives whose possibilities and opportunities emerged over time, after a series of unscheduled meetings (and sometimes clashes). For example: enhancing the production activities of groups of immigrant women; co-designing technology for the regeneration of public spaces in the neighborhood carried out by residents and ITC companies; a self-managed program of environmental redevelopment for homes; and the development of socially important services. These initiatives are all small in scale but highly complex in terms of their organization, the economic models and institutional partnership on which they are based, and the skills and abilities they require (example 7.1).

This example clearly shows the correlation between the complexity of the interventions aimed at and that of the infrastructure that makes them possible. In this case, to make them possible it was necessary to design and create material and immaterial infrastructure, such as an easily accessible physical space where people could meet face to face and a supporting service system, in order to stimulate the generation of ideas, facilitate their development, and find the necessary skills and abilities to integrate those not to be found among the people directly concerned.

This way of doing things shows how design could move "towards a more open-ended long term process where diverse stakeholders can innovate together"[7] without predefined goals or fixed time lines. At the same time, if we consider the way it happened, we can see that it required a clearly defined sequence of design initiatives: the design and open-ended exploration of digital platforms, a meeting place, a support service, a prototype, and a successful experiment that aimed to raise awareness and trust among participants. Consequently, in my opinion, infrastructuring means understanding

Example 7.1

THE NEIGHBORHOOD, A LIVING LAB, MALMÖ, SWEDEN

"Living Lab the Neighbourhood is a co-production and innovation environment for collaborative services and social innovation anchored in a geographic environment in Malmö that today is seldom associated with social and economic growth. The lab is searching for innovation resources and building up a network of stakeholders and potential innovators in, for example, Rosengård and Fosie, two of Malmö's multi-cultural districts, and connecting them to business and university partners."[8] This Living Lab combines a physical space, opening onto the road, with a repertoire of digital platforms, a support team, and a relational network built up over time. Together, these four elements form the enabling platform on which, as a result of free interaction between neighborhood residents and other social actors, unscheduled and by their very nature unprogrammable, initiatives of local interest have taken shape. These are initiatives that would have been unimaginable before the interactions mentioned had taken place. One example is Herrgårds Kvinnoförening, an initiative aiming to promote production activities (catering, dress making, carpet weaving) by groups of immigrant women (from Afghanistan, Iraq, Iran, and Bosnia). Neighborhood Technology is the co-designing, by residents and ITC companies, of technology for the regeneration of public spaces in the neighborhood. UrbLove is a storytelling system developed by a group of young people who foster new ways of seeing the neighborhood, exploring it, and ultimately living in it, by creating stories about the places that characterize it. Hållbara Hilda is a self-run program of environmental redevelopment for the home and the development of services of social importance.

in depth both the open-ended nature of design processes and the role within them of specific design initiatives that fuel them (and which, as such, are clearly defined in terms of time and the results they aim to achieve).

Another example moving in this direction is Creative Citizens, an initiative promoted by the DESIS Lab at the Politecnico di Milano in partnership with the local community and public agencies.[9] It operates in a Milanese neighborhood as a semipublic agency for services. Its aim is to explore the contribution of expert design in the co-design and co-production of services for the public sector (example 7.2).

"In Creative Citizens project," writes Daniela Selloni, who conceived and implemented it, "we experimented a 'new service place', aiming at creating a catalyzer of initiatives, a dedicated entity to co-design and co-produce services. … We can define this new service place as a sort of 'fab-lab of city services'. Such a place is located in a hybrid area between the market and

Example 7.2

CREATIVE CITIZENS: A NEIGHBORHOOD LAB FOR SERVICES

Creative Citizens is an experiment under way in Milan within a community of residents in a particular neighborhood (Zone 4). It consists of a place that acts as a semipublic office for service design and to connect ordinary citizens with designers, stakeholders, and institutions. Here a series of co-design sessions has been organized to deal with different topics connected to existing initiatives. The main goal is to generate a collection of everyday services co-designed and co-produced with the active participation of citizens, envisaging a possible intersection with the public sector and/or facilitating the birth of original service start-ups. The co-design sessions deal with four different service areas (sharing networks, administrative advice, food systems, and cultural activities), all of them connected to simple daily tasks and to existing services and places, such as time banks, purchasing groups, local shops, museums, markets, and fairs. Thus far, the result of Creative Citizens is a collection of six everyday services co-designed with the active participation of local people. Each service is now at a different stage of development, depending on the opportunities found in the neighborhood and the network of institutions and stakeholders.[10]

society, the amateur and the professional, the public and the private sector and between profit and non-profit."[11]

Generalizing, we can say that for local initiatives to develop freely, it is necessary to have an infrastructure in the form of a hybrid (offline and online, physical and digital) platform, each of whose elements can be created or consolidated by targeted projects (box 7.1).

Empowering design capabilities

Given the characteristics of the enabling ecosystem, people's life projects and their willingness to take part in collaborative organizations depend on their personal capabilities. As we have seen, the capacities to design and to collaborate are both intrinsic to human nature, but, according to the context in which people find themselves living, each may be either cultivated or wasted. We have also seen that an important task for expert design is to promote and develop these widespread capabilities. This can happen in various ways. The most direct is to promote the growth of diffuse collaborative design capabilities: a set of initiatives creating conditions in which different social actors can take part in the co-design processes in a more expert fashion, i.e., with access to better conceptual and operational tools.

Box 7.1

Infrastructuring elements

- *Digital platforms* to connect people and to make self-organization easier and more effective (including items such as booking agendas, ordering systems, tracking and tracing technologies, payment systems).
- *Physical spaces* to give participants the chance to meet and/or work together (such as meeting spaces or incubators).
- *Logistic services* to support organizational needs in terms of mobility for people and things.
- *Information services* to provide advice on what to do and how, and to create experience repositories.
- *Assessment services* to monitor activities and results.
- *Communication services* to clarify and divulge the motivations behind collaborative organizations, their reference scenarios, and the outcomes they aspire to or have already achieved.
- *Design expert services* to conceive, develop, and systemize all the previously indicated artifacts, in a collaborative way.

Today there are various projects that move in this direction. For example, DIY (Development, Impact, and You) is a toolkit to trigger and support social innovation proposed by NESTA in the UK: "This is a toolkit on how to invent, adopt or adapt ideas that can deliver better results. It's quick to use, simple to apply, and designed to help busy people working in development."[12] The purpose of the toolkit is to offer a selection of recently developed design tools as an aid to imagining and developing social innovation initiatives on the part of a variety of actors who are interested but not necessarily expert. Another proposal, which moves in a similar direction, is HCD (the Human-Centered Design Toolkit), proposed by IDEO.[13] It shows how a design agency (in this case IDEO) can put its skills and abilities to good purpose by creating tools that enable nonexperts to take a more skillful part in design processes and achieve good results.

The starting point for this initiative was a simple question: "For years, businesses have used human-centered design to develop innovative solutions. Why not apply the same approach to overcome challenges in the non-profit world?" In response to this question, IDEO conceived a toolkit to support nonexperts "in activities such as building listening skills, running workshops, and implementing ideas" (example 7.3).[14]

Example 7.3

HCD TOOLKIT AND HCD CONNECT

"The Human-Centered Design (HCD) Toolkit contains the elements of Human-Centered Design, a process used for decades to create new solutions for multinational corporations. This process has been specially-adapted for NGOs and social enterprises that work with impoverished communities in Africa, Asia, and Latin America and compiled into a toolkit available as a free PDF download on this site."[15] The HCD Toolkit was designed by IDEO (in collaboration with some nonprofit groups) and funded by the Bill & Melinda Gates Foundation. It aims at helping different kinds of actors (staff and volunteers of nonprofit organizations) "to understand people's needs in new ways, find innovative solutions to meet these needs, and deliver solutions with financial sustainability in mind." It consists of three support tools for human-centered design: *hear*, determine who to talk to, how to gather stories, and how to document your observations; *create*, generate opportunities and solutions that are applicable to the whole community; *deliver*, take the best solutions, make them better, and move them toward implementation.

The toolkit is now paralleled by an online platform, HCD Connect, that represents the evolution of the HCD Toolkit. People using the HCD Toolkit "now have a place to share their experiences, ask questions, and connect with others working in similar areas or on similar challenges."[16] The toolkit has been used by several nonprofit organizations; since the launch of HCD Connect, it has been downloaded over 100,000 times.

The toolkit consists of three parts plus the on-line platform. These are designed to support users in various phases of the co-design process, from research and problem mapping to the creation of an initial pilot project. It is interesting to note that at a later stage the toolkit was integrated into an online platform, HCD Connect, which enables people interested in human-centered design not only to download the toolkit but also to link up with other people and groups engaged in similar projects to exchange experiences and ask questions in peer-to-peer mode.[17]

This example shows us how creating design support tools in itself requires effective designing. It is a question of creating a series of communicative artifacts tailored to the needs of clearly defined users and their effective capabilities and motivations. In this case the strength of the idea lies in having them together in a toolkit, which is then integrated into an online support platform: a set of tools that once made available can be used by everyone as they see fit. If they are well communicated and easily accessible, there is no limit to the toolkit's possible diffusion (see the more than 100,000 downloads of the HCD Toolkit).

At the same time, the general idea of a toolkit has some intrinsic weaknesses. The first is that if everybody really does use it as and when they see fit, these users will find themselves having to deal with all the problems alone, with a high risk of using it too little or in the wrong way. It follows that the toolkit, and any other similar tools (manuals, tutorials, online courses, and so on), will need support of some kind. In the case of the HCD Toolkit, this has been set up through the online platform, in which various interested subjects can help each other. Other cases reveal a need for project teams that intervene locally to adapt the tools to a particular context and make them easier to use.

A second limit intrinsic to the nature of these interventions, which we can call methodological *tooling up*, is that while they offer valid guidelines on how to focus and develop an idea, they can add nothing about how to motivate people to put that idea into practice. However, once we know this limit—what a toolkit can enable us to do and what it cannot—the needed complementary interventions can be defined and enhanced.

In fact, experience tells us of several ways, based on less direct but equally important interventions, to make people more willing to join the game and more capable of doing so successfully. These involve developing a variety of design initiatives that aim to promote a diffuse design culture among experts and ordinary people, thus impacting on the cultural sphere—on motivations for acting and on information about how to act—and that generally lead to a finer sense of constructive criticism and a richer design culture (box 7.2).

Networked governance

To give a larger number of people the chance to behave in an active and collaborative way and eventually to achieve far-reaching transformations at both the local and the larger scale, some top-down actions are also needed alongside the peer-to-peer, bottom-up initiatives. Together these initiatives appear to shape a new kind of *governance*. This term refers to the management of public power, the production of the public sphere, and ultimately to the way the state and its agencies interact with its citizens and their organizations.[18]

For our purposes, I shall limit the field of discussion by looking at it from a rather particular point of view (that of ordinary people and design experts) and working from the following assumption (a derivation of the one behind this book): the convergence of social innovation and technical innovation is leading to a multiplicity of experiences that together indicate a new way for people to interact with each other, and therefore also with public agencies.

Box 7.2

Diffuse design upgrading strategies

- *Tooling up*. Creating and spreading tools and methods to facilitate co-design processes; teaching nonexperts how to make best use of these tools and methods (organizing design workshops and seminars).
- *Triggering*. Feeding social conversation with ideas, visions, and provocative actions (organizing creative sessions and design activism initiatives).
- *Investigating*. Mapping local resources and social innovation initiatives (visualizing complex issues, realizing thematic maps, developing ethnographic research).
- *Informing*. Giving promising cases more visibility; clarifying the quality of their results and the related values (designing dedicated websites, books, exhibitions, movies).
- *Visioning*. Proposing narratives on best practices and on emerging ideas; building scenarios at different scales, from specific local problems to broad visions of possible futures (again, designing dedicated websites, books, exhibitions, movies).
- *Enhancing*. Increasing diffuse design culture by feeding social discussion with in-depth criticism and reflections, on sociopolitical as well as aesthetic and ethical values (organizing in-depth discussions, publishing papers and books).

In Europe,[19] these new trends collocate in a framework characterized by old bureaucratic governance structures that, some decades ago, underwent a trend toward renewal. This trend was called *new governance*,[20] and it was based on the application of managerial models in the public sector that used to be typical of the private sector. It is against this background that the new transformations we are discussing here are appearing.

With reference to this double wave of innovation, Stéphane Vincent, founder and director of 27e Région,[21] writes: "The starting point for our work is the crisis that we believe is touching 'new management,' the administrative model inspired by company management in the last century. … The main criticism to be made toward the 'new public management' is that it sees individuals as passive, isolated, disembodied objects—never as active, social, sensitive subjects, capable of taking their part in the production of general benefit."[22] Considering people as active, social, sensitive subjects means also considering positively the collaborative organizations they create, making them a cornerstone of the original form of governance

that is emerging. To this end, Participle, a design agency founded in 2007 by Hilary Cottam,[23] says in its mission statement: "We believe there needs to be a new settlement between individuals, communities and government—new ways for people to get involved in determining their lives in a meaningful way, new approaches that mean some people do not get stuck at the bottom of the heap for generations and new bonds that mean people can flourish and bring their dreams alive."[24]

Or as Christian Bason, director of MindLab,[25] writes, "The wider context can be viewed as a shift from a classic 'bureaucratic' model over 'new public management' to what has more recently been termed networked governance."[26] So we can call the result of this effort *networked governance* (box 7.3).[27]

This way of seeing things lays the basis for a new governance and also for a new vision of the relationship between citizens and the state: a vision in which ordinary people become not only co-designers but also co-producers of a new public space[28] in which, to use an expression introduced by Michel

Box 7.3

Networked governance and the public realm

Networked governance is "the interconnectedness of independent units of authority and power, whether individual, community, state, or corporate. Networked governance moves from vertical to horizontal approaches to decision making and is characterized by systems of communications, knowledge exchange and dialogue."[29] This describes a very different kind of governance from what has so far been dominant. Different authors and research groups refer to the same core issues by different names, and start from differing conceptualizations. For instance, Michel Bauwens, founder of the P2P Foundation, talks about a "partner state,"[30] Geoff Mulgan uses the term "relational state,"[31] and Hilary Cottam talks about "relational welfare."[32]

In my view, these and other positions under discussion today, though differing in some aspects, share a wide area of overlap that makes them distinct not only from the more traditional ideas of governance but also from the "new governance" and "e-governance" that have carried more weight in the debate of recent years. The main difference is that in networked governance and related approaches, ordinary people are seen as (potentially) active, collaborative subjects. Consequently what is "public" is seen as an action space for many actors: a *public realm*, in fact, in which individuals, communities, and the state interact and, hopefully, collaborate.

Bauwens, "the state becomes a partner state":[33] a state that actively supports its citizens, through its agencies and policies, in the conception and realization of their life projects.

In this dynamic framework, design experts can operate on various levels and with different kinds of projects: they can work for or with collaborative organizations, which also actually produce a new public space; they can develop initiatives that aim to make the enabling ecosystem (which also includes the governance models used in it) more favorable; and lastly, they can set up *framework projects* to coordinate the other initiatives, with an eye to a large-scale transformation (which, in our case, may be the transformation of significant parts of the public sector) (example 7.4).[34]

All this together constitutes a huge, complex design process which seeks to achieve what Bason referred to as "aligning the public sector with the 21st century."[35] Clearly this is a design process in its widest sense, a dialogical, open-ended design process that does not follow a coherent, unitary trajectory but emerges in the sometimes collaborative and sometimes antagonistic interactions of a multiplicity of organizations, bodies, enterprises, and private citizens.

Example 7.4

PUBLIC AND COLLABORATIVE: A DESIGN RESEARCH PROGRAM

Public and Collaborative (P&C) is an initiative bringing together government agencies, not-for-profit or charitable-sector organizations, and the design research labs DESIS Labs, to explore the intersection of design innovation and public policy. Its major purpose is to investigate how emerging social networks influence public services and innovation policies—and, vice versa, how public services and innovation policies can trigger, empower, or direct emerging social networks. Participating DESIS labs explore, in particular, what design can do to make this promising meeting more effective and fruitful. They do so by developing projects (aimed to solve well-defined local problems) and creating opportunities to exchange these experiences.

In the first phase of the P&C program (2012–2013), in addition to the basic results of reinforcing the network and building a common language and shared ideas, the main achievements were a better understanding of the role of design experts (and design schools) in large co-design processes where public agencies are involved, and recognition of the importance of setting up special spaces where public innovation could be experimented with in a freer and safer way (commonly referred to as Public Innovation Places, discussed below).[36]

In this perspective, of course, policymakers and civil servants should play a significant role. But, again of course, this is a quite difficult task. In fact, even though there are several public servants who are individually very innovative and willing to contribute to a change that seems more and more necessary, the overall systems are highly inertial (if not completely blocked). To overcome this difficulty, a strategy is emerging. In fact, several international teams, working on social innovation and, in particular, on how it is impacting public innovation, are converging on the need to create *places for experiments* specifically dedicated to this issue: to promote the meeting, and the mutual reinforcement, of social innovation and public innovation.

Places for experiments

We know that collaborative organizations are living entities whose life depends on the quality of their enabling ecosystem. At the same time, we know that they are brand-new entities (very often) with a contradictory relationship with the very contexts in which they have appeared, which may or may not be favorable to their existence and development. Given that, the first and essential character of a favorable environment is its *tolerance*, meaning its ability to accept the existence and development of "the new" (whatever is new and different from the mainstream way of being and doing, in that particular time and place). Besides tolerance, the second important feature is *openness*. In a favorable environment ideas are free to circulate, unforeseen interactions happen, disciplinary boundaries break, and different people meet and exchange experiences and knowledge.

Finally, the third characterizing aspect is that they foster *learning capacity*. A favorable environment is one in which the experiences, both good and bad, of those who live there are not lost. Learning capacity, as we have seen for design capability and the ability to collaborate, is a widespread human quality that may be cultivated or inhibited according to context characteristics. In practical terms, it is a question of creating the conditions for people to feel free to try out new things, and therefore to make mistakes. Furthermore, there must be an infrastructure that connects different experiences, fosters comparison, and gathers the resulting knowledge and awareness. In practice what emerges from this description is the profile of a great social laboratory. But can the whole of society be a laboratory? In metaphorical terms, in the transition to sustainability, yes it can: all of society should be seen as a great laboratory in which to carry out experiments on future sustainability. Beyond metaphor, we must look more carefully at

what is happening and recognize that not all of society is endowed with the characteristics required to be a laboratory; but that it is possible to create special places (and indeed they are being created) which for a variety of reasons would appear to be particularly open, tolerant, and capable of supporting the learning process (box 7.4).

