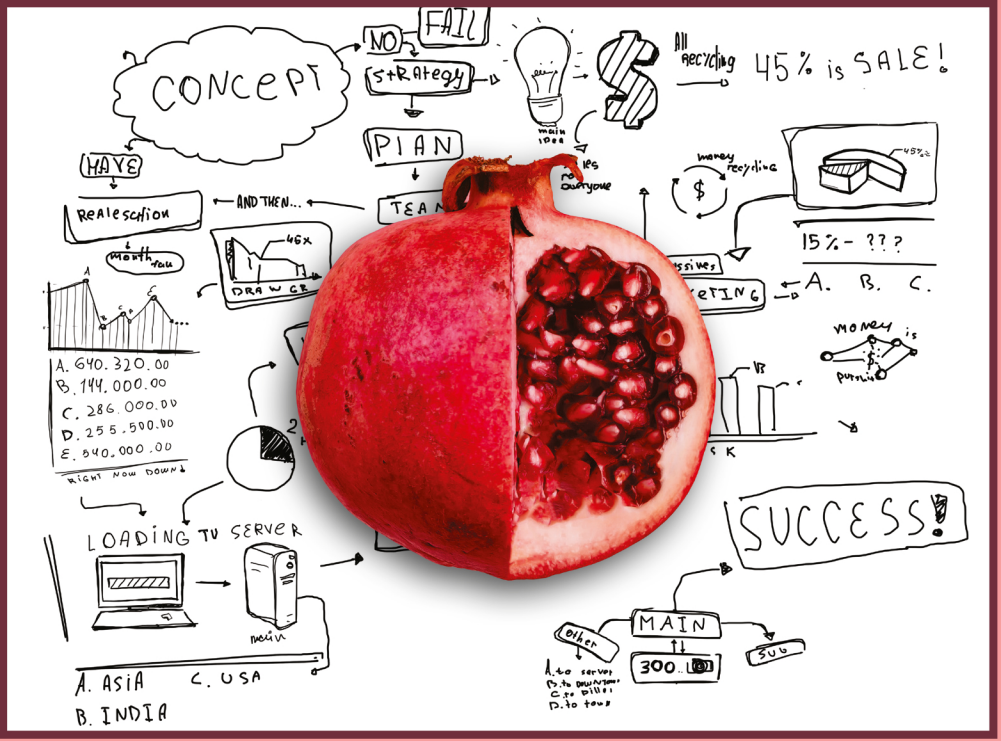
WOODHEAD PUBLISHING SERIES IN CONSUMER SCIENCE AND STRATEGIC MARKETING
SERIES EDITORS: ALESSIO CAVICCHI AND CRISTINA SANTINI



TRANSDISCIPLINARY CASE STUDIES ON DESIGN FOR FOOD AND SUSTAINABILITY

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SONIA MASSARI

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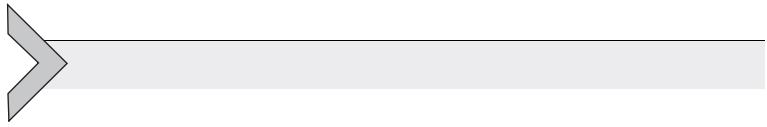

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Woodhead Publishing is an imprint of Elsevier
The Officers' Mess Business Centre, Royston Road, Duxford, CB22 4QH, United Kingdom
50 Hampshire Street, 5th Floor, Cambridge, MA 02139, United States
The Boulevard, Langford Lane, Kidlington, OX5 1GB, United Kingdom

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Library of Congress Cataloging-in-Publication Data
A catalog record for this book is available from the Library of Congress

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-0-12-817821-8 (print)
ISBN: 978-0-12-817822-5