These *places for social experiments* may emerge out of an unplanned combination of events. However, they can also be designed. This is what is actually happening today: the number of initiatives that result in the creation of places dedicated to this purpose is growing all over the world. They may have different names and different starting points, and therefore may differ in motivation and operational model. An initial map numbers more than 15 of them in Europe, North America, Australia, and Singapore.[37] For instance, the DESIS Thematic Cluster "Public and Collaborative" proposes places specifically oriented toward innovation in the public realm: Public Innovation Places (PIPs). Eduardo Staszowski, coordinator of this Thematic Cluster, describes them as follows: "PIPs are experimental sites, agencies or labs created to tackle innovative solutions to public problems (i.e. affordable housing, education, healthcare, etc.), and dedicated to the creation of

Box 7.4

Projects and experiments

In a rapidly and profoundly changing world, all projects, including all life projects, are to varying extents experimental projects. This means that given certain motivations and after certain hypotheses, we cannot know beforehand what the result will be. In effect, an awareness on the part of its promoter of the possibility of not achieving the expected results is the first and fundamental distinguishing characteristic of an experimental project. Obviously, all projects, like all human activities, may fail. In this case, however, failure is openly contemplated as a possible outcome of the project itself. This has two implications. The first concerns the aim and nature of the project: it is necessary that in all cases, even if the outcome is negative, it will not result in catastrophe. Following this guideline is known as adopting an *error-friendly* approach. The second implication is that it is necessary to develop the design process in such a way that it really is possible to make good use of the experience. This means that the projects must be organized as *experiments*. This calls for "laboratories" in which these can take place under the best possible conditions. The creation of such laboratories is one of the first moves to make in infrastructuring an environment, when we intend to make it more favorable and productive for social innovation.

networks and partnerships; launching projects, events, and platforms."[38] That is, they are places where professionals from different backgrounds (design, economics, policy, and social knowledge) meet and operate in horizontal, nonhierarchical ways and provide a degree of freedom from many of the innovative constraints of agency-specific mandates, policy issues, and procedural restrictions. The idea is to make such spaces proliferate so that they may work experimentally, freely using design as a tool for advancing innovation in the public sector/realm and, most importantly, be collaboratively integrated with all interested parties at every step of the process, in order to maximize the potential for innovation.

In conclusion, these places for experiments, of which the PIPs are one example, are hybrid (physical and digital) environments where different actors, civil servants included, can meet, interact, discuss different possibilities, and develop prototypes to verify them. They may operate as incubators and launching pads for promising ideas; they may also become seeds for the creation of the broadly favorable environments in which positive loops between bottom-up initiatives and public agency innovations will take place, and therefore in which larger numbers of collaborative services may flourish and spread.

8 Making Things Effective and Meaningful

A collaborative organization is a group of people who have an idea about how to achieve something and who collaborate to put it into action. To do so, they use a set of material and cognitive artifacts that make being part of the organization easier or less so, more or less costly in practical terms, and more or less convincing in cultural terms. In other words: every collaborative organization entails a certain degree of difficulty, and every result it leads to has a certain degree of appeal. How can the first be reduced and the second increased? How can this organization become more effective for the people who are a part of it? How can it become more attractive? Expert design collaborates in response to these questions, and then it asks another: What is the relationship between the quest for effectiveness and the sense (particularly the social sense) of the initiative?

Problem solving

When a collaborative organization is put into practice for the first time, the people involved work like bricoleurs:[1] the required artifacts are found among those that already exist; they are adapted in function and meaning and are finally put together to fit their new purpose. However, since the products and services used were not designed for that particular purpose, putting them together leads to rather inefficient organizations, calling for a high degree of personal commitment by promoters and participants. The result is that the organizations are acceptable only to those who are very highly motivated. Experience tells us that these initial applications of an idea can be seen as working prototypes. If the ideas are good, an innovative process starts from here and the prototypes evolve toward more advanced ways of functioning. The latter are based on product and service systems specifically designed and systemized to make the initial idea more accessible, effective, and flexible, and thus easier to implement and keep going.

Accessibility, effectiveness, and flexibility

Let's take the example of car sharing. We have already said (chapter 4) that, over time, this proposal has become easily accessible, effective, and replicable in different contexts. Now we can add that all this has been made possible by an innovation process that has been going on for decades, in which various parts of the enabling solution have been redefined bit by bit. Thirty years ago the original idea (a group of people living in a given area who share a fleet of cars to be used and paid for only when required) was developed using standard cars, a telephone, paper and pen, and a lot of willpower.

Since then, the innovation process has improved the components, from the immaterial ones to the material ones. Digital platforms and dedicated applications now enable users to find the nearest cars, and to book them after checking fuel or battery charge levels. By modifying onboard equipment, solutions have been developed by which clients can use their member cards as keys to open the chosen car.[2] Existing cars have been adapted for this use and new ones have also been specially designed for the purpose.[3] It should be added that alongside this evolutionary line, which has made the initial car sharing model more accessible and effective, another, more innovative one has started proposing a radically different organizational model. This is peer-to-peer car sharing,[4] where the fleet of cars consists of privately owned but little used cars that are made available for other users. This solution has been made possible by dedicated applications and websites that directly link demand to offer in real time. In this way, car sharing produces economic, social, and environmental value by transforming temporarily unused cars into a new local resource.

This observation highlights the way in which the initial car sharing prototype has evolved in very different directions in terms of function, cost, and behavior required of the actors involved. This variety in ways of solving the basic problem is very important, because it addresses different social groups with differing functional requirements. For instance, one modality (such as Zipcar) may be more suitable for longer journeys, whereas another (such as Car2Go) lends itself to short urban trips. A third modality (Buzzcar) is an example of peer-to-peer car sharing that makes privately owned cars available while temporarily not in use, and offers cheaper solutions (example 8.1).

We can also observe that while the first two cases (Zipcar and Car2Go) are examples of technically advanced car sharing, Buzzcar, as a peer-to-peer organization, proposes an innovative solution not only in terms of its economic model but also as regards the role, behavior, and cultural attitude required of users and car owners.

Example 8.1

THE CAR SHARING EVOLUTION

The first application of the *car sharing* idea was Stattauto in Berlin in 1988. It worked by telephone and paper and pen. Nowadays car sharing has become an application field for a variety of specialized technology packages supporting different kinds of function, including booking, paying, and car door opening. Thanks to these, the original idea has evolved and several companies, with different profiles, have appeared worldwide. For instance:

Zipcar[5] is the largest car-sharing organization worldwide. In July 2013, it had 810,000 members and offered 10,000 vehicles throughout the United States, Canada, the United Kingdom, Spain, and Austria. It uses a range of different vehicles suitable for various uses (including long-distance journeys).

Car2Go[6] made its first appearance in 2008. In 2013 it had 400,000 members and 8,000 vehicles in 23 cities in Europe and North America. It is a service designed for short urban trips offered by Daimler AG, which uses only its own cars (specially fitted-out Smart). All operations are carried out through the personal member card.

Buzzcar[7] is a peer-to-peer car sharing organization based in France. The idea is that existing car owners can make their vehicles available for others to rent for short periods of time. The service is affordable for the users and brings some money to the participating car owners. Cars can be found, booked, and paid for through the dedicated Buzzcar app.

Lastly, we must remember that the development of car sharing and its enabling solutions has followed that of bike sharing, where all that has been said thus far about cars has already been happening for some time. In fact, bike sharing has also developed along two evolutionary trajectories: one that has led to the realization of products and services (bikes and systems of parking, payment, and fleet management) designed and systemized for this specific purpose,[8] and one that has moved toward peer-to-peer bike sharing,[9] using privately owned bikes and the potential of the Internet and the applications that work with it.

Enabling solutions

Generalizing from the previous examples, we can say that collaborative organizations have gradually evolved from putting products and services found on the market together into a rough system to using *enabling solutions*: product and service systems that have been specifically designed for that purpose. More precisely, *enabling solutions are product-service systems*[10]

providing cognitive, technical, and organizational instruments that increase people's capacities to achieve a result they value.

The main aim of enabling solutions, on the problem-solving side, is to make collaborative organizations more accessible and effective: firstly by reducing the intensity of personal investment required, and secondly by increasing the benefit people can get by participating and becoming co-producers (i.e., improving their *user-centered effectiveness*: effectiveness evaluated from the point of view of the user, spurring the user to become a co-producer).

In practical terms, to do this means identifying a collaborative organization's functional demands, breaking these down into their basic elements, and proposing one or more solutions for each element (*solution components*). Given the diversity of application fields and of the ways in which one can operate, these components may differ widely. Nevertheless, certain components are quite widely diffused among the different enabling solutions. A list of them clearly indicates the variety of material and immaterial artifacts that can be used, and the variety of specific design competences that are required (box 8.1).

Among these enabling solution components, a very special role is played by *digital* platforms,[11] the spread of which has led to the emergence of a

Box 8.1

The main components of enabling solutions

- *Digital platforms* to connect people and to make it easier for collaborative organizations to function smoothly (such as customized and intelligent booking and ordering systems, tracking and tracing technologies, fluid payment systems);
- *Flexible spaces* that can be used by communities for mixed public-private functions (and as incubators for the start-up phase);
- *Logistical services* to support the new producer-consumer networks;
- *Citizens' agencies* acting as catalysts for new grassroots initiatives, but also as facilitators to help existing ones grow, multiply, and flourish;
- *Information services* to deliver specific advice when new procedures and/or new technologies have to be integrated;
- *Co-design tools and methodologies* to conceive and develop the above-mentioned artifacts in a collaborative way.

new generation of enabling solutions that is changing the functionality and, in many ways, the very nature of many collaborative organizations. In fact, these platforms not only increase the effectiveness of activities that could have been carried out by other means (organizing meetings, updating agendas, enabling long-distance conversations); they also open totally new opportunities, making results feasible that were previously unimaginable. A good example of this is everything that concerns the traceability of people and things and the possibility of finding out "who is where" in real time. This information can be crucial in several cases (among them, as we have seen, the car and bike sharing examples, in which traceability enables users to find out where the nearest car or bike is parked).

In conclusion, we can see that a given idea for a collaborative organization can evolve together with its enabling solution in a single process of social-technical innovation. This process may lead to bifurcations and thus proposals that differ widely in their constructional components and in the type of collaborative encounter they are based on. It follows that expert design plays an important role in defining the various steps of this process, particularly in those where the adoption of new solutions entails substantial modifications in the nature of the entire organization, whether with regard to its effectiveness or its social and cultural meaning.

The process would seem to lead from working prototypes of collaborative organizations, which call for a huge practical commitment and therefore strong motivation and a marked disposition for creating communities, to ways of functioning in which facilitated participation makes possible a reduced motivational requirement. The people who pursued car sharing initiatives in Europe in the nineties (though the example could be extended to all successful cases of collaborative organization) undoubtedly did so with the idea of solving their own problem, but they also very clearly did so as a piece of everyday political action, with an eye to changing urban mobility and making the city more sustainable. Today participating in car sharing no longer requires such great social or environmental motivation. This does not mean that such motivations have altogether disappeared. It means instead that they have evolved and appear in different forms. Closer observation shows us that when a collaborative organization evolves and appears in different operational modalities (based on as many enabling solutions), it also appears with different meanings, and therefore calls for different mixes of motivations. Discussion of how this comes about is, in my opinion, of great importance.

Sense making

As we have seen in the examples, some collaborative organizations can be made more effective by redesigning existing products and services. But a lot of what should be done is on the soft side of the solution, conceiving and developing new services that make them more accessible and effective. For instance, much may be done to enhance people's capabilities (e.g., by providing necessary information and knowledge) or give them greater flexibility (and therefore more possibility of coping with the increasing complexity of contemporary life).

At the same time, the enabling solution can incorporate different economic models such as those of the gift economy, mutual help, and do-it-yourself. Finally, and most importantly, it can support different social and cultural values and can therefore be considered within different frameworks of meaning, whether it is acceptable to them or not.

Local results and broad visions

When introducing social innovation, we have seen that collaborative organizations are not driven by the simple question: "How can we fulfill our needs?," but rather by the larger one: "How can we achieve the life we want to live?"

Even though collaborative organizations solve specific problems, they also make reference to broader visions of the lives participants want to live and, very importantly, to what has to be done to move in that direction. Therefore, people's motivation to actively participate in a collaborative organization is also based on these large visions and on the ability of enabling solutions to make these visible and tangible in a specific initiative in a specific place and time.

It follows that a collaborative organization can be made more meaningful, and therefore attractive, by working on two levels: on projects that aim to make the general context more favorable, creating large frameworks of meaning (as discussed in the previous chapter); and on enabling solutions, which I am dealing with now and which can be designed considering attentively their sense-making side. It should be noted that there is a double bond between the two levels. The meaning of the organizations and of their enabling solutions is largely defined by the cultural context in which they appear. At the same time, by giving visibility and tangibility to new ideas, these organizations and their enabling solutions create a more favorable context for other initiatives. That is, they produce a cultural environment in which new initiatives, working in the same direction, are more likely to emerge.

The case of the Slow Food organization is a very clear example of that. It indicates the importance of larger visions in developing and multiplying local organizations, and vice versa. Proposing broad ideas on food and agriculture, and on the very notions of time and quality, it creates a favorable context for a multiplicity of independent but coherent initiatives. At the same time, proposing and enhancing a variety of local activities, from its original Convivia and Presidia to farmers' markets and community-supported agriculture projects, it offers both citizens and farmers a practical and immediate experience of a different but viable world: a world in which food is organic and local, in which more direct and rich relationships are established between country and city and, most importantly, between farmers and citizens. These two aspects—being the tangible face of a more general idea, and happening in a socially rich way—are, to my mind, the two fundamental components that make this initiative meaningful and therefore attractive.

Generalizing on what this example teaches us, we can say that collaborative organizations become attractive when they offer a foretaste of a general vision, or at least of parts of it, in the participants' actual lives, which could be seen as putting into practice Gandhi's famous phrase, "be the change you wish to see in the world."

Sociality and constructed conviviality

For people participating in a collaborative organization, the change they wish to anticipate concerns both the results and the ways to achieve them. The latter are very often marked by a distinctive feature of collaborative organizations: they occur in a "socially rich" way. This means that they tend to "produce society."

However, as we have observed, when they move on from the original creative communities to more mature organizations, they do not always do so in the same way. When these organizations are still based on informal, face-to-face relationships, the production of sociality is more or less natural: a kind of by-product of their main activity. But this cannot be taken for granted when interactions are more formal or when they mainly take place online. While car sharing and bike sharing, for example, were highly social in their initial, heroic stage, they are not necessarily so in maturity. At this stage sociality is produced if the preconditions for sociality have been designed, meaning if the enabling solution allows for and cultivates opportunities for socially rich interactions. To discuss this further, we shall focus on the concept of *sociality*: "the extent to which a system can give rise to and support social interactions between the users of that system."[12]

The terms *sociality* and *sociability* have been widely used in the research field of human-computer interaction and can usefully be extended to our discussion of collaborative organizations. Eun Ji Cho, who studied this topic for her doctoral thesis at the Politecnico di Milano, writes: "The beneficial role of sociability has been illustrated in various studies, ranging from social bonding and the support of joint problem-solving in the work environment, to creating common ground, reciprocity, trust."[13] Her research examined some guidelines for producing tools with which to design for sociality in sociotechnical systems.[14] Given that social behavior cannot be designed, the practical issue becomes how to create conditions that will make socially rich relations both possible and probable. It is not a simple question. The creation of sociality in collaborative organizations entails going well beyond the traditional user-friendliness of sociotechnical systems and discussions about supplier/client relations. What we must produce are, to use an expression of Nicolas Bourriaud, "moments of constructed conviviality."[15] This means that, when talking about the sociality and attractiveness of collaborative organizations, our point of reference is not marketing but rather the depth of human relations. Indeed it might be useful to reread Ivan Illich and his *Tools for Conviviality*[16] with the eyes and sensitivity of today, and try to put it into practice. It seems to me that what we need is a new design culture able to catch the profound sense of sociality, or rather of the various forms of sociality that we would like to be produced. How can this culture be created? In my view, the main road in this case too is the reciprocal fertilization of experience and theoretical reflection.

One example of what this might mean can be seen in the collaborative living project developed by Liat Rogel for her doctoral thesis at the Politecnico di Milano.[17] The field activity for this research project led to the promotion and realization of a pilot example of collaborative living (example 8.2).

The intention of the project was to promote socialization and sustainable ways of living among the inhabitants of a new condominium. To this end, a program of activities was developed supported by a digital platform. The research component of the project was to verify and reflect on the application of the concept of sociability as constructed conviviality. The result was positive and interesting. It verified that forms of socialization were indeed initiated which otherwise would probably not have happened. This occurred through a program of shared activities and thanks to a digital platform which the residents gradually appropriated, making it the instrument of their activity and socialization.

Example 8.2

"VIA SCARSELLINI": A COLLABORATIVE LIVING PROJECT, MILAN

Scarsellini—Vicini più Vicini is a service design project aiming to foster collaborative ways of living among residents of an apartment block of 100 households located in Via Scarsellini in Milan, Italy. This project was carried out as field work for a doctoral research thesis at the Politecnico di Milano.[18]

From 2010 to 2013, a number of design activities were carried out to achieve environmental and social sustainability in the everyday life of people living in the same apartment block. Several initiatives were promoted, and a digital platform was created that aimed to coordinate them and create friendly relationships among residents. The platform allowed residents who originally did not know each other to meet virtually, participate in the various forums, and start shared initiatives, including co-designing new services. The research part of the project enabled results to be evaluated from different points of view. After three years of activities, the interactions and collaborative activities among neighbors played a beneficial role in conceiving and enhancing socially and environmentally positive initiatives. More precisely, they created a sense of community (increasing the opportunities for mutual help), they permitted goods and services to be shared, energy to be saved, costs to be reduced, and several daily activities to be facilitated, and finally they increased the number and variety of available collaborative services (thanks to the co-design of common spaces and facilities).

This positive result also led to other interesting surprises. "Our hypothesis," write Cho and Rogel, "was that socialization between people would be a motor for future collaboration. However, socialization between members started to occur gradually as the discussion on concrete initiatives took place. In other words, introducing each other and knowing their future neighbors, which was thought to be the principal purpose of this platform, was achieved only after many initiatives were proposed and discussed."[19] This gives a clear and tangible picture of what the expression *constructed conviviality* could mean: it is a conviviality that is built by doing things together; in other words, by activating initiatives that become in themselves the field on which this kind of growth is cultivated.

Trust building

To conclude with a consideration that underlies everything I have been saying thus far about collaborative organizations and enabling solutions: for whatever reason people decide to meet and do something together, each

participant must have a conviction that the others will honor the commitment. They must trust each other. Indeed, reciprocal trust is the fundamental ingredient of any kind of collaboration and therefore of social organizations. The more such organizations are built on free participant choice (rather than on tradition or coercion), and the more turbulent the environment in which they live (where people who meet are for the most part strangers), the more essential the trust factor becomes. Since this is exactly the situation in which collaborative organizations find themselves working, every discussion on how to foster and support them, and therefore on what enabling solutions to propose, is in practice about how to foster and support reciprocal trust among those who could and would like to take part.

The issue of trust and trust building is enormous and certainly goes well beyond the possibilities and intentions of this book. However, some basic consideration must be given to it, and therefore some design guidelines, if we are to discuss collaborative organizations (social forms in which all the participants are called to invest time, energy, and attention) and what design can do to foster and sustain them.

As always, we shall start from experience. In this as in other aspects, observation of various cases of social innovation has shown us that it is necessary to distinguish between the initial phase and subsequent ones. At the origin of every collaborative organization (or at least of those that start from the bottom up) there is a creative community: a group of people who know one another well and trust each other (because they have had the chance to do things together). Later, as the organization matures, the situation evolves: it moves on from the heroic stage, the people change, ties become weaker, and trust building can no longer depend on direct acquaintance. Other ways must be found. In fact, the organizations that last over time and spread are those that have, in one way or another, managed to solve this problem. In a study on how collaborative organizations can be supported in the creation of mutual trust, Fang Zhong defined two main design strategies: "to diffuse information in an effective, genuine, transparent way (to give participants the clearest ideas of how things work and who is doing what) and to create an informal social control system (for example, a reputation system)."[20]

The first strategy leads to the designing of system elements in a way that increases their visibility. One way is to "make visible" (through appropriate communicative artifacts) what is not visible in itself: accounts, organigrams, profiles of the actors involved, etc. Another way is to increase direct visibility of the organization itself and its functioning. Nowadays the

simplest way, but also the most simplistic, is to use new technology to make the whole organization visible in real time: places, people who live there, the activities they do there. In some cases, when used well, this way (which we can call the hypervisibility strategy) can be very effective. However, it is important to understand its limits, which are in part the limits of what a video camera can actually see and what the cameraman decides to show. The most serious limit, however, is the risk that this hypervisibility will create anxiety on the part of both the viewer and the viewed.

A more mature strategy would be one that uses a multiplicity of tools, deciding on the best mix for each situation: occasions can be created for face-to-face meetings, or encounters using the communicative artifacts mentioned before. Formal checks can be made by someone recognized as a guarantor in the various issues. Innovative ways that have emerged in recent years can be set up using the Internet to create trust between people who, until that moment, were strangers (*online reputation building*). Finally, it is essential that people be motivated to do things together.

I think that the last is the most important line to follow. We have seen this when talking about creating sociality and conviviality, but the same considerations apply in relation to trust: it is essential that a positive loop be created between doing something together and cultivating social ties, in this case trust relationships between people. Of course this positive loop cannot be entirely planned. However, the enabling solution can also generate conditions to make it more likely.

9 Making Things Replicable and Connected

Collaborative organizations are important because they are concrete steps toward sustainable ways of living and because they offer viable solutions to large, urgent, intractable contemporary problems. To be truly effective and have the needed impact on the overall society, they should spread and drive changes at a larger scale. Is this possible? If it is, can they have such a great impact while continuing to maintain their characteristic human scale? In short: can collaborative organizations have the capacity to change the world while remaining small? Today, in the age of networks, the answer to all these questions is yes. But, for this to happen, innovative strategies must be enhanced and a larger framework vision must emerge.

Small, local, open, connected

Some 40 years ago, when E. F. Schumacher wrote his famous book *Small Is Beautiful*, he made a choice in favor of the small and local on cultural and ethical grounds as a reaction to the prevailing trend toward greater scale and delocalization that he saw around him.[1] Today we follow Schumacher for these and other, new and compelling reasons. However, at the same time, we have to recognize that in these four decades things have changed profoundly. What was only a utopia in Schumacher's day is today a concrete possibility, offered by the convergence between networked systems and creative communities. Forty years ago the "small" that Schumacher referred to was genuinely small, because it had little chance of influencing the larger scale, and the local was really local, because it was partly isolated from other local communities. Furthermore, at that time all the technological and economic trends were moving in the opposite direction, that is, in the direction of "bigger and better." Today the context is strikingly different, since the small can now be influential as a node in the larger global network and the local can now also be open to the global flows of people,

ideas, and information. In other words, we can say that today *the small is no longer small* and *the local is no longer local*, at least in traditional terms.

Small is not small, in the net

This change in the nature of the small and local has enormous implications: not only do the new networks make it possible to operate on a local and small scale in very effective ways, but also the flexible systems they generate provide the only possibility for operating safely in the complex, fast-changing, highly risky contemporary environment. The keyword for this promising perspective is *distributed systems*: sociotechnical systems made of a variety of interconnected elements and therefore capable of adapting and lasting through time.[2]

As I mentioned in chapter 1, over recent decades a set of new trends has emerged and in some cases spread, driven by different waves of innovation:[3] that of *distributed intelligence*, with the radical changes in sociotechnical organizations that this has made viable; that of *distributed power generation* and, more generally, of *distributed infrastructure*; and finally that of *distributed production*, ranging from the zero-mile food trend to the one toward new fabrication models. The result is that today it is possible to imagine a new and viable form of globalization as a mesh of distributed economies and connected localities. In the same chapter I observed how these distributed systems are strongly based on technological innovation but that, when they spread, their technological side cannot be separated from the social one; that, therefore, no distributed system can be implemented without social innovation.

It follows that, in this case, technical and social innovation reinforce each other, creating a virtuous circle that leads to practical opportunities and new ideas on society, production, and quality of life. In short, they permit us to outline a viable scenario for a sustainable society.

The SLOC Scenario

Social innovation and distributed systems are the main pillars of an emerging scenario. I will call it the SLOC scenario, standing for small, local, open, connected. These four adjectives together outline this scenario's characteristics. Individually, each adjective and its implications are easily understood, but together they generate a new vision of how a sustainable, networked society could take shape. In my view, this SLOC scenario could become a powerful social attractor, capable of triggering, catalyzing, and orienting a variety of social actors, innovative processes, and design activities.[4]

More precisely, on the basis of what has been said so far, we can see that the SLOC scenario is neither a dream nor a forecast for the future. It is a reasoned, motivating vision of what the future could be like if a large number of social actors operated to reinforce and synergize ongoing trends.[5] Given all that, we can say that the SLOC scenario proposes a possible future, though it is a future that requires many converging efforts if it is to become real. First of all, it requires answers to the questions we started from: How can the impact of such small initiatives as collaborative organizations be increased? How can they grow without losing their collaborative nature? Of course, the scenario per se does not give the answers, but, in my view, it does give a general vision that permits us to align different initiatives in a common framework and indicates two main basic strategies, which can be summarized as *replicating* and *connecting*.

Replicating is the first strategy that, in a connected world, leads small and local activities to have large-scale effects: it is in fact the main way to scale up within the SLOC scenario. The idea of replicating may appear to be, and in certain aspects it is, the opposite of experimenting. However, in my view the two practices can and must be complementary. In the transition it is necessary to experiment, and then consolidate and propagate (i.e., replicate) the best results. What is more, in a complex, changing world, the replica is also always an adaptation to new circumstances, to the new context.[6] In other words, every replica is also a design of a new and locally appropriate solution. Replicating is an activity that requires diffuse design capacity. But undoubtedly it also entails the presence of experts: experts in assessing the quality of the experiments and therefore choosing which to replicate, and experts in designing ways of replicating them and tools to enable this to happen.

Connecting is the second main strategy thanks to which small and local activities may have large-scale impacts. In fact, these impacts come not only from the accumulation of a large number of small projects but also, and above all, from the *multiplying effect* that can be produced by connecting them in an appropriate way. This effect can be achieved in two modalities. The first is to create a connecting infrastructure, leaving local project promoters to find the best ways to connect, coordinate, and synergize. In this case, the strategy consists in offering connecting possibilities and creating a favorable environment for new initiatives to emerge and autonomously connect (chapter 7). The second modality to enhance the connecting strategy consists in realizing appropriate *framework projects*. These are suites of specifically conceived initiatives capable of stimulating new local projects and facilitating their collaborations and synergies. To do that, large

coalitions are needed, capable of steering the overall process: their existence is in fact the precondition for producing the shared visions and the practical instruments which can make this strategy practically viable.

In conclusion, while in the past century increasing the impact of small, local initiatives inevitably led to an increase in size and bureaucratic structures, today, in the age of networks, there are other possibilities: s*caling out* (or horizontal scaling) done by replicating small initiatives in different contexts, and updating the traditional; and *scaling up* (or vertical scaling), which today can be achieved by integrating and synergizing several small projects into larger programs. It can be done by connecting them horizontally with similar or complementary initiatives, and vertically with other types of organization (social, economic, and political).[7]

Replicating as scaling out

Each individual case of collaborative organization that we may find anywhere in the world, like a cohousing initiative in Milan, car sharing in Berlin, a farmers' market in New York, or community-based agriculture in China, cannot in itself be reproduced, because it is so deeply rooted in a specific context and so largely shaped by the characteristics of its promoters. Nevertheless, each of these highly localized cases is the practical realization of an *idea*: the idea of cohousing, of car sharing, of farmers' markets, of community-based agriculture. These ideas outline their motivations and how they work (i.e., their systemic architecture). Therefore, when we discuss how to replicate collaborative organizations, we are in reality discussing how these *ideas* may spread and how different groups of people may recognize, adopt, and localize them (that is, adapt them to different contexts).

Moving ideas and network effect

Until now, the diffusion of these ideas, and their subsequent localization, has mainly happened in a spontaneous way. But it has been the spontaneous diffusion typical of the connected world: a world where ideas circulate rapidly, peer to peer, with no need for an intermediary. It is precisely this direct communication between peers, in real time and independent of distance, that makes the circulation of ideas today (including those regarding collaborative organizations) different from that of the past, and this difference is not only in quantity (more ideas, in less time and over greater distances) but also in quality.

Not only do ideas of collaborative organization circulate rapidly all over the planet, but they also create totally new effects. The first (which we talked about in chapters 1 and 2) is the growth in numbers of expert users able to transmit a promising idea effectively and, above all, to recognize and implement it (in the sense that they have the sensitivity, the design capability and skills, and the entrepreneurship to do so). It is clear that the presence of these subjects at the nodes of the network increases the ease and effectiveness with which the ideas can circulate and the collaborative organizations can replicate.

A second characteristic of the spontaneous diffusion of ideas in a connected world is the importance of the *network effect*:[8] a phenomenon that is not specific to the current phase but that has a strong impact on it. In general terms the network effect means that each new node added to the network (that is, every new idea of collaborative organization) benefits all the other nodes (all the other collaborative organizations). This means that every new collaborative organization reinforces the overall idea more than its individual weight would lead us to expect (box 9.1).

In our case, in the strict sense of the term this is true for some types of collaborative organization (for example, each new participant in a time

Box 9.1

Network effect

The expression *network effect* refers to what happens in systems in which an increase in number of participants leads to a direct increase in value for other users. The classic example is the telephone: the more people who own a telephone, the greater the benefit for everybody.

In a digitally connected world this effect is both wider-reaching and more important. Online social networks like Twitter and Facebook, which become more useful as more users join, are a good example. However, the same thing happens for platforms that manage exchange or mutual help operations. These may range from local currency exchange to house exchange, the time bank, or carpooling.

Adopting the term in a wider sense, we can say that the network effect occurs in all collaborative organizations. Every new application of the idea of car sharing, cohousing, or farmers' markets makes the enabling ecosystem more favorable (both in terms of regulations and political policies, and of the availability of dedicated products and services). Furthermore each initiative reinforces the idea itself and impacts on the motivations of those participating, and of those who might join in and participate.

bank or in a carpooling service makes the overall service more effective), but in a wider sense it is always true. A sort of cultural network effect occurs whereby each new application reinforces a shared vision and makes new sense of it. This is very significant: the expectations of potential participants about what a given collaborative organization may become in future are decisive in their decision to take part. In fact, every new idea implemented consolidates expectations about its potential for success and reinforces the determination of others to join in. In other words, it acts as a self-fulfilling prophecy: a potential future that comes true because a lot of people believed in it.[9]

In view of this, expert design can operate to foster the spontaneous circulation of ideas, and can use its tools to increase their visibility and the clarity with which they express their content (chapter 5). At the same time, it can collaborate to multiply the number of people who are able to act as expert users (and are therefore able not only to recognize the good ideas, but also to put them into practice). So it is a question of collaborating to make the general environment more favorable, and then just letting things happen. This type of intervention, which we can call indirect, is not the only way that expert design can participate: it can also intervene directly by designing toolkits specifically for the purpose of replicating given ideas.

Toolkits for communities

Creating conditions to make a specific collaborative organization replicable is a design initiative based on the same presuppositions as those introduced in relation to enabling solutions. Here, too, it is a question of delivering a set of products and services that make applying an idea of collaborative organization easier and more effective. However, whereas in the previous chapter we discussed this in relation to specific initiatives, localized in a particular context, now we must look at how these enabling solutions can be designed to replicate a collaborative organization in different contexts. For this same reason, the enabling solution itself must be designed as a packet of components that are themselves reproducible and easy to distribute.

In many aspects this is not a new issue, and it can be seen as an extension of the traditional idea of the toolkit. A *community-oriented toolkit* is a replicable enabling solution conceived to support different groups of people in recognizing and applying a collaborative organization idea by adapting it to the specificity of their own contexts (box 9.2).

Today, for several reasons, both the traditional idea of a toolkit and the new, community-oriented one are spreading, and their role is growing in various areas of social innovation. Some toolkits have supported relatively

Box 9.2

Toolkits and capacity building

Traditionally, a toolkit consists of a set of tangible and intangible tools conceived and produced to make a specific task easier, so that even nonexperts can do it. Until now, they have been (mainly) conceived for individual self-help. In order to support collaborative organizations, they must evolve to include community-oriented toolkits as well. This evolution takes place in a context that is itself evolving in response to various ongoing trends and in particular the tendency toward individualization, with self-help as one of its expressions, and the growing number of user-experts (people who although not professionals in a given field are still able to perform within it). All this obviously influences the nature and purposes of toolkits, moving them on from the ambit of the interesting but marginal to the central and fundamental issue of *capacity building*. In other words, returning to the theme introduced by Martha Nussbaum and Amartya Sen, it leads to the design question of how to increase people's capability of being what they wish to be and doing what they wish to do. We therefore extend the concept of toolkit to everything that helps people to do things themselves: not only to solve problems but also to bring their capabilities into play in the sense intended by Nussbaum and Sen.

simple initiatives, such as organizing events (a neighborhood festival or the collective clean-up of a public place),[10] while others have involved more complex, long-lasting activities. For example, there are community-based toolkits for health (ranging from the prevention of childhood obesity in the United States to the prevention of malaria in Africa)[11] and for do-it-yourself building (including community energy systems and community water management).[12]

As these examples indicate, toolkits must be carefully designed to meet the needs of clearly defined target users with their actual capacities and motivations. All that we have said in relation to enabling solutions also applies to the design of toolkits, with the additional fact that, to become toolkits, they must themselves be replicable and must be totally self-standing. This means they must be usable by everybody (or more precisely, by everybody within the identified target group) without requiring further assistance.

It is in this last aspect, in their being a set of instruments which, once made generally available, will be used by everyone as they see fit, that the strength and also the weakness of this strategy lies. In fact, as we have already seen with reference to the special toolkits conceived for supporting

co-design processes (chapter 7), the strategy's strength lies in the fact that, if properly communicated and easily accessible, there are no limits to a toolkit's possible employment. For the same reason, whoever uses a toolkit will find himself or herself having to deal with the problems alone (or rather, only being able to use the expert knowledge contained within the toolkit itself): hence the strategy's weakness.

In addition, and this seems to me to be a more pressing issue (and one less easily solved by improving the toolkit), the toolkit may support the operations of an initiative (i.e., the accessibility and effectiveness of the collaborative organization it is intended to start up), but it is unlikely to reinforce users' motivations to act and their trust in the toolkit's possibilities: adopting the toolkit strategy means assuming that the user/co-producer already possesses these in their entirety. And this may in fact not be the case. The risk, therefore, is that toolkits will be used badly, due to lack of knowledge, or will not be used at all, due to lack of motivation. This brings us to a more general question: the issue of capacity building, which underlies the whole of this argument, cannot be dealt with using one single type of intervention. This means that the capacity of people and communities cannot be increased from the bottom up only, by distributing dedicated toolkits. It is necessary to combine different kinds of intervention, based on different strategies. It follows that the toolkits we are talking about must be part of a wider set of services and communicative artifacts that compete not only to foster their own good use, but also to reinforce motivations to use them.

When this happens, when toolkits are managed within this wider set of services and communicative artifacts, we move from a pure toolkit strategy to one that we can call *franchising*,[13] or to be more precise, *social franchising*.

Social franchising

Social franchising is the application of the principles of commercial franchising to promote larger social benefits. For our purposes (the replication of promising collaborative organizations), it is a replication strategy by which a given body (the franchisor) offers an idea of collaborative organization and the procedures for implementing and managing it (the equivalent of a toolkit) to a series of operators (the franchisees) who can implement it locally.

In practice, the franchisor offers others, who are autonomous operators, a series of supports. These may be large-scale communication campaigns and communicative artifacts usable at a local level, services in a strict sense (professional training and professional advice), dedicated equipment (if and when necessary), or guarantees of the quality that will eventually be

produced.[14] Some of what is provided is what could go into a toolkit, but there is something more: the integrated motivation and trust offered by the more far-reaching communication of a familiar, valued brand and of opportune quality control services.

Social franchising can be presented in various forms, with the central organization playing a more or less weighty role. We can take the organizing of a neighborhood festivity as an example of "light" franchising. There is an international association called European Neighbors Day[15] which works in this field, often drawing in local institutions. It operates on two levels: making a toolkit available to groups of residents, containing all that is required to organize the festivity; and developing wider communication on the theme of quality of life in cities (indicating a special day on which to organize the event). In this way it tends to support the organizers and all the participants, making them feel part of a wider project. Thus, making the neighborhood more livable for a day is also a way of promoting a new idea of urban sociality, and therefore a more sustainable city.

Other cases call for a higher level of integration. Tyze (discussed in chapter 4) is a good example. It is a social enterprise that seeks to organize a help network of relatives, friends, and neighbors available to lend a hand (but who could not do so alone) to people in need of care. To promote this idea and the possibility of putting it into practice, Tyze offers the potential group dedicated software and instructions for use (in practice a toolkit), integrated with a set of complementary support services in case of need (to make the network reliable) and the use of the brand (to create trust).

Together these examples offer important guidelines for designing such entities. When the activity to be promoted does not present particular problems or risks (like the organization of a neighborhood street party or a clean-up day for a public place), the "pure toolkit" model can be used, or the one of "light franchising." As the problems to be dealt with become more complex and delicate, however, it becomes more necessary to enrich the offer: to find a balance between what the base groups can do on their own, counting on their own efforts and a supporting toolkit, and what must be done with the help of external, expert bodies that integrate the missing knowledge, guarantee the achievement of determined quality standards, and thus raise trust within and outside the group.

Connecting as scaling up

Like processes of replication, those of connection may happen without further external help—if the environment is favorable. That is, local

organization promoters may be able to connect and coordinate horizontally with peers, and vertically with other, larger actors, and in this way trigger changes on various scales. However, experience tells us that in order to attain great transformations, it is almost always necessary for entities with the means and circumstances to act on a large scale, intervening with top-down actions alongside the peer-to-peer, bottom-up initiatives.

Horizontal and vertical connections

Democratic Psychiatry and Slow Food (the two Italian examples of social innovation with a big impact that I introduced in chapter 3) are excellent instances of how this can happen in practice. The key to their success, as we saw, has been their capacity to promote and coordinate a multiplicity of initiatives, ranging from local to national, in the framework of a single great vision. It is this multilevel strategy that has enabled Democratic Psychiatry to change a great, complex institution (that of psychiatry) and Slow Food to trigger a process of transformation in the entire agro-food system.

Some decades later, the lesson that these examples teach us is still valid. However, we need to update the picture in view of what has happened in the meantime, in particular bearing in mind the growth in connectivity and the vitality of diffuse social innovation. This can be described, in a nutshell, as a general reinforcement of the peer-to-peer component in the mix of actions capable of producing great changes.

Talking about networked governance, we have already seen how this kind of strategy is changing public agencies with the aim of "aligning the public sector with the 21st century."[16] Similar processes are under way in various other fields: one of the most evident is that already mentioned of food networks and the relationship between city and country, to which Slow Food has made a significant contribution but which, undoubtedly, and fortunately, is today fed by the converging activities of a growing number of actors. At varying levels of development, and with greater or lesser visibility, something similar is happening in other fields of activity in which the peer-to-peer and bottom-up dynamics of collaborative organizations meet the top-down dynamics of more advanced public agencies, ranging from mobility to health care; from care of the elderly to the local and regional development.

The common denominator of these initiatives is that they are dialogical, open-ended design processes that emerge in the collaborative and/or antagonistic interaction of a multiplicity of organizations, bodies, enterprises, and private citizens. In practical terms, they develop local projects by coordinating and systemizing them at a larger territorial scale (neighborhoods,

cities, regions) and/or in relation to larger complex systems (health care, education, administration, and so on).

For instance, when an urban, rural, or regional program is concerned, its enhancement can be triggered and supported by a set of self-standing but coordinated local initiatives. Similarly, when the challenge is to transform a complex organization (be it a public administration, health care, or a school system), the process can be prepared, started, and oriented by launching a number of local initiatives to mobilize the whole organization and make it more effective.

In short, each large-scale project based on the connecting strategy presents a similar architecture. There is a multiplicity of *local projects* promoted, aligned, and synergized by a *framework one*, where the local projects are self-standing initiatives, deeply rooted in the specifics of the local situation and therefore capable of making best possible use of existing physical and social resources to achieve tangible results quickly. At the same time, since they are aligned and synergized by the framework project, they are also drivers of larger change. The framework project is a design and communication initiative including *scenarios* (to give different local projects a common direction), *strategies* (to indicate how to implement scenarios), and specific *supporting activities* (to systemize the local projects, to empower them, and to communicate the overall project).

The connecting strategy enables large-scale programs to be conceived and developed that are intrinsically extremely flexible, scalable, and adaptable in time: a strategy that is particularly appropriate in turbulent times (like those we are now living in) and when *regional systems* or *large organizations* are involved. It is also called *planning by projects*,[17] a point I will come back to in the next chapter.

10 Making Things Local and Open

People live at the same time in a social and a physical space; therefore their interactions also occur in both spaces. In the first they produce social forms, while in the second they produce places. All together they create society and the environment in which societies collocate and which, in turn, the societies themselves contribute to produce. The discussion on social innovation and the collaborative organizations it generates is therefore linked to that on the building of places and their new ecology. Thus design for social innovation has another dimension beyond those we have been talking about so far: that of place making. By this we mean its role as agent contributing in an original way to the social building of places.

Place making

A place is *a space endowed with sense*. In other words, it is a space that is meaningful for someone. In view of this, and given that meaning emerges from conversations, it would appear that for a place to exist there must be a group of people who talk about it and act in it. Traditionally, this group was the resident community: a stable group of people who lived near each other and shared the problems of everyday life. In this situation, sense making, and therefore also place making, happened slowly, over long periods in quasi-natural ways.

In contemporary societies, since communication is no longer hindered by distance, people participate in a multiplicity of conversations with interlocutors who may be spread far and wide. In this new condition, it may happen that none of these conversations is between people leaving nearby, or is about subjects relating to the space where they live. If this is the case, then there is no place making.

On the other hand, the physical space people occupy becomes a place when those sharing it decide to do something about it together. In our

terms, this means that they decide to start and manage a place-related, collaborative organization; in so doing they become a special kind of intentional community: a place-related, and therefore a place-making, community. Since these are communities existing by choice, the resulting places exist by choice too. In short: they are intentional places co-designed by intentional communities.

Places and communities

Building, or rebuilding, places is important from various points of view. The first is that of the people who live there. For them, recognizing the value of places goes hand in hand with the emergence of a new idea of well-being: a sustainable well-being. In this development, a major role is played by the recognition of how far contexts (lively social fabrics, healthy environments, beautiful landscapes) contribute to quality of life: that is, how far places contribute to quality of life. The search for this kind of well-being is, in my view, the major driver of the place-making dynamism we are observing today.

To illustrate this statement, I shall start with a small initiative that tells us a lot about the role of collaborative organizations in place making, and therefore in enhancing a new idea of well-being. Coltivando is a community vegetable garden set up at the Politecnico di Milano Bovisa Campus. A new meaningful space has been created thanks to the proactive role of a design team (in this case composed of teachers and students) and the active, collaborative participation of local residents. The result has been to transform a space without any particular value for residents into something endowed with meaning, that is, into a place (example 10.1).

What is special about Coltivando is the new relationship it created between the campus and the surrounding neighborhood. In fact, the initiative, started by students and teachers, succeeded in transforming a campus border area into a lively place, which in turn generated an equally lively community and brand-new interactions between students, teachers, and local residents.

We can mention many other examples along the same lines, of local activities aimed at regenerating urban space and making it more dynamic: community gardens, neighborhood festivals, local enterprises and craft promotion, updated traditional neighborhood shops, and so on. But similar results can also be achieved as valuable by-products of activities having different main motivations. For instance: upgrading informal settlements thanks to appropriate services and infrastructure and collaborative organizations; or rural village improvements thanks to community-supported

Example 10.1

COLTIVANDO, THE CONVIVIAL GARDEN AT THE POLITECNICO, MILAN

Coltivando is a community vegetable garden set up at the Politecnico di Milano Bovisa Campus. It was proposed by a team of postgraduate students, supervised by researchers and teachers and co-designed with local neighborhood residents.

The design team organized workshops with residents to co-design the community garden concept. At the end of the first two co-design sessions, more than 80 people from the neighborhood were involved.

Then they started to create the garden itself and gradually a community started to come into being. Soon work was progressing in weekly building/gardening sessions, where people worked on setting up the garden and at the same time strengthening community ties. Work on both garden and community called for continuous co-designing. Davide Fassi, one of the promoters, says: "Coltivando is now a place where people are enjoying their free time, producing their own vegetables and fruits and enriching their social experiences through collateral activities e.g. seminars, schools visits and similar learning activities."[1]

agriculture and community-based tourism schemes. Such examples show that there is an interesting and positive connection between locally based collaborative organizations, new forms of resident communities, and new ideas of locality.[2]

However, place building is not only important for the well-being of individuals and resident communities. The existence of a multiplicity and variety of places is a precondition of a more resilient natural, social, and production system: one that is capable of adapting to unexpected events and lasting over time. This is an issue of fundamental importance for the entire planet and will be even more so in the years to come, and the rebuilding of places is one of the main strategies for dealing with it.

Places and resilience

Since *resilience* is defined as the system's capacity to cope with stress and local failures without collapsing (and to learn from the experience), we can say that it is also a precondition for any conceivable sustainable society. To be sustainable, a society must be capable of overcoming the risks it will be exposed to and the stresses and breakdowns that will take place; and, most importantly, to learn from these events how to improve its performance. Today, the risks for our society are no longer only future projections. They are becoming evident all around the world: more and more frequently, our

daily life experience involves coping with the fragility of our sociotechnical systems. As a consequence, resilience has become part of the vocabulary of an increasing number of people and organizations.

Given this widespread use, two observations on usage are in order. First, the expression "resilient society" is not a synonym for sustainable society, if in the latter term we include—as in my opinion we should—its cultural dimension and the quality of life, in the profound fullness of its meaning. Resilience is rather a technical precondition, on the basis of which many different resilient societies may exist, endowed with different social and cultural characteristics.

More importantly, since the current sociotechnical system is very fragile, transforming it into a resilient system would mean achieving a radical change of model (a prospect that is therefore the opposite of "resilience" in the sense of making the currently dominant model a little more adaptable).

Design for resilience

How can we design these resilient sociotechnical systems? Natural ecosystems,[3] their tolerance of breakdown and their capacity to adapt, may point a way forward.[4]

In fact, as we anticipated in chapter 1, an ecosystem's resilience is directly related to the variety of genetic information to be found within it: the narrower the variety of organisms present there, the more fragile it is. By analogy, we can say that sociotechnical systems based on a single rationale and a single operative strategy (even when carefully studied and optimized) would behave similarly to a natural ecosystem containing a narrow variety of organisms (however highly specialized): they would be fragile systems, risking catastrophic breakdown.

To make human civilizations more enduring, therefore, we should enhance the complexity of technical systems. That is, we should foster the coexistence of solutions based on different logics and different rationales. In addition, we should consider the varied complexity of energy, production, market, economy, and cultural systems as the "genetic richness" of an artificial ecosystem: a richness that guarantees its capacity to continue evolving in the face of wider changes in context.[5]

To clarify, we know that natural ecosystems are different from artificial ones. However, both are part of the general category of *adaptive complex systems*.[6] For this reason, what we have observed in natural ecosystems is also valid for sociotechnical ones.[7] To last over time, the latter too must be built of a multiplicity of largely independent subsystems and be based on a

variety of strategies. In short, they must be diverse and complex, given that these are the basis of their adaptability.

Two opposite directions

How far are we from this complex, resilient manmade system? In my view, this question has no single, simple answer: contemporary society demonstrates a contradictory dynamism that forces us, on this point as on many others, to describe what is happening as a double trend: a mainstream one, carried over from the last century, and the new, emerging one that we are dealing with here. The two trends coexist and compete. In this competition we can see, on one side, the big dinosaurs of the twentieth century, promoting large production plants, hierarchical system architectures, process simplification, and standardization. And last but not least, they are destroying the old places without creating new ones. The result of this trend is an increase in the overall fragility of the system driven by reduction of biological and sociocultural diversity and the consequent *desertification* of the overall natural and sociocultural environment.

On the other side, we can see the small and connected entities of the new emerging world moving in the opposite direction, toward light, flexible, context-related distributed systems. They are the drivers of the emerging idea of a small, local, open, and connected world, the SLOC scenario presented in the previous chapter. Here we can add that this scenario in particular is created by rebuilding places and connected communities, with the *regeneration* of the natural and sociocultural environment that contains them. So the building of these new places and these new communities is a fundamental part of every strategy that aims to create a sustainable society, one that is necessarily resilient.

A new territorial ecology

So far, in dealing with sustainability and resilience I have been referring to sociotechnical systems. To go further into the significance of the micro scale, I have introduced the idea of place, meaning an inhabited, natural and social system. Now, in order to move on to the macro level (macro systems that include a multiplicity of places), I will refer to the concept of the *territory*.

"A territory is the historical outcome of the processes in the long-term joint evolution of the human settlement and the environment, and nature and culture. It is thus the product of the transformation of the environment through successive cycles of civilization."[8] This definition of "territory" (given by the Italian Territorialist School, and rather different from

that in common use in English-speaking countries) implies looking at the sociotechnical system in which we live, and which we contribute to produce, also in terms of its natural and cultural history. It means acknowledging that although its character and its identity are human constructs, they actually existed long before each of us and will continue to exist after our lifetime.

This way of looking at things is particularly important when dealing with the question of sustainability, where it is necessary to maintain a long-term, overall view of one's own actions; when we know that we must consider all the characteristics of ecosystems, even those that are of no apparent use to us human beings; and when we want to consider periods of time that are outside our normal time scales. In short, this way of looking at things is indispensable when we realize that our planet is not something to be used but an ecosystem to be respected and safeguarded. Thus, when we refer to territory, we must consider not only the complex, ecosystemic nature of the sociotechnical systems in question,[9] but also its history, identity, and lifespan.

In the Territorialist School definition, a territory is an ecosystem "made up of places."[10] Thus it appears that there is a double link between places and territory. The quality of a territory depends on the places that go to make it up, on what they are like, how they are transformed, and ultimately on the way they combine to give it shape and substance. In turn, the quality of these places exists only in the wider framework of what their particular territory permits.

Furthermore, if—in keeping with my previous definition—a place is a space with its own identity and history, the existence of the territory cannot be separated from that of the communities that, in time, have produced it and which now acknowledge its identity and history. So there is a close relationship between the existence and the quality of a territory and that of the communities which live in it, and by living in it produce places and keep them alive.

Thus if a territory is an ecosystem of places and communities, the building or rebuilding of those places and communities in all their variety and cultural richness also leads to the production of a richer, more varied ecosystem, one that is therefore more resilient. In short it leads to a new territorial ecology.[11]

We can therefore say that when collaborative organizations operate as place makers, they contribute not only to the creation of more livable places but also to improvements in the territorial ecology of the city and regions in which they operate.

This definition of territory, as an ecosystem of places and communities that live in it, also gives us a clear meaning for "sustainable development" when referring to a territorial system: if a territory is an ecosystem, and if, as we know, the richer an ecosystem is in terms of diversity the greater is its ability to stand up to stress, it follows that the first and fundamental step toward its sustainable development will be its enrichment in terms of places, activities, resident communities, and all the social, economic, and cultural variety that this can lead to.

Planning by projects

The SLOC scenario, as I previously outlined, offers a vision that, if socially shared, permits aligning a variety of actions toward a new territorial ecology: a vision that unites the micro of places to the macro of wider socio-technical ecosystems. We shall call this way of operating *planning by projects*.

Planning by projects is therefore a bottom-up design intervention on a territorial scale, working from places and communities and using the force of social innovation as one of its main drivers. It starts with the people, the networks they create, the motivations that spur them to be active and to collaborate, and the energy they dedicate to doing it. This kind of planning is also the ground on which design experts can make a specific contribution, by promoting and sustaining organizations that act as place makers. To do so, they can collaborate with other interested social actors to design conditions that foster specific projects with place-making communities, and to feed the social conversation with visions and ideas on what the local, urban or regional, future could be like.

To make the discussion more concrete I shall give a few examples: cases of territorial intervention in which expert design has played a particularly important role. One of the better known is Dott07—Design of the Time 2007, a program promoted by the British Design Council in Northumbria. John Thackara, who was the program director, presents it in this way: "Dott07, a year of community projects, events and exhibitions based in North east England, explored what life in a sustainable region could be like—and how design can help us get there. … The focus of the initiative was on grassroots community."[12] Dott07, like the similar program Dott Cornwall in 2010,[13] was one of the first to use design expertise in the way we are dealing with here: to promote a multiplicity of local projects in one region, with the explicit aim of giving the whole region a new dynamism.

Since then, several other initiatives have used expert design in a similar way in other parts of the world. These range from improving conditions

of life in slums, in favelas, and generally in informal, underserved settlements,[14] to seeking to create safer cities,[15] creating new distributed infrastructure,[16] promoting sustainable development at a regional level,[17] and so on. These are programs that started with different questions and concerns and intervened at different scales, but which have a common denominator: they promote local activities as a contribution to a new territorial ecology, by considering the territory as an "ecosystem made up of places" and increasing the number, the diversity, the social and economic strength, and the connectedness of those places.

Two examples

To explore what design can do to enhance a new territorial ecology, I shall consider two examples in particular: one in Italy and one in China.

Feeding Milan: Energy for Change is an action research project aiming to connect Milanese citizens with an agricultural park bordering the town.[18] To use our terms, it can also be presented as a project aiming to promote a new territorial ecology by fostering multifunctional farms, shortening the food chains through demediated services, implementing collaborative practices, and encouraging new purchasing habits among citizens and a new kind of local tourism (example 10.2).

"Feeding Milan," writes Anna Meroni, project coordinator for the design part, "can be seen as an attempt by one community to develop a form of territorial ecology by creating a sustainable foodshed. In this sense, it is an experimental platform for a variety of activity models and modus operandi."[19]

The design process started from a recognition of the available (social, cultural, and economic) resources and existing best practices. On this basis, a shared and socially recognized vision was built: the vision of a rural-urban area where agriculture flourishes, feeding the city and, at the same time, offering citizens opportunities for various farming- and nature-related activities. Then, to make this vision more concrete, an open-ended series of projects was started, first to achieve certain local results, second to offer a more tangible idea of what life might be like if the vision were fulfilled, and lastly to provide opportunities for further conversations about what to do and what new initiatives to start that might fit with the project.

Design Harvest, the Xianqiao Sustainable Community Project, is a program developed on Chongming Island, Shangai, the goal of which is to test a bottom-up strategy to promote sustainable development by integrating urban and rural resources and opportunities (example 10.3).

"The Chongming initiative," writes Lou Yongqi, founder of the project, "seeks to use design as a new tool to promote solutions toward a sustainable

Example 10.2

FEEDING MILAN: ENERGY FOR CHANGE, MILAN

Feeding Milan: Energy for Change is an action research project funded by Fondazione Cariplo and developed by a partnership between Slow Food Italia, the DESIS Lab at the Politecnico di Milano, and the Università di Scienze Gastronomiche. Its specific field of application is a huge agricultural park bordering the south of the town, the Agricultural Park South.

Started in 2010, the project investigates how design for social innovation can help create a local "foodshed" that serves to connect local food production in periurban areas with its consumers in town, through a network of services. Its main actions are supporting existing best practices and resources in the agricultural field; activating resources that are as yet unvalued or are no longer used; and reinforcing the multifunctional nature of the farms by promoting complementary activities (e.g., food catering and agritourism proposals).

In practical terms, this is done through an open list of self-standing projects: the Earth Market (a farmers' market for local producers), the Farmer's Food Box (a weekly delivery of local vegetables and fruit), Pick-Your-Own Produce (a do-it-yourself service where consumers pick their own fruit); the Local Bread Chain (a pilot activity based on production of local grain and a renovated antique mill to grind the flour); and Zero-Mile Tourism (an initiative aiming to improve farm hospitality and extend the range of the proposed tourism experience). Finally, a digital platform has also been developed to coordinate different activities and facilitate direct contact between urban citizens and farmers.[20]

future for rural China. Through a collaborative effort involving multidisciplinary teams, knowledge is being generated relevant to improving the outlook for this island and its people in the coming decades."[21]

In this case, too, the design process started from recognition of the locally available resources and from a larger vision of a new rural-urban relationship. On this basis several design initiatives have been launched, ranging from concept generation and scenario building, triggering discussion with local people, to working prototypes and full-scale experiments in food production and distribution, the enhancement of local craftsmanship, tourism services, and infrastructure and entrepreneurship.

Lessons learned

Apart from their differences, which are very clearly visible, these projects share some important common traits. In both, an *open and open-ended co-design process* was started that is, to all intents and purposes, a form of territorial planning.

Example 10.3

THE XIANQIAO SUSTAINABLE COMMUNITY PROJECT, CHONGMING ISLAND, SHANGHAI

The Xianqiao Sustainable Community Project is a design research initiative developed on Chongming Island, Shanghai. It started in 2007 and has been led by Studio TEKTAO and the College of Design and Innovation at Tongji University, in collaboration with the Chongming Island government, village communities, business partners, and several international universities. It aims to use an "acupunctural design" approach to promote exchange and interaction between rural and urban areas, thus improving living conditions in the countryside.

As Chongming is mainly farmland and is very close to Shanghai, the project aims to promote a set of actions, both in Chongming and in Shanghai, to turn their proximity into a mutual advantage.

Within this larger framework, the project promotes several initiatives focusing on Xianqiao Village as a pilot case. These design initiatives move on different tracks: concept generation and scenario building, some of which has been done in collaboration with international design schools; creating events in the village to promote the project vision; several research activities; tourism pilot spaces and activities; and finally an open innovation hub and its program of events. "All these design projects are prototypes of visions of the future. Just like acupuncture, which stimulates the key acupoints to generate an effect in the whole meridian system. All these projects will form a strong cooperative network. Bringing inspiration and leadership simultaneously in rural and urban fields, so as to impact on the social system of the entire area."[22]

In both cases, a program was set up that has acted as a social catalyst, triggering a wider co-design process to which the initiatives of various actors who were different and independent from the original ones also contributed. For example, in the village of Xianqiao some quite autonomous initiatives have started and are moving in the same direction as the original one proposed by the design team; in the case of Parco Sud, activities coherent with the Feeding Milan project have continued operating even after the initial program officially ended.

Complementary to what I have just said, we must also acknowledge the multiplicity and variety of design initiatives in both projects: local support initiatives for individual activities; pinpoint initiatives tackling specific practical or cultural issues; framework projects, which seek to coordinate and create synergies. Each of these calls for a variety of skills, and design skills in particular: fostering convergence of actors around a shared vision

(*scenario design*); organizing this shared vision into different workable initiatives (*strategic design*); designing the required service encounters (*service design*); and publicizing and setting up effective communication for the entire process (*communication design*).

For both projects, we can also point out that these diverse initiatives, though relatively autonomous, collocate within a course that Anna Meroni and her colleagues in the DESIS Lab in Milan call a social innovation journey: "a non-linear sequence of steps and actions that progressively engage a community and help it to set up and prototype a social innovation." In this sequence, "the role of the designer has to be clear, as well as the exit strategy."[23] In other words, the role of design and the output of its work must be clearly defined in every step of the social innovation journey; and in particular, as far as the design team is concerned, the program must end with the actors directly concerned taking over responsibility for the project and its results.

A further observation is that, in both cases, the promoting design team played the dual role of process facilitator and design activist. Obviously, the way this happened, and the weight of each component, was influenced by the difference in context. Feeding Milan took place in a context where organizations oriented in the same direction as the project were already operating, and therefore its role was mainly that of accelerator and facilitator of processes already under way. On Chongming Island, on the other hand, the initial situation was much less mature, and, at least at the beginning, the initiatives had to be firmly oriented toward design activism.[24]

Finally, it must be added that, in their different ways, both projects created a physical place as the visible, tangible center of activities (or at least of some of them). In the Xianqiao sustainable community project, an *innovation hub* has been created. This hub works as a catalyst of ideas, an incubator of new initiatives, and a tangible demonstration that new economic models and ways of living are viable and could be desirable. A similar choice was made for the Feeding Milan project, where an Ideas Sharing Stall was set up inside the farmers' market (which has been one of the first outputs of the project): a stand where the Feeding Milan design expert team discusses emerging ideas for new services with both citizens and farmers. In this way, the stall, and the whole market, has become a physical platform, integrated by a digital one, that creates a lively hybrid hub for discussions and experimentation.

Generalizing, we can say that projects of this kind are a form of regional planning, based on a number of different actions. A first cluster of them aims at creating a framework. It is a broad, complex *framework project* including

various design initiatives, e.g., mapping the existing state of things (focusing not only on problems but also on favorable circumstances, such as the natural, cultural, economic, and social resources available); observing and connecting interested stakeholders and social innovators (those already active and those who could plausibly be activated, given a more favorable environment); and creating a coalition of interested actors and, with them, generating a shared vision (i.e., a scenario and its main implementation strategies).

The second cluster of actions includes a suite of local projects that aim to achieve specific results while also serving as an anticipation of a possible future. In other words they seek to satisfy immediate, local requests, but at the same time they are prototypes of how things could be and therefore give tangible evidence of the scenario's viability.

Given its particular architecture, planning by projects is a form of planning that enables large-scale, highly flexible programs to be conceived and developed that are intrinsically scalable and adaptable over time, and that are geared to improve the territorial ecology.

Planners and designers

These two examples of planning call for a multiplicity of actors and a variety of skills, among which are those of design. The fact that, in these particular cases, design experts are also their promoters (in the Chinese case) or co-promoters (in the Italian one) is accidental. What is not accidental is that design, applied to initiatives such as these, can make an important contribution.

For expert design, participating in planning processes is still something new (as I have already said in chapter 2, in the past design experts tended to work without reference to place). Given this tradition, it could be useful to clarify their present relationship with the other participants in the planning process and, in particular of course, with the planners. To cut a long story short, despite their differences, in several recent cases planners and designers have converged toward similar projects and similar approaches. Planners, who have traditionally operated on a large scale, have recognized the importance of the small scale and redefined their work starting with places and the communities that inhabit them (box 10.1).

Conversely, design experts, who have traditionally dealt with the small scale and with projects that appeared to be independent of place, are increasingly involved in place-making processes and consequently in the transformation of wider territorial areas. This is happening due to the effect

Box 10.1

Planning, places, communities

Among the lines of regional and urban planning, the one promoted by the Italian Territorialist School is based on an idea and practice of urban and regional planning centering on what is known as *local self-sustainable development*.[25] This is local development based on a balance among three factors: capacity to meet human needs (material and cultural); near self-sufficiency and local self-government; and environmental improvement.

Another line, which starts from different experiences and cultural backgrounds but arrives at similar positions, is one that runs in the United States from Jane Jacobs[26] to community-based planning.[27] Jacobs introduced the idea that a city is like an ecosystem that depends on a mix of uses and planning based on community. From here emerged community-based planning, a way of planning that starts with the inhabitants and their local social networks.

The noteworthy aspect of these two lines, which are emblematic of a vast range of positions, is that they advocate territorial planning in which bottom-up intervention, from the places and the communities that inhabit them, is as important as top-down (in the two positions mentioned, it is actually more important). By making this move, by placing people, communities, and production activities at the center of their attention, these ways of planning operate on a field in which, by its very nature, design for social innovation is also active.

of sociotechnical innovation on design and the deep transformation it has generated (which I outlined in chapter 2).

What contribution can design, and specifically design for social innovation, bring to this new mode of urban and regional designing? As the examples show, it participates in various areas where it has expertise,[28] but its most distinctive contribution is the point of view it adopts: it looks at places, and therefore at cities and territories, through the eyes of the people and communities who live there (a *human-centered approach*), with particular attention to those who are acting, or have the potential to act, as social innovators, connecting their own interests (and those of people close to them) with those of society at large, and of the entire planet. So it focuses on people who are starting (or have the possibility to start) to put into practice a new idea of well-being: a sustainable well-being that, as we have seen in many of the cases of social innovation presented, is linked to the quality of the context, thus of place and territory as a whole.

Cosmopolitan localism

Place building can therefore carry considerable weight in the definition of a new idea of well-being. But this positive prospect is not the only possible result of the rediscovery of places that we are seeing today—not the only countertendency to the dominant tendency toward the economic and cultural desertification of territories. A second one leads to a *regressive localism,* produced by closed communities, preoccupied with defining borders and building walls against "others." Faced with this risk, how can we propose a localism that is able to regenerate territory and avoid falling into the trap of regressive localism (and the social catastrophe it generates)?

In this case too, social innovation and collaborative organizations have much to tell us: their various locality-oriented initiatives are generating an idea of "local" that is a balance between being rooted in a given place and community and being open to global flows of ideas, information, and people. Of course, this balance can be upset, easily tipping over into a hermetic closure to the outside world or, on the contrary, into an openness to any kind of influence, including those that destroy the locally specific features of the social fabric. Nevertheless, when this balance is successfully achieved, the resulting localities and communities are exactly what is needed to promote not only new territorial ecology and a resilient ecosystem, but also a sustainable well-being.

I think that what social innovation is indicating, with its idea of a well-being based on the quality of places and communities, is the seed of a new culture. Or better, of a metaculture which could be the platform for a multiplicity of cultures. Using an expression introduced by Wolfgang Sachs,[29] I call it *cosmopolitan localism*: the culture of a society in which places and communities are not isolated entities but become nodes in a variety of networks. These are connected places and communities in which short networks generate and regenerate the local social and economic fabric, while long ones connect those particular places and their resident communities with the rest of the world. Most importantly, they are places and communities that bring variety into the overall ecosystem, helping us to create a resilient planet where it will be possible for us and for future generations to live, and hopefully to live well.

"After all," Sachs writes, "it is only from places that variety crops up, because it is in places that people weave the present into their particular thread of history."[30]

Design for a New Culture
(This Is Not a Conclusion)

1. We can imagine three noncatastrophic transitions toward sustainability. The first is one in which people steer their actions in the right direction because there are rules that make them do so. In the second they do so out of choice, with no external imposition. In the third they do so without having to choose, simply because it is natural to everybody to do so.

The first transition requires lawmakers and police forces (to create the laws and enforce them). The second requires everybody to be capable of choosing, and to make the right choice (here everyone acts as designers). The third calls for each of us in following our own idea of well-being to act also in the interests of everybody else (which requires a culture that makes it normal to act this way).

The reality is, and will continue to be, a mixture of all three. If the first comes to prevail, we shall be moving toward a sad and repressive sustainability. The second, which is what this book is mainly about, suggests a struggle, a transition in which all of us every day, whether we like it or not, will find ourselves up against difficult choices: difficult for us, for society, and for the planet. Expert design can contribute to reducing the struggle by supporting the process of constant co-designing that it entails.

The third way is the one that could be lighter, with people following their own idea of well-being and making the right choices for themselves, for society, and for the planet. But does this way exist? Is it realistic to think that it might be possible?

2. The idea that people's individual interests could be "naturally" reconciled with those of society and of the planet may seem utopian. In effect it is, at least in part. However, many societies in the past, among their conventions, beliefs, and taboos, did in fact hold behavioral norms that led individuals to choose to behave coherently in the short- and long-term interests of whole groups. Could something similar be proposed today? Of

course, it is not a question of going back to beliefs and taboos like those of the past: today, behavioral changes are the result of free choices. Therefore, a new kind of convention is needed: *intentional conventions*, which people and communities can (choose to) adopt as background for their everyday life choices, that are also *dialogic conventions* emerging from a broad social learning process.

The learning process that leads to intentional and dialogic conventions certainly cannot be designed as such. However, it can be fed and facilitated. This is what expert design can (and must) do by developing and spreading an appropriate design culture, one that is capable of building scenarios, producing quality, making new ideas of well-being visible and tangible, with which to feed a new diffuse culture. If acquired, such a culture could help everybody to find the convergence between perceived well-being and sustainability, in an easier, lighter way.

3. Therefore, expert design operates on two levels: on the one hand, day by day and issue by issue, it sustains social actors in the constant co-designing process in which we find ourselves. On the other, it works as a cultural operator, collaborating in the creation of the shared images and stories that underlie a new idea of well-being.

This book mainly seeks to make a contribution on the first of the two levels. As far as the second is concerned, we are still right at the beginning. For me and for all, there is still much to do …

Notes

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4. Robin Murray, "Dangers and Opportunity: Crisis and the New Social Economy," NESTA-Provocations, September 2009, http://www.nesta.org.uk/publications/reports/.

5. Geoff Mulgan, *Social Innovation: What It Is, Why It Matters, How It Can Be Accelerated* (London: Basingstoke Press, 2006), 8.

6. Robin Murray, Julie Caulier-Grice, and Geoff Mulgan, "The Open Book of Social Innovation," Young Foundation/NESTA, March 2010, 3. The theme of social innovation has been dealt with from many different viewpoints. A broad and valid overview can be found in Frank Moulaert, Diana MacCallum, Abid Mehmood, and Abdelillah Hamdouch, eds., *The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research* (Cheltenham, UK: Edward Elgar, 2013).

7. Many authors have discussed the idea of modernity. Here, as in other parts of this book, a particular reference is made to Anthony Giddens, *The Consequences of Modernity* (Stanford: Stanford University Press, 1990), and to the idea that a "modern society" is a society in which subjects are led to define their own life projects from the alternatives among which they have (or believe they have) the possibility of choosing.

8. "The financial and economic crisis makes creativity and innovation in general, and social innovation in particular, even more important to foster sustainable growth, secure jobs and boost competitiveness." This statement was made by European Commission President José Barroso in 2009; in March 2011 a Social Innovation Europe initiative was formally set up with the support of the European Commission. The initiative has been run by a consortium of European partners, led by the Social Innovation eXchange (SIX) at the Young Foundation: https://webgate.ec.europa.eu/socialinnovationeurope/home).

9. Murray, Caulier-Grice, and Mulgan, "The Open Book of Social Innovation," 3.

10. Ibid., 4.

11. Predictably, we have observed that needs are stronger than wishes in developing countries (my personal observations on this point started with CCSL—Creative Communities for Sustainable Living: an international research program supported by United Nations Environmental Program and coordinated by INDACO-Politecnico di Milano and SDS-Brussels, 2008; see http://esa.un.org/marrakechprocess/pdf/CCSL_brochure.pdf), and that their impact increases in western societies when these are hit by economic crises, as Manuel Castells and his colleagues of the Internet Interdisciplinary Institute (IN3), Open University of Catalonia, found out through in-depth quantitative research in Catalonia: Joana Conill, Manuel Castells, Amalia Cardenas, and Lisa J. Servon, "Beyond the Crisis: The Emergence of Alternative Economic Practices," in *Aftermath: The Cultures of the Economic Crisis*, ed. Manuel Castells, João Caraça, and Gustavo Cardoso (Oxford: Oxford University Press, 2014), 210–248.

12. http://www.meglio.milano.it/pratiche_studenti.htm.

13. Murray, "Dangers and Opportunity," 22.

14. Ibid., 4.

15. http://www.youngfoundation.org/social-innovation/news/.

16. The clearest example of this approach is the Big Society proposed by David Cameron as the flagship policy idea of the 2010 UK Conservative party general election manifesto. The Big Society should have been "an impressive attempt to reframe the role of government and unleash entrepreneurial spirit" (*Times*, 18 April 2010). In reality, it became a program of massive cuts in social welfare expenses (Anna Coote, head of Social Policy at the independent think tank New Economics Foundation, interviewed in Channel 4, Dispatches, broadcast 14 March 2011).

17. We can introduce here the notions of *partner state* and *relational state*. The first has been proposed by the founder of the P2P Foundation, Michel Bauwens: "The Partner State is the concept whereby public authorities play a sustaining role in the 'direct creation of value by civil society'" (http://p2pfoundation.net). The notion of relational state has been discussed by Geoff Mulgan and Mark Stears, in Graeme Cooke and Rick Muir, eds., *The Relational State: How Recognizing the Importance of*

Human Relationships Could Revolutionise the Role of the State (London: IPPR, 2012), http://www.assetbasedconsulting.net/uploads/publications. See also Ezio Manzini and Eduardo Staszowski, eds., *Public and Collaborative: Exploring the Intersection of Design, Social Innovation and Public Policy* (New York: DESIS Press, 2013), http://www.desis-clusters.org, and the DESIS Thematic Cluster "Public and Collaborative," http://www.desis-network.org/publicandcollaborative.

18. Biggs, Ryan, and Wisman, "Distributed Systems."

19. Ezio Manzini, "Small, Local, Open and Connected: Design Research Topics in the Age of Networks and Sustainability," *Journal of Design Strategies* 4, no. 1 (Spring 2010).

20. Many authors have discussed this topic. In these notes specific reference is made to Eric von Hippel, *Democratizing Innovation* (Cambridge, MA: MIT Press, 2004); Michel Bauwens, "Peer to Peer and Human Evolution," Foundation for P2P Alternatives, p2pfoundation.net, 2007; and Charles Leadbeater, *We-Think: The Power of Mass Creativity* (London: Profile, 2008).

21. Martin Pehnt et al., *Micro Cogeneration: Towards Decentralized Energy Systems* (Berlin: Springer, 2006); Biggs, Ryan, and Wisman, "Distributed Systems."

22. Chris Ryan, "Climate Change and Ecodesign (part II): Exploring Distributed Systems," *Journal of Industrial Ecology* 13, no. 3 (2012), 351.

23. See www.transitionnetwork.org/.

24. Carlo Petrini, *Slow Food Nation: Why Our Food Should Be Good, Clean and Fair* (Milan: Rizzoli, 2007); Carlo Petrini, *Terra Madre: Forging a New Network of Sustainable Food Communities* (London: Chelsea Green, 2010).

25. An overview of this topic can be found in the work done by URBACT, a thematic network focused on sustainable food in urban communities. One of the main activities in this network preparation phase was a tour of the 10 European cities in the network: Amersfoort, Athens, Bristol, Brussels, Gothenburg, Lyon, Messina, Ourense, Oslo, Vaslui. The 10 visits led to the compilation of an initial catalog of 98 cases of best sustainable food practices in an urban context: François Jégou, *Toward a Handbook for Sustainable Food in Urban Communites* (Brussels: SDS, 2013), http://www.strategicdesignscenarios.net. See also Ezio Manzini and Anna Meroni, "Design for Territorial Ecology and a New Relationship between City and Countryside: The Experience of the Feeding Milan Project," in S. Walker and J. Giard, eds., *The Handbook of Sustainable Design* (Oxford: Berg, 2013); Giulia Simeone and Daria Cantù, "Feeding Milan, Energies for Change: A Framework Project for Sustainable Regional Development Based on Food De-mediation and Multifunctionality as Design Strategies," Proceedings of the Cumulus conference "Young Creators for Better City and Better Life" (Shanghai, 2010), ed. Yongqi Lou and Xiaocun Zhu, 457–463; DESIS Thematic Cluster "Rural-Urban China," http://www.desis-network.org/ruralurbanchina.

26. FabLabs are small-scale workshops offering personal digital fabrication (http://en.wikipedia.org/wiki/Fab_lab); the makers movement is a subculture representing a technology-based extension of DIY culture (http://en.wikipedia.org/wiki/Maker_subculture). See also Bruce Nussbaum, "4 Reasons Why the Future of Capitalism Is Homegrown, Small Scale, and Independent," *Fast Company* "co.design" blog, http://www.fastcodesign.com/1665567/4-reasonswhy-the-future-of-capitalism-ishome grown-small-scale-and-independent; V. Arquilla, M. Bianchini, and S. Maffei, "Designer = Enterprise: A New Policy for the Next Generation of Italian Designers," Proceedings, DMS2011 Tsinghua—DMI International Design Management Symposium, Hong Kong, 5–7 December 2011; Peter Troxler, "Making the Third Industrial Revolution: The Struggle for Polycentric Structures and a New Peer-Production Commons in the FabLab Community," in Julia Walter-Herrmann and Corinne Büching, eds., *FabLab: Of Machines, Makers and Inventors* (Bielefeld: Transcript, 2013), 181–195.

27. Ryan, "Climate Change and Ecodesign (part II)," 350; DESIS Thematic Custer Distributed and Open Production (DOP), http://desis-network.org/dop.

28. Murray, "Dangers and Opportunity."

29. John Thackara, *In the Bubble: Designing in a Complex World* (Cambridge, MA: MIT Press, 2005); Rob Hopkins, *The Transition Handbook: From Oil Dependency to Local Resilience* (London: Chelsea Green, 2009).

30. *Resilience*, with reference to sociotechnical systems, means the systems' capacity to cope with stress and failures without collapsing and, more importantly, to learn from the experience. Therefore, it should be considered a fundamental characteristic for any potential future society. If in recent times this term has come into wide use it is because, having to deal with various crises and catastrophic events, the vulnerability of our contemporary societies has become evident. Exactly because the use of this term has become so widespread, its meaning must be attentively discussed and understood. See also Ezio Manzini, "Error-Friendliness: How to Design Resilient Sociotechnical Systems," in Jon Goofbun, ed., *Scarcity: Architecture in an Age of Depleting Resources*, Architectural Design Profile 218 (Hoboken, NJ: Wiley, 2012).

31. Ulrich Beck, *Risk Society: Towards a New Modernity* (Cambridge, UK: Polity Press, 1992).

32. Brian Walker and David Salt, *Resilience Thinking: Sustaining Ecosystems and People in a Changing World* (Washington, DC: Island Press, 2006).

33. This positive interpretation of the notion of resilience is explored by the Cultures of Resilience project, started in 2014 at the University of the Arts London. See http://www.culturesofresilience.org.

34. This paragraph's contents have been introduced in several seminars on this subject, called DESIS Philosophy Talks, organized by Virginia Tassinari and the author,

and held in New York (February 2012), Shanghai (October 2012), Milan (May 2013), and Kalmar (June 2013). More at: http://www.desis-philosophytalks.org.

2 Design in a Connected World

1. Conventions constitute implicit knowledge. They are based on a set of technical know-how and social relationships, thanks to which expectations (on the part of users) and production (on the part of artisans) converge "naturally," without the need for producers to offer alternatives, and for users/consumers to be totally explicit about what they want (within a given range of possibility). Michel de Certeau, *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1984).

2. "A convention is a cultural constraint, one that has evolved over time. Conventions are not arbitrary: they evolve, they require a community of practice. They are slow to be adopted, and once adopted, slow to go away. So although the word implies voluntary choice, the reality is that they are real constraints upon our behavior." Donald A. Norman, "Affordance, Conventions, and Design," *Interactions* (1999): 38–43.

3. "What to do? How to act? Who to be? These are focal questions for everyone living in circumstances of late modernity—and ones which, on some level or another, all of us answer, either discursively or through day-to-day social behaviour." Anthony Giddens, "Modernity and Self-Identity: Self and Society in the Late Modern Age,"in *The Consequences of Modernity* (Stanford: Stanford University Press, 1990), 70.Giddens describes our present society as a posttraditional one: a society in which we have to work out our roles for ourselves. Therefore, it is a society in which everything becomes modifiable and experimental; in which organizations (from businesses to the institutions and political parties) are evolving toward new forms whose contours and characteristics are as yet unclear, and the implications of which we still find it difficult to understand.

4. *Connectivity:* the property of being connected or the degree to which something has connections; http://www.thefreedictionary.com.

5. When talking about these issues, both here and in later chapters, I will refer to the work of the Anglo-Indian economist and Nobel prize winner for economics, Amartya Sen. Martha Nussbaum and Amartya Sen, eds., *The Quality of Life* (New York: Oxford University Press, 1993); Amartya Sen, *Development as Freedom* (New York: Knopf, 1999).

6. Roberto Verganti, *Design-Driven Innovation* (Boston: Harvard Business School Press, 2009).

7. Nigel Cross, *Design Thinking: Understanding How Designers Think and Work* (Oxford, UK: Berg, 2011); Nigel Cross, *Designerly Ways of Knowing* (Basel: Birkhäuser,

2007); Tim Brown, "Design Thinking," *Harvard Business Review* (June 2008), 84; Tim Brown and Barry Katz, *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation* (New York: Harper Business, 2009).

8. Richard Buchanan, "Wicked Problems in Design Thinking," *Design Issues* 8, no. 2 (Spring 1992).

9. Herbert Simon, *The Sciences of the Artificial* (Cambridge, MA: MIT Press, 1969).

10. In turn, the idea of problem solving itself can be understood in strict or in strategic terms. In the former case we take it that the problems being referred to are already clearly defined, so that the task of design is mainly technical: to solve given, well-formulated problems. In the latter case, we recognize that problems to be solved are often not even clear, let alone clearly formulated. In such cases the role of design becomes strategic: before anything else it must identify the problems to be dealt with (*problem finding*) and portray them in such a way as to make them easy to understand (*problem shaping*).

11. Victor Margolin, *The Politics of the Artificial: Essays on Design and Design Studies* (Chicago: University of Chicago Press, 2002); Verganti, *Design-Driven Innovation*.

12. Human beings are at the same time both biological entities, living in the physical, biological world, and social entities living in language. The physical, biological world and the world of language are two autonomous realities, but they impact each other. This means that they interact, influencing each other in a nondeterministic way.

13. Lucy Kimbell, "Designing for Service as One Way of Designing Services," *International Journal of Design* 5, no. 2 (2011), 41.

14. Ezio Manzini, "New Design Knowledge," *Design Studies* 30, no. 1 (January 2009).

15. The map, and the design modes it is based on, are strongly influenced by the experience of western or westernized societies. This is because although diffuse design is obviously a human capacity found all over the world, the way it emerges is context-specific; and as far as expert design is concerned, particularly as we know it today, its history has bound it closely to the vicissitudes of the western societies where it was born. This may no longer be true in a few decades, and its ancient origins in Europe at the start of the twentieth century will be a mere tessera in a far wider mosaic. However, at present this is not so. Therefore I leave it to the intelligence of the reader to make the distinctions that will become necessary as we move along, in order to take into account the greater complexities of the relationship between diffuse design and expert design in different cultural contexts.

16. "We use the term 'grassroots innovations' to describe networks of activists and organizations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved." Gill Seyfang and Adrian Smith, "Grassroots Innovations for

Sustainable Development: Toward a New Research and Policy Agenda," *Environmental Politics* 16, no. 4 (2007), 585.

17. A first reference in Europe could be to the situationist movement (founded in 1957 and active until the 1970s). See Guy Debord, *La Société du spectacle* (Paris: Éditions Buchet-Chastel, 1967).

18. Paul H. Ray and Sherry Ruth Anderson, *The Cultural Creatives: How 50 Million People Are Changing the World* (New York: Harmony Books, 2000); Richard Florida, *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life* (New York: Basic Books, 2002). It must be specified, however, that the groups these authors refer to are not the same as those I am talking about in this paragraph.

19. See, for instance, Anna Meroni, *Creative Communities: People Inventing Sustainable Ways of Living* (Milan: Polidesign, 2007); Charles Landry, *The Creative City: A Toolkit for Urban Innovators* (London: Routledge, 2008).

20. In my opinion the problem with this mode, which we might call *spectacularized design*, is not that it collocates designers and products firmly in the sphere of communication (design is indeed *also* communication). The problem is that in spectacularizing we have lost the content of communication: what does this spectacularized design tell us? If we go back in time we can see how different things were in the past. Design at the start of the twentieth century had a grand story to tell: that of modernity as consumption democracy. The Italian radical design of the 1980s also had a powerful message: it spoke of a revolution in formal languages as expression of the great transformations under way in Europe and America in those years. Today's spectacularized design seems to have no more to say. This, in my view, is also the main reason for its crisis: a design culture that traditionally worked on the sense of things to embrace and promote great epochal changes, turning them into statements on the quality of life, now seems to be reduced to the restricted confines of "luxury," if not to the shiny pages of design magazines (with the deplorable result of leading many people to think that design is really only this: a producer of vacuous oddities and/or luxury items for the few who can afford them).

21. Many of these groups may come from a background in design, architecture, or even public art or performance art. See http://www.esterni.org/eng/home/; http://www.publicdesignfestival.org/portal/EN/home/2014.php?&.

22. For instance, IDEO presents itself in this way: "We are a global design consultancy. We create impact through design," and then "we help organizations to innovate, to build business, to develop capabilities" (http://www.ideo.com); and this is the Continuum presentation: "Continuum is a global design and innovation consultancy. We partner with clients to discover powerful ideas and realize them as products, services and brand experiences that improve lives and grow businesses" (http://continuuminnovation.com).

23. For instance, MindLab in Copenhagen presents itself in this way: "MindLab is a cross-ministerial innovation unit which involves citizens and businesses in creating new solutions for society. We are also a physical space—a neutral zone for inspiring creativity, innovation and collaboration" (http://www.mind-lab.dk). The claim of the French 27e Région is: "La 27e Région est le laboratoire de transformation publique des Régions de France" (http://blog.la27eregion.fr).

24. Tricia S. Tang, PhD, Guadalupe X. Ayala, PhD, MPH, Andrea Cherrington, MD, MPH, and Gurpreet Rana, MLIS, "A Review of Volunteer-Based Peer Support Interventions in Diabetes," *Diabetes Spectrum* 24, no. 2 (2011), 85–98.

25. Danielle Klassen, "Three Different Approaches to Water Purification in Africa," http://www.gemininews.org/2011/03/30.

26. Ezio Manzini and Virginia Tassinari, "Sustainable Qualities: Powerful Drivers of Social Change," in Robert Crocker and Steffen Lehmann, eds., *Motivating Change* (London: Earthscan, 2013).

27. Examples of this kind of intervention are: DOTT 07, http://www.doorsofperception.com/wp-content/uploads/2013/12/a-Dott07; Nutrire Milano, http://www.nutriremilano.it; Xianqiao Village, Shanghao, http://www.designharvests.com/.

28. This expert design mode has some roots in the work that communication and strategic design started to do, years ago, to promote tourism and territorial marketing. For instance, Francesco Zurlo, "Design Capabilities for Socially-Capable Local Institutions," in R. Fagnoni, P. Gambaro, and C.Vannicola, eds., *MeDesign_Forme del Mediterraneo* (Florence: Alinea, 2004), 81–87; Francesco Zurlo and Giuliano Simonelli, "ME.Design Research. Exploiting Resources in the Mediterranean Area: What Is the Role of Design?," in Giuliano Simonelli and Luisa Collina, eds., *Designing Designers: Design for a Local Global World* (Milan: Edizioni POLI.design, 2003), 89–101.

29. Michel Maffesoli, *The Time of the Tribes: The Decline of Individualism in Mass Society* (London: Sage Publications, 1996); Sophie Woodward, "The Myth of Street Style," *Fashion Theory* 13, no. 1 (2012), 83–102; Culture Street, http://www.culturestreet.org.uk; Street Is Culture Manifesto, http://www.streetisculture.com/.

30. See note 22: often these groups have a background in design, architecture, or public art or performance art. http://www.esterni.org/eng/home/; http://www.publicdesignfestival.org/portal/EN/home/2014.php?&.

31. V. Arquilla, M. Bianchini, and S. Maffei, "Designer = Enterprise: A New Policy for the Next Generation of Italian Designers," Proceedings, DMS2011 Tsinghua—DMI International Design Management Symposium, Hong Kong, 5–7 December 2011.

32. Bruce Nussbaum, "4 Reasons Why the Future of Capitalism Is Homegrown, Small Scale, and Independent," *Fast Company* "co.design" blog, http://www.fastcodesign.com/1665567/4-reasonswhy-the-future-of-capitalism-ishomegrown-small-scale-and-independent; Peter Troxler, "Making the Third Industrial Revolution: The Struggle for Polycentric Structures and a New Peer-Production Commons in the FabLab Community," in Julia Walter-Herrmann and Corinne Büching, eds., *FabLab: Of Machines, Makers and Inventors* (Bielefeld: Transcript, 2013), 181–195.

33. Eric von Hippel, *Democratizing Innovation* (Cambridge, MA: MIT Press, 2004); Charles Leadbeater, *We-Think: The Power of Mass Creativity* (London: Profile, 2008).

34. Leadbeater, *We-Think*.

35. Pelle Ehn, "Participation in Design Things," Participatory Design Conference Proceedings, 30 September–4 October 2008, Bloomington, Indiana; E. Bjorgvinsson, P. Ehn, and P. A. Hillgren, "Participatory Design and Democratizing Innovation," Participatory Design Conference Proceedings, 29 November–1 December 2009, Sydney, Australia.

36. In other words, I propose to think that, in a connected world, *co-design* is the norm and the exceptions are the particular cases where, for different reasons, interactions between different actors are consciously kept to a minimum.

37. Richard Sennett, *Together: The Rituals, Pleasures, and Politics of Cooperation* (New Haven: Yale University Press, 2012).

38. Kimbell, "Designing for Service as One Way of Designing Services."

39. Anna Meroni, Davide Fassi, and Giulia Simeone, "Design for Social Innovation as Design Activism: An Action Format," paper delivered at "Social Frontiers: Social Innovation Research Conference," NESTA, London, 14 November 2013.

3 Design for Social Innovation

1. http://www.participle.net; http://www.circlecentral.com; Hilary Cottam, "Participatory Systems," *Harvard International Review*, 1 February 2010.

2. David Brindle, "London Elderly Scheme's Closure Fuels Row over Care Gap Crisis," *Guardian*, 24 April 2014.

3. http://www.cohousing.it.

4. Collaborative housing refers to a variety of cooperative and innovative housing forms which are self-organized, inclusive, and nonspeculative. Michael LaFonde, *Experimentcity Europe. A New European Platform for Co-housing: Cooperative, Collaborative, Collective and Sustainable Housing Cultures* (Hattingen: Stiftung trias, 2012); available at http://cohousing-cultures.net/wp-content/uploads/2012/11/experimentcity-europe_net.pdf.

5. Liat Rogel, "HousingLab: A Laboratory for Collaborative Innovation in Urban Housing," doctoral thesis, Politecnico di Milano, 2013. The dissertation tells the story of Housing Lab and is based on the idea that urban renewal toward a sustainable lifestyle may occur through innovation in urban housing and its transformation into collaborative welfare hubs and places.

6. The master's program in social and collaborative housing, conducted at the Politecnico di Milano since 2012, seeks to prepare design experts to program, design, and manage social housing communities based on inclusive and collaborative policies. The program is promoted and organized by the Consortium POLI.design, supported by several Schools of the Politecnico di Milano (Design, Architettura Civile, Architettura e Società, Ingegneria Edile–Architettura) in partnership with Fondazione Housing Sociale, Confcooperative Federabitazione, Legacoop Abitanti, Associazione Nazionale Costruttori Edili, FederLegno Arredo.

7. The Fondazione Housing Sociale (FHS) began experimenting in 2004 with an innovative model based on sustainability and ethical investment. For FHS, "social housing" means the set of dwellings, services, actions, and instruments addressed to those who are unable to meet their housing needs on the open market for economic reasons but who have not reached the point where they are eligible for public housing allowances.

The FHS approach combines urban, architectural, real estate, financial, and social planning and design issues and depends on the cooperation of various public and private agencies. In the design of a social housing project, architectural design is a part of a complex and variegated process which extends to the management of the dwellings, the enhancement of community life, and the services contributing to that enhancement. For more information: http://www.fhs.it, and Maria Luisa Del Gatto, Giordana Ferri, and Angela Silvia Pavesi, "Il gestore sociale quale garante della sostenibilità negli interventi di housing sociale," *Techne* 04 (2012), 110–117; Giordana Ferri, ed., *Introduzione alla gestione sociale*, Strumenti per l'Housing Sociale (Milan: Fondazione Housing Sociale, 2010).

8. http://www.fhs.it.

9. This open-ended process, mixing professional experts, researchers, and students, is also a very promising way for schools to act in the society as agents of change. At the DESIS Lab at the Politecnico di Milano this way of working has been adopted several times, in different fields and facing different problems. Anna Meroni and her colleagues at the DESIS Lab call it "Social Innovation Journey"; see Anna Meroni, Davide Fassi, and Giulia Simeone, "Design for Social Innovation as Design Activism: An Action Format," paper delivered at "Social Frontiers: Social Innovation Research Conference," NESTA, London, 14 November 2013.

10. Franco Basaglia, *L'istituzione negata* (Milan: Baldini Castoldi Dalai, 1968); Franco Basaglia, *L'utopia della realtà* (Mian: Einaudi, 2005).

11. Carlo Petrini, *Slow Food Nation: Why Our Food Should Be Good, Clean and Fair* (Milan: Rizzoli, 2007).

12. Terry Winograd, "A Language/Action Perspective on Design for Cooperative Work," *Human Computer Interaction* 3, no. 1 (1987–1988). See also Giorgio De Michelis and M. Antonietta Grasso, "Situating Conversations within the Language/Action Perspective: The Milan Conversation Model," Proceedings of the 5th Conference on CSCW, 22–26 October, Chapel Hill, North Carolina (New York: ACM, 1994).

13. "Relating to human society, the interaction of the individual and the group, or the welfare of human beings as members of society" (http://www.merriam-webster.com/dictionary/social).

14. Victor Margolin, *The Politics of the Artificial: Essays on Design and Design Studies* (Chicago: University of Chicago Press, 2002).

15. "Dialogue is between perspectives, around a multi-perspective design canvas of products, systems, organizations & societies. In a world of complex, wicked problems, design has many cultural instruments, of dialogue, arts, research, and action." Peter Jones, in "Design Dialogues," http://dialogicdesign.wordpress.com. See also Liz Sanders, "An Evolving Map of Design Practice and Design Research," http://www.dubberly.com/wp-content/uploads/2009/01/ddo_article_evolvingmap.pdf; Liz Sanders, "Design Research in 2006," *Design Research Quarterly* 1, no. 1 (September 2006).

16. Richard Sennett, *Together: The Rituals, Pleasures, and Politics of Cooperation* (New Haven: Yale University Press, 2012).

17. Ezio Manzini, "Making Things Happen: Social Innovation and Design," *Design Issues* 30, no. 1 (Winter 2014).

18. The most obvious problem concerns the way in which design activities for social innovation may be conceived, carried out, and later judged. If the difference between co-design processes and design initiatives is not clear, only the contribution associated with the birth and development of collaborative organizations (in other words, the realization of enabling solutions and their concrete application) tends to be considered. But, as we have seen, there are also other, equally important ways in which design for social innovation acts, and other terrain on which it moves.

A further problem resulting from misinterpretation of the relationship between design initiatives and design processes is that, if no distinction is made between them, the activities of design experts tend to become watered down during the length of time that an open-ended process takes. In this way they tend to lose their effectiveness. Furthermore, they also tend to create no few problems for the management of design teams. Even if only for practical reasons, every design initiative must be closed at a certain point.

19. In reality, when it starts being used, every finished product can become subject to constant redesigning by users (Pelle Ehn, "Participation in Design Things," Participatory Design Conference Proceedings, 30 September–4 October 2008, Bloomington, Indiana). This designing during use becomes more evident when moving from material products to services and then to collaborative organizations, in that the artifact itself becomes more "plastic" and the active role of the user greater.

20. Meroni, Fassi, and Simeone, "Design for Social Innovation as Design Activism."

21. Andrea Botero, "Expanding Design Space(s): Design in Communal Endeavors," PhD dissertation, Aalto University, Helsinki, 2013, 66. By the term "midwife" Botero means the practices of contemporary professional midwifery which, in her interpretation, "can help us rethink the process by which things come into being and develop."

22. Alastair Fuad-Luke, *Design Activism: Beautiful Strangeness for a Sustainable World* (London: Earthscan, 2009); Eduardo Staszowski, "Amplifying Creative Communities, in NYC: A Middle-Up-Down Approach to Social Innovation," SEE Workshop proceedings, Florence, Italy (2010).

23. Anna Meroni, "Design for Services and Place Development," Cumulus conference proceedings, 7–10 September 2010, Shanghai; Giulia Simeone and Marta Corubolo, "Co-design Tools in 'Place' Development Projects," Designing Pleasurable Products and Interfaces conference proceedings, Milan (New York: ACM, 2011).

24. See, for instance, "DESIS Philosophy Talks, http://www.desis-philosophytalks.org.

25. Research on these issues is increasing, and associated doctoral degree courses are in fact growing in number. Similarly research is increasing within large enterprises and other traditional public research institutions.

26. An example of this kind of initiative is the one promoted by OpenIDEO. In fact, OpenIDEO is a social innovation platform for the social good. Its claim is: "OpenIDEO is a place where people design better, together for social good." It has been developed by the design and innovation firm IDEO as a way to include a broader range of people in the design process through inspiration, concepting, and evaluation. Every challenge starts with a big question (posed by OpenIDEO and its challenge sponsors). http://www.openideo.com/content/how-it-works.

27. To educate someone to be a designer involves increasing his or her skills in conceiving and developing design proposals (from general visions to specific solutions) for a better world. Most of these proposals can be seen as didactic exercises that usually end up in the teacher's archives and computer files. This generates an extensive amount of unused design work as well as a waste of students' and teachers' creativity, enthusiasm, and expertise. In the past, this waste was, or was considered to

be, inevitable. Today, in the transition toward sustainability, facing the present demand for visions and solutions and given the ongoing changes in the design processes, this waste must be avoided: design school results and design student capabilities must become more socially effective and contribute to the solutions of the complex problems of contemporary society.

28. http://www.desis-network.org/content/thematic-clusters-page.

29. At the same time, acting as independent design research agents, design schools do precisely what they should do: operate as free cultural entities capable of using that freedom to promote the social good, even when this contradicts mainstream models.

4 Collaborative Organizations

1. Vickie Cammack and Kerry Byrne, "Accelerating a Network Model of Care: Taking a Social Innovation to Scale," *Technology Innovation Management Review*, July 2012; and www.tyze.com.

2. www.tyze.com.

3. http://en.wikipedia.org/wiki/Grassroots.

4. Gill Seyfang and Adrian Smith, "Grassroots Innovations for Sustainable Development: Toward a New Research and Policy Agenda," *Environmental Politics* 16, no. 4 (2007), 585.

5. Ibid., 597.

6. Virtual reality (VR) means replacing the real world with a simulated one (http://en.wikipedia.org/wiki/Virtual_reality). VR proposals boomed during the 1990s, culminating, and probably ending their success, in 2003 with the launch of the virtual world Second Life. In general terms VR is a strong metaphor for what human experience could be like when information and communication technologies have reached higher levels of diffusion and maturity.

7. Augmented reality (AR) is a direct or indirect view of a physical, real-world environment whose elements are augmented by computer-generated sensory input such as sound, video, graphics, or GPS data (http://en.wikipedia.org/wiki/Augmented_reality). AR represents a digital overlay onto the physical world thanks to which people (i.e., the inhabitants of this augmented world) can be digitally supported in a variety of practical activities.

8. http://www.flashmob.com.

9. http://www.ramblers.co.uk/walksfinder/search.php?

10. See for instance the work of the Helen Hamlyn Centre for Design at the Royal College of Atrs in London, http://www.hhc.rca.ac.uk/308-1050/all/1/Circles-of-care.aspx.

11. As noted above (chapter 1, note 7), here a particular reference is made to Anthony Giddens, *The Consequences of Modernity* (Stanford: Stanford University Press, 1990).

12. Anthony Giddens, "Modernity and Self-Identity: Self and Society in the Late Modern Age," in ibid., 70.

13. Ulrich Beck, *Risk Society: Towards a New Modernity* (Cambridge, UK: Polity Press, 1992).

14. Joana Conill, Manuel Castells, Amalia Cardenas, and Lisa J. Servon, "Beyond the Crisis: The Emergence of Alternative Economic Practices," in *Aftermath: The Cultures of the Economic Crisis*, ed. Manuel Castells, João Caraça, and Gustavo Cardoso (Oxford: Oxford University Press, 2014).

15. As we have seen, and as Sennett correctly underlines, in these societies the evolution of the idea and practice of collaboration may also take a different direction, moving toward forms of "new tribalism" (on ethnic or religious bases) rather than toward collaborative organizations.

16. Bright B. Simons, "Africa's Chance to Leapfrog the West," *Harvard Business Review*, 10 February 2012, http://blogs.hbr.org/2012/02/africas-leapfrogging-opportuni/.

17. Anna Meroni, *Creative Communities: People Inventing Sustainable Ways of Living* (Milan: Polidesign, 2007); François Jégou and Ezio Manzini, *Collaborative Services: Social Innovation and Design for Sustainability* (Milan: Polidesign, 2008).

18. Geoff Mulgan, *Social Innovation: What It Is, Why It Matters, How It Can Be Accelerated* (London: Basingstoke Press, 2006).

19. An ecosystem is a system that constitutes the environment for other systems (the different organisms that live there). Its ecology is the variety and number of organisms present and the relationships established between them (which may be competitive or collaborative).

5 Collaborative Encounters

1. Richard Sennett, *Together: The Rituals, Pleasures, and Politics of Cooperation* (New Haven: Yale University Press, 2012), 5. Sennett uses the term "cooperation" where I use "collaboration." In some specialized arenas the two terms may be given different meanings, but for the sake of my discussion I will take them as synonyms, as we normally do in conversation.

2. Anna Meroni and Daniela Sangiorgi, *Design for Services* (London: Grower, 2011).

3. Traditionally, for standard services, a *service encounter* is the period of time during which a customer interacts with a service. This includes a customer's interaction with customer-contact employees, machines, automated systems, physical facilities, and any other visible service-providing elements. It involves all the activities required to perform a service. G. Lynn Shostack, "Planning the Service Encounter," in John A. Czepiel, Michael R. Solomon, and Carol F. Surprenant, eds., *The Service Encounter* (Lexington, MA: Lexington Books, 1985), 243–254.

4. In this conceptual framework, the "standard services" which have traditionally been discussed are those in which these service interactions are highly asymmetrical, and the collaboration takes place between an interlocutor who provides the service (service provider) and others who benefit from it (service users). Against the background of such standard services, we can see the growing presence of a new kind of organization (collaborative organizations) based on more symmetrical service interactions (because the difference in roles diminishes and participants are co-producers of the result), in which the encounters they are based on are more clearly collaborative.

5. The notion of co-production is useful also to orient a more general discussion of the role of the state and of individuals and communities in solving complex social problems. Co-produced services do not reduce the importance of public agencies; what they do is to change the latter's role. Instead of being (mainly) sole providers of services, the (main) role of public agencies shifts to being active partners with citizens as co-producers: agencies capable of supporting and, if needed, triggering and orienting citizens' participation (using at best these citizens' capabilities in terms of knowledge, experiences, and direct involvement).

6. Martha Nussbaum and Amartya Sen, eds., *The Quality of Life* (New York: Oxford University Press, 1993), introduction.

7. Ibid.

8. The complete quote is: "this behavior is instantly recognizable in chimpanzees grooming one other, children building a sand castle, or men and women laying sandbags against an impending flood. Instantly recognizable because mutual support is built into the genes of all social animals; they cooperate to accomplish what they can't do alone." Sennett, *Together*, 5.

9. Sennett deals with cooperation without any nostalgic attitude toward traditional communities (which he calls "that magical past in which things seemed inevitably better"). On the contrary, he emphasizes that if cooperation has always been with human beings, the issue is to understand the different forms in which it has appeared and is appearing now. Ibid., 9.

10. Ibid., 7.

11. Ibid.

12. Having said that, I do not wish to say that the twentieth-century coops are the same as any other kind of enterprise. In fact, many of them still maintain some of their original social values in their general policies.

13. Sennett, *Together*, 5.

14. Mark Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78, no. 6 (1973), 1360–1380.

15. Ibid.

16. Joon Baeck, "A Socio-Technical Framework for Collaborative Services: Designing a Digital Platform for Collaborative Communities," doctoral thesis, Politecnico di Milano, February 2011.

17. The concept of strong and weak ties, and the need to look for the most appropriate combination case by case, has emerged particularly clearly in relation to the diffusion of networks and their penetration in society and (of particular concern to us) in collaborative organizations. Once brought into focus, however, it becomes apparent that this conceptualization is of more general value. For our purposes, it is particularly useful in discussing how organizations change when, by intervening with enabling solutions, the way in which people collaborate is modified.

18. Granovetter, "The Strength of Weak Ties."

19. Martin Buber, *I and Thou* (New York: Simon and Schuster, 1996), 62.

20. Ibid.

21. Carla Cipolla, "Designing for Interpersonal Relational Qualities in Services," doctoral thesis, Politecnico di Milano, 2007; see also Carla Cipolla and Ezio Manzini, "Relational Services," *Knowledge, Technology and Policy* 22 (2009), 45–50.

22. Carla Cipolla, "Relational Services and Conviviality," in Satu Miettinen, ed., *Designing Services with Innovative Methods* (Helsinki: TAIK Publications/University of Art and Design Helsinki, 2009), 242.

23. The adjective "relational" has been introduced to discuss welfare (relational welfare) and the state as a whole (the relational state). In particular, the notion of "relational state" has been discussed by Geoff Mulgan and Mark Stears, in Graeme Cooke and Rick Muir, eds., *The Relational State: How Recognizing the Importance of Human Relationships Could Revolutionise the Role of the State* (London: IPPR, 2012), (http://www.assetbasedconsulting.net/uploads/publications). For Mulgan and Stears, the adjective "relational" refers to all the forms of active participation and co-production. I prefer to maintain Buber's definition, considering "relational" in terms of the polarity relational/experiential, and to discuss participation and co-production using another polarity, one that contrasts high and low operational involvement.

24. Carla Cipolla, "Solutions for Relational Services," in Satu Miettinen and Anu Valtonen, eds., *Service Design with Theory: Discussions on Change, Value and Methods* (Rovaniemi: Lapland University Press, 2012).

25. Ibid.

26. http://foodcoop.com.

27. By "idea for a collaborative organization" we mean an organizational hypothesis that is justified by its underlying purpose and an organizational and economic model that, at least in principle, makes it viable.

28. http://www.urgenci.net.

29. From the point of view of expert design, this designing pertains to the disciplines of service and interaction design, whereas the kind of designing that leads to the design of an organization as a whole requires the skills and expertise of strategic design.

30. This variety of options is also positive for another reason: since it is based on a variety of stategies and solutions to problems, it contributes to the creation of a more complex sociotechnical, multilogical system—one that is thus more resilient.

6 Making Things Visible and Tangible

1. "DensityDesign focuses on the visual representation of complex social, organizational and urban phenomena. … Our research aim is to exploit the potential of information visualization and information design" (http://www.densitydesign.org); Paolo Ciuccarelli, "Visual Investigations for Understanding Society," in *Malofiej 19, International Infographics Awards*, Capitulo Español de al Society for New Design (Pamplona: SND-E, 2012).

2. Bruno Latour, "Visualization and Cognition: Drawing Things Together," http://isites.harvard.edu/fs/docs/icb.topic1270717.files/Visualization%20and%20Cognition; Kerry H. Whiteside, "A Representative Politics of Nature? Pursuing Bruno Latour's 'Collective,'" paper given at Western Political Science Association 2011 Annual Meeting, available at http://ssrn.com/abstract=1800767 or http://dx.doi.org/10.2139/ssrn.1800767.

3. http://www.greenmap.org/greenhouse/en/about.

4. Maeve Frances Lydon, "(Re)Presenting the Living Landscape: Exploring Community Mapping as a Tool for Transformative Learning and Planning," thesis for the master of arts, University of Victoria, 2002, 66, http://www.greenmap.org/greenhouse/participate/universities#desi.

5. http://www.greenmap.org/greenhouse/en/about.

6. Identifying a case as "promising" is the result of a subjective choice, based on the culture and value systems of whoever makes it.

7. In DESIS Showcase, schools are invited to present their social-innovation-related projects, using a common lightweight format. These projects are shown at special events (http://www.desis-network.org/showcase).

8. http://www.amplifyingcreativecommunities.org.

9. L. Penin, L. Forlano, and E. Staszowski, "Designing in the Wild: Amplifying Creative Communities in North Brooklyn," Cumulus Working Papers Helsinki-Espoo 28/12, Publication Series G, Aalto University, School of Arts, Design and Architecture, 2013.

10. L. Penin, "Amplifying Innovative Sustainable Urban Behaviors: Defining a Design-Led Approach to Social Innovation," in R. Crocker and S. Lehmann, eds., *Motivating Change: Sustainable Design and Behavior in the Built Environment* (London: Routledge/Earthscan, 2013).

11. "Through stories we explain how things are, why they are, and our role and purpose. Stories are the building blocks of knowledge, the foundation of memory and learning. Stories connect us with our humanness and link past, present, and future by teaching us to anticipate the possible consequences of our actions." National Storytelling Association, "What Is *Storytelling*?," http://www.eldrbarry.net/roos/st_defn.htm. The topic of storytelling as a tool to promote social innovation was discussed in the DESIS Philosophy Talk held at the Cumulus Conference "More for Less—Design in an Age of Austerity" in Dublin, 8 October 2013. The main questions were: Can designers as story listeners also become storytellers? How can understanding the idea of storytelling support our work as designers?

12. S. White, ed., *Participatory Video: Images that Transform and Empower* (London: Sage, 2003); Marisa Galbiati and Francesca Piredda, *Visioni urbane. Narrazioni per il design della città sostenibile* (Milan: Franco Angeli, 2012).

13. Marisa Galbiati, Elisa Bertolotti, Walter Mattana, and Francesca Piredda, "Envisioning the City: A Design-Oriented Communication Process for a Sustainable Urban Transformation," ESA Research Network Sociology of Culture Midterm Conference "Culture and the Making of Worlds," October 2010, available at http://ssrn.com/abstract=1692118.

14. The GSMA (Groupe Speciale Mobile Association) represents the interests of mobile operators worldwide. In the GSMA, the Mobile for Development group brings together its mobile operator members to drive commercial mobile services for underserved people in emerging markets: http://www.gsma.com/mobilefordevelopment.

15. http://www.gsma.com/mobilefordevelopment/lifestories.

16. The concept of leapfrogging, used as we are using it here, is discussed in chapter 4.

17. http://www.dwrc.surrey.ac.uk/storybank.shtml.

18. D. Frohlich, D. Rachovides, K. Riga, R. Bhat, M. Frank, E. Edirisinghe, D. Wickramanayaka, M. Jones, and W. Harwood, "StoryBank: Mobile Digital Storytelling in a Development Context," Proceedings of CHI '09 Conference (New York: ACM Press, 2009), 1761–1770.

19. This observation was made in the context of "Africa-Brasil Dialogs: A Collaborative Platform for Mutual Learning on Social Innovation." The main aim of this project was to share knowledge between countries by linking communities and exchanging videos and radio broadcasts. The project was led by the Rio de Janeiro Federal University in partnership with several other institutions in Brazil and Africa: http://www.ltds.ufrj.br/africabrasildialogs.

20. Interview of Mugendi M'Rithaa by Elisa Bertolotti and Andrea Mendoza, 26 July and 8 August 2013.

21. Frohlich et al., "StoryBank."

22. Ibid.

23. François Jégou, "Story-Scripts City-Eco-Lab," exhibition presentation, International Design Biennale, Saint-Étienne, 2008, www.StrategicDesignScenarios.net.

24. Andrea Mendoza, Elisa Bertolotti, and Francesca Piredda, "Is Everybody a Videomaker? Audiovisual Communication in the Pursuit of Austerity," proceedings of the Cumulus Conference "More for Less—Design in an Age of Austerity," Dublin, 2013; Virginia Tassinari, Elisa Bertolotti, Francesca Piredda, and Walter Mattana, "Social Innovation and Storytelling: DESIS Philosophy Talk #1," http://www.desis-network.org.

25. Tassinari, Bertolotti, Piredda, and Mattana, "Social Innovation and Storytelling."

26. Ezio Manzini, François Jégou, and Anna Meroni, "Design-Orienting Scenarios: Generating New Shared Visions of Sustainable Product-Service Systems," in Marcel Crul, Jan Carel Diehl, and Chris Ryan, eds., *Design for Sustainability (D4S): A Step-By-Step Approach* (United Nations Environment Program, 2012), www.d4s-sbs.org/MB; Ezio Manzini and François Jégou, "The Construction of Design Orienting Scenarios," Final Report, SusHouse Project, Faculty of Technology, Policy and Management, Delft University of Technology, Delft, Netherlands, 2000.

27. François Jégou, with the agency Strategic Design Scenario, is one of the major supporters of using design-orienting scenarios in the field of design for social innovation (www.StrategicDesignScenarios.net).

28. Jégou, "Story-Scripts City-Eco-Lab."

7 Making Things Possible and Probable

1. S. L. Star and K. Ruhleder, "Steps toward an Ecology of Infrastructure: Design and Access for Large Information Spaces," *Information System Research* 7 (1996), 111–134; S. L. Star and G. C. Bowker, "How to Infrastructure," in L. A. Lievrouw and S. L. Livingstone, eds., *The Handbook of New Media* (London: Sage, 2006), 151–162.

2. Pelle Ehn, "Participation in Design Things," Participatory Design Conference Proceedings, 30 September–4 October 2008, Bloomington, Indiana.

3. Erling Björgvinsson, Pelle Ehn, and Per-Anders Hillgren,"Participatory Design and 'Democratizing Innovation,'" Proceedings of the Participatory Design Conference, 29 November–3 December 2010, Sydney, Australia, http://medea.mah.se/wp-content/uploads/2011/02/bjorgvinsson-et-al-participatory-design-innovation-2010.pdf.

4. Medea: a collaborative media initiative within a research project investigating collaborative organizations, Malmö University, Malmö, Sweden, http://medea.mah.se/living-lab-the-neighbourhood.

5. Per-Anders Hillgren, Anna Seravalli, and Anders Emilson, "Prototyping and Infrastructuring in Design of Social Innovation," *Co-Design* 7, nos. 3–4 (September-December 2011), 169–183. Available at http://medea.mah.se/wp-content/uploads/2011/12/emilson-et-al-prototyping-infrastructuring-design-social-innovation-2011.pdf.

6. Ibid.

7. Björgvinsson, Ehn, and Hillgren,"Participatory Design and 'Democratizing Innovation.'"

8. http://medea.mah.se/living-lab-the-neighbourhood.

9. http://www.cittadinicreativi.it; Daniela Selloni, "The Experience of Creative Citizens," *Touchpoint—The Journal of Service Design* 5, no. 2; Designing Citizen-Centred Public Services, http://www.service-design-network.org/read/touchpoint-shop/touchpoint-vol-5-no-2/.

10. www.cittadinicreativi.it.

11. Selloni, "The Experience of Creative Citizens."

12. DIY has been proposed by NESTA, with Rockefeller Foundation support (http://diytoolkit.org/about). NESTA introduces itself in this way: "Nesta is an innovation charity with a mission to help people and organisations bring great ideas to life" (http://www.nesta.org.uk/about-us).

13. IDEO, one of the world's major design agencies, acts as a "global design consultancy," introducing itself as follows: "IDEO is an award-winning global design firm

that takes a human-centered, design-based approach to helping organizations in the public and private sectors innovate and grow" (http://www.ideo.com).

14. http://www.ideo.com/work/human-centered-design-toolkit/.

15. https://www.ideo.org/stories/human-centered-design-toolkit.

16. http://www.hcdconnect.org.

17. http://www.hcdconnect.org.

18. "Governance is the process whereby societies and institutions make their important decisions, determine who they involve in making those decisions and how they render account." Institute on Governance Policy Brief no. 15, http://iog.ca/publications/iog-policy-brief-no-15-principles-for-good-governance-in-the-21st-century.

19. In this case I can only refer to the situation I know best, which is Europe. I leave it to readers from different cultural backgrounds to see whether, and how far, the lessons this part seeks to teach may be valid in other contexts.

20. http://www.eu-newgov.org/public/Glossary_n_p.asp.

21. 27e Région is a public laboratory in France that describes itself as "le laboratoire de transformation publique des Régions de France" (http://blog.la27eregion.fr).

22. Stéphane Vincent, *Design des politiques publiques* (Paris: La Documentation Française, 2010), 7.

23. Participle presents itself in this way: "Addressing the big social issues of our time. Participle works with and for the public. Together we create new types of public services that make a real difference in everyday lives" (http://www.participle.net).

24. http://www.participle.net/about/our_mission.

25. MindLab is a Danish public laboratory that describes itself as "a cross-governmental innovation unit which involves citizens and businesses in developing new solutions for the public sector" (http://www.mind-lab.dk/en).

26. Christian Bason, "Discovering Co-production by Design," in Ezio Manzini and Eduardo Staszowski, eds., *Public and Collaborative: Exploring the Intersection of Design, Social Innovation and Public Policy* (New York: DESIS Network Press, 2013), xii. Talking about networked governance, Bason uses an expression introduced in Jean Hartley, "Innovation in Governance and Public Services: Past and Present," *Public Money and Management* (2005), 27–34.

27. "Globally, there is an increasing recognition that technocratic approaches have limitations, especially when it comes to solving complex problems that span numerous administrative boundaries and fragmented institutions. Where policy problems exceed a certain level of complexity and significance, and where existing institu-

tions are too weak to manage these problems, empirical evidence suggests that polycentric arrangements, such as networked governance initiatives, emerge to produce solutions that are more beneficial. By integrating distributed capacities for collective problem solving, governance networks allow diverse actors to work collaboratively towards mutually beneficial outcomes. However, only with an adequate level of social capital can a governance network create shared value and engage in processes of reflexive governance." http://www.iisd.org/networks/gov.

28. Andrea Botero, Andrew Gryf Paterson, and Joanna Saad-Sulonen, eds., *Toward Peer Production in Public Services: Cases from Finland* (Helsinki: Aalto University, 2012); available at http://books.aalto.fi, p. 6.

29. IISD, International Institute for Sustainable Development: http://www.iisd.org/networks/gov; Harvard Kennedy School of Management: http://www.hks.harvard.edu/netgov/html/index.htm.

30. "The Partner State is the concept whereby public authorities play a sustaining role in the 'direct creation of value by civil society.'" P2P Foundation, http://p2pfoundation.net.

31. Geoff Mulgan and Mark Stears, in Graeme Cooke and Rick Muir, eds., *The Relational State: How Recognizing the Importance of Human Relationships Could Revolutionise the Role of the State* (London: IPPR, 2012); http://www.assetbasedconsulting.net/uploads/publications.

32. "The welfare state is based on an outdated, transactional model, and needs to be replaced with something that is shared, collective and relational." Hilary Cottam, "Relational Welfare," http://www.participle.net/images/uploads/soundings48_cottam2.pdf.

33. Michel Bauwens, http://p2pfoundation.net.

34. There are various groups and various institutions that are particularly active in this area. Among these are MindLab in Denmark, 27e Région, in France, NESTA and the Young Foundation in the UK, and SITRA in Finland. However, the theme is present in almost all centers that deal with design and social innovation worldwide. The Thematic Cluster Public and Collaborative, coordinated by Parsons DESIS Lab in New York, is a platform that aims to create a common language and shared ideas to make it possible to compare and discuss different experiences in this activity field.

35. Bason, "Discovering Co-production by Design," xii.

36. The first Public and Collaborative program outputs are presented in Ezio Manzini and Eduardo Staszowski, eds., *Public and Collaborative: Exploring the Intersection of Design, Social Innovation and Public Policy* (New York: DESIS 2013); available at www.desis-clusters.org. The design schools that participated in this first phase are Parsons The New School for Design, New York (coordinator); Politecnico di Milano, Faculty of Design, Milan (coordinator); Aalto University, Helsinki; Art Center, Pasadena;

Carnegie Mellon University, Pittsburgh; Central Saint Martin, London; ENSCI, Paris; La Cambre, Brussels; Mad Faculty, Campus Genk, Genk; Malmö University, Malmö.

37. This map has been created by Daniela Selloni (Polimi DESIS Lab) and Eduardo Staszowski (Parsons DESIS Lab), with the expert advice of Christian Bason (Director, MindLab) and Andrea Schneider (Public By Design) to illustrate and monitor the emergence of Government Innovation Labs across the world. A Government Innovation Lab is a specific type of Public Innovation Place characterized by a direct connection with the public sector and created to tackle complex challenges that more traditional governmental structures seek to resolve. Government Innovation Labs experiment with and propose innovative public services and policies, while at the same time trying to reform the way government operates: http://nyc.pubcollab.org/public-innovation-places.

38. http://nyc.pubcollab.org/public-innovation-places/.

8 Making Things Effective and Meaningful

1. *Bricolage* is the construction or creation of a work from a diverse range of things that happen to be available, or a work created by such a process. The term is borrowed from a French word referring to amateur repair and DIY maintenance work. Someone who practices bricolage is called a *bricoleur*. The term has been used in many other fields, including intellectual pursuits, education, computer software, and business. http://en.wikipedia.org/wiki/Bricolage.

2. For instance, Zipcars have RFID transponders located on the windshield that communicate with the card to lock and unlock the doors of the vehicle. Each vehicle records hours of use and mileage, which is uploaded to a central computer.

3. An emblematic case is the Hiriko project: a small electric vehicle with the special feature of being *foldable,* making it possible to reduce parking spaces in cities and make the car sharing fleets more manageable (http://www.hiriko.com). The Hiriko is a folding two-seat urban electric car being developed by the Hiriko Driving Mobility consortium in the Basque Country. It is the commercial implementation of the CityCar project being developed by the Massachusetts Institute of Technology Media Lab since 2003.

4. wikipedia.org/wiki/Peer-to-peer_car_sharing.

5. http://www.zipcar.com.

6. https://www.car2go.com.

7. http://www.buzzcar.com.

8. wikipedia.org/wiki/Bicycle_sharing_system.

9. http://cyclingboom.com/bikes-for-share.

10. Cees Halen, Carlo Vezzoli, and Robert Wimmer, *Methodology for Product Service System Innovation* (Assen: Van Gorcum, 2005); Anna Meroni and Daniela Sangiorgi, *Design for Services* (London: Grower, 2011).

11. This expression is used here to refer to information and communication technologies and social media when used to support collaborative organizations.

12. F. F. Mueller, S. Agamanolis, F. Vetere, and M. R. Gibbs, "A Framework for Exertion Interactions over a Distance," Proceedings of the 2009 SIGGRAPH Symposium on Video Games, 143–150.

13. Eun Ji Cho, "Designing for Sociability: A Relational Aesthetic Approach to Service Encounter," in Proceedings of the 6th International Conference on Designing Pleasurable Products and Interfaces (DPPI '13), 3–5 September 2013, Newcastle upon Tyne, 24.

14. J. Preece, *Online Communities: Designing Usability, Supporting Sociability* (Chichester, UK: Wiley, 2000).

15. "The enemy we have to fight first and foremost is embodied in a social form: it is the spread of the supplier/client relations to every level of human life." Nicolas Bourriaud, *Relational Aesthetics* (Dijon: Les Presses du réel, 2002), 83.

16. Ivan Illich, *Tools for Conviviality* (New York: Harper and Row, 1973).

17. Liat Rogel, "HousingLab: A Laboratory for Collaborative Innovation in Urban Housing," doctoral thesis, Politecnico di Milano, 2013. This thesis asked how urban renewal toward a sustainable lifestyle may occur through innovation in urban dwellings and their transformation into collaborative welfare hubs and places. The research was developed in the ambit of the Collaborative Housing Program presented in example 3.2.

18. See Eun Ji Cho and Liat Rogel, "Urban Social Sustainability through the Web: Using ICTs to Build a Community for Prospective Neighbors," in ICT4S 2013: Proceedings of the First International Conference on Information and Communication Technologies for Sustainability, ETH Zurich, 14–16 February 2013, ed. Lorenz M. Hilty, Bernard Aebischer, Göran Andersson, and Wolfgang Lohmann.

19. Ibid.

20. Fang Zhong, "Collaborative Service Based on Trust Building: Service Design for the Innovative Food Network in China," PhD thesis, Politecnico di Milano, 2012.

9 Making Things Replicable and Connected

1. E. F. Schumacher, *Small Is Beautiful: Economics as if People Mattered* (London: Blond and Briggs, 1973).

2. A. Johansson, P. Kish, and M. Mirata, "Distributed Economies: A New Engine for Innovation," *Journal of Cleaner Production* 13 (2005), 971–979.

3. C. Biggs, C. Ryan, and J. Wisman, "Distributed Systems: A Design Model for Sustainable and Resilient Infrastructure," VEIL Distributed Systems Briefing Paper N3, University of Melbourne, 2010.

4. Ezio Manzini, "Small, Local, Open and Connected: Design Research Topics in the Age of Networks and Sustainability," *Journal of Design Strategies* 4, no. 1 (Spring 2010); Ezio Manzini, "SLOC, the Emerging Scenario of Small, Local, Open and Connected," in Stephan Harding, ed., *Grow Small, Think Beautiful* (Edinburgh: Floris Books, 2011).

5. François Jégou and Ezio Manzini, *Collaborative Services: Social Innovation and Design for Sustainability* (Milan: Polidesign, 2008).

6. In other words, the concept of the replica is very different from that of reproduction. A replica is always an interpretation. Reproduction, on the other hand, is a faithful copy of the original (of which, obviously, industrial mass reproduction is the most emblematic example).

7. Frances Westley writes: "We distinguish 'scaling up' from 'scaling out' strategies. 'Scaling out' refers to the efforts to disseminate social innovation, so that its benefits can be felt by more communities and individuals. 'Scaling up,' however, refers to efforts to connect the social innovation to opportunities (resources, policies, values) occurring in the broader economic, political, legal or cultural context." Frances Westley, "When Scaling Out Is Not Enough: Strategies for System Change," paper delivered at "Social Frontiers: Social Innovation Research Conference," NESTA, London, 14 November 2013.

8. In economics a network effect is the effect that one user of a good or service has on the value of that product or service to other people. When a network effect is present, the value of a product or service is dependent on the number of others using it. Carl Shapiro and Hal R. Varian, *Information Rules* (Boston: Harvard Business School Press, 1999); http://en.wikipedia.org/wiki/Network_effect.

9. A self-fulfilling prophecy is a prediction that directly or indirectly causes itself to become true, by the very terms of the prophecy itself, due to positive feedback between belief and behavior. http://en.wikipedia.org/wiki/Self-fulfilling_prophecy.

10. European Neighbors Day (http://www.european-neighbours-day.com); Clean Up the World (http://cleanuptheworld.org).

11. Childhood Obesity Tool Kit, BlueCross BlueShield of Tennessee (http://www.bcbst.com/providers/Childhood_obesity_tool_kit.pdf); Behavior change communication (BCC) for community-based volunteers, volunteer toolkit (http://www.ifrc.org/PageFiles/53437/119200-vol4-BCC-trainers_LR.pdf?epslanguage=en).

12. Community Power Network, Do-It-Yourself Solar (http://communitypowernetwork.com; Jan Teun Visscher, Erma Uytewaal, Joep Verhagen, Carmen da Silva Wells, and Marieke Adank, background paper for the symposium "Sustainable Water Supply and Sanitation: Strengthening Capacity for Local Governance," 26–28 September 2006, Delft, The Netherlands.

13. *Franchising,* in its traditional commercial meaning, is an agreement in which a firm with a successful brand and business model (the franchisor) allows other operators (the franchisees) to use its trademark and distribute the supplier's goods. In return, these operators pay the supplier a fee.

14. Franchisees must adhere to a range of requirements, including: providing socially beneficial services, meeting quality and pricing standards, undergoing mandatory education on provision of services, subjecting outlets to quality assurance mechanisms, reporting service and sales statistics, and occasionally paying fixed or profit-sharing fees. http://en.wikipedia.org/wiki/Social_franchising.

15. http://www.european-neighbours-day.com.

16. Christian Bason, "Discovering Co-production by Design," in Ezio Manzini and Eduardo Staszowski, eds., *Public and Collaborative: Exploring the Intersection of Design, Social Innovation and Public Policy* (New York: DESIS Press, 2013), xii.

17. Ezio Manzini and Francesca Rizzo, "Small Projects/Large Changes: Participatory Design as an Open Participated Process," *CoDesign* 7, no. 3–4 (2011), 199–215.

10 Making Things Local and Open

1. Davide Fassi and Giulia Simeone, "Spatial and Service Design Meet Up at Coltivando Convivial Garden at the Politecnico di Milano," proceedings of the Design Research Society conference "Design Learning for Tomorrow," Oslo, 14–17 May 2013, 1182–1198.

2. Clearly, not all the examples of collaborative reorganizations we have considered in this book are place makers; but several of them are actively contributing to this process.

3. In natural sciences an *ecosystem* is defined as a community of living organisms (plants, animals, and microbes) in conjunction with the nonliving components of their environment (things like air, water, and mineral soil) interacting as a system. http://en.wikipedia.org/wiki/Ecosystem.

4. J. Fiksel, "Designing Resilient, Sustainable Systems," *Environmental Science and Technology* 37 (2003), 5330–5339; Ezio Manzini, "Error-Friendliness: How to Design Resilient Sociotechnical Systems," in Jon Goofbun, ed., *Scarcity: Architecture in an Age of Depleting Resources*, Architectural Design Profile 218 (Hoboken, NJ: Wiley, 2012).

5. Fiksel, "Designing Resilient, Sustainable Systems"; Gideon Kossoff, "Holism and the Reconstitution of Everyday Life," in Stephan Harding, ed., *Grow Small, Think Beautiful: Ideas for a Sustainable World from Schumacher College* (Edinburgh: Floris, 2011); Manzini, "Error-Friendliness."

6. *Complex adaptive systems* are special cases of systems. They are defined as collections of relatively similar and partially connected microstructures formed in order to adapt to the changing environment and increase its survivability as a macrostructure. http://en.wikipedia.org/wiki/Complex_adaptive_system.

7. A. Johansson, P. Kish, and M. Mirata, "Distributed Economies: A New Engine for Innovation," *Journal of Cleaner Production* 13 (2005), 971–979.

8. Alberto Magnaghi, *The Urban Village: A Charter for Democracy and Local Self-Sustainable Development* (London: Zed Books, 2005), 8. This is also the definition given by the Italian Territorialist School, of which Magnaghi is a founder.

9. The term "ecosystem" here is used in its wider sense of *complex adaptive systems*; see note 6.

10. The original definition says that these places are spaces "endowed with identity and history." Magnaghi, *The Urban Village*, 8.

11. By this expression I mean a territorial ecosystem that is richer in places and resident communities, and more diversified in terms of economic activities and cultural initiatives.

12. John Thackara, *Wouldn't It Be Great if …* (London: Design Council, 2007).

13. http://webarchive.nationalarchives.gov.uk/20100407022214/designcouncil.org.uk/design-council/1/what-we-do/our-activities/dott-cornwall.

14. See the DESIS Thematic Cluster "Formal, Informal, Collaborative," http://www.desis-ifc.org. See also Maíra Prestes Joly, Carla Cipolla, Patricia Melo, and Ezio Manzini, "Collaborative Services in Informal Settlements: A Social Innovation Case in a Pacified *Favela* in Rio de Janeiro," paper delivered at "Social Frontiers: Social Innovation Research Conference," NESTA, London, 14 November 2013; Carla Cipolla and Ezio Manzini, "Formal, Collaborative: Identifying New Models of Services within Favelas of Rio de Janeiro" (unpublished paper).

15. See, for instance, the DESIS Thematic Cluster "Safer Places and Spaces." See also A. Thorpe and L. Gamman, "Walking with Park: Exploring the 'Reframing' and Integration of CPTED Principles in Neighborhood Regeneration in Seoul, South Korea," *Crime Prevention and Community Safety Journal* 15, no. 3 (2013), 207–223; A. Thorpe, L. Gamman, E. Liparova, and M. Malpass, "Hey Babe, Take a Walk on the Dark Side! Why Role-Playing and Visualization of User and Abuser 'Scripts' Offer Useful Tools to Effectively 'Think Thief' and Build Empathy to Design against Crime," *Journal of Design and Culture* 4, no. 2 (2012), 171–194.

16. See, for instance, C. Biggs, C. Ryan, and J. Wisman, "Distributed Systems: A Design Model for Sustainable and Resilient Infrastructure," VEIL Distributed Systems Briefing Paper N3, University of Melbourne, 2010.

17. See, for instance, the DESIS Thematic Cluster "Rural-Urban China," http://www.desis-network.org/ruralurbanchina. See also Francesco Zurlo and Giuliano Simonelli, "ME.Design Research—Exploiting Resources in the Mediterranean Area: What Is the Role of Design?," in Giuliano Simonelli and Luisa Collina, eds., *Designing Designers: Design for a Local Global World* (Milan: Edizioni Polidesign, 2003), 89–101; Francesco Zurlo, "L'identità del territorio è una scelta di progetto," in V. Cristallo, E. Guida, A. Morone, and M. Parente, *Design e sistema prodotto alimentare. Un'esperienza territoriale di ricerca azione* (Naples: Clean Edizioni, 2003), 59–63.

18. www.nutriremilano.it; Giulia Simeone and Daria Cantù, "Feeding Milan, Energies for Change: A Framework Project for Sustainable Regional Development Based on Food De-mediation and Multifunctionality as Design Strategies," Proceedings of the Cumulus conference "Young Creators for Better City and Better Life" (Shanghai, 2010), ed. Yongqi Lou and Xiaocun Zhu, 457–463; Ezio Manzini and Anna Meroni, "Design for Territorial Ecology and a New Relationship between City and Countryside: The Experience of the Feeding Milano Project," in S. Walker and J. Giard, eds., *The Handbook for Design for Sustainability* (London: Bloomsbury, 2013).

19. Manzini and Meroni, "Design for Territorial Ecology."

20. Simeone and Cantù, "Feeding Milan"; Anna Meroni, Davide Fassi, and Giulia Simeone, "Design for Social Innovation as Design Activism: An Action Format," paper delivered at "Social Frontiers: Social Innovation Research Conference," NESTA, London, 14 November 2013.

21. Lou Yongqi, Francesca Valsecchi, Clarisa Diaz, *Design Harvest: An Acupunctural Design Approach toward Sustainability* (Gothenburg, Sweden: Mistra Urban Futures Publication, 2013), 54.

22. Ibid., 202. What some writers have called "acupunctural planning" is a kind of planning that generates changes in large and complex systems by operating on some of their "sensitive nodes" with well-defined initiatives. See Lou, Valsecchi, and Diaz, *Design Harvest*; François Jégou, "Design, Social Innovation and Regional Acupuncture toward Sustainability," proceedings of the Nordic Design Research Conference, 30 May–1 June 2011, Helsinki; Chris Ryan, "Eco-Acupuncture: Designing and Facilitating Pathways for Urban Transformation, for a Resilient Low-Carbon Future," *Journal of Cleaner Production* 50 (2013) 189–199.

23. Meroni, Fassi, and Simeone, "Design for Social Innovation as Design Activism."

24. However, it should be remembered that things have changed since the project started. A growing interest in rural-related topics has been noticeable on the part of design companies and communities, and, especially in the last two years, rural issues

have become more and more popular in China. Urbanization and the consequent rural development are now generally acknowledged as one of the key issues impacting on society, economies, and culture. The introduction to the DESIS Thematic Cluster "Rural-Urban China" states that "as one of the key issues in today's China, design on rural development opens a large field for the design discipline itself, and challenges design contribution at a systemic level (involving communication, strategic, productive and interaction skills and practice). The rural system offers to our discipline the space for designing services, products, networks, culture, heritage, etc." (http://www.desis-network.org/ruralurbanchina). Currently, almost all of the founding members of DESIS China (Tongji University, Tsinghua University, Jiangnan University, Hong Kong Polythecnic, Hunan University, and Guangzhou Academy of Fine Arts have ongoing projects and research related to rural-urban issues.

25. Magnaghi, *The Urban Village*.

26. Jane Jacobs, *The Death and Life of the Great American City* (New York: Vintage, 1992; first ed. 1961).

27. Anusha Venkataraman, ed., *Intractable Democracy: Fifty Years of Community-Based Planning* (New York: Pratt, 2010). The work that has been conducted in New York from the sixties onward, by the Pratt Center for Community Development and its co-founder Ron Shiffman, has been particularly important in the development of this line of thinking.

28. The main areas of design expertise applied are strategic design, service design, communication design, environmental design, and interaction design.

29. Wolfgang Sachs, ed., *The Development Dictionary: A Guide to Knowledge as Power* (London: Zed Books, 1992). See also Wolfgang Sachs, *Planet Dialectics: Exploration in Environment and Development* (London: Zed Books, 1999).

30. Sachs, *The Development Dictionary*.

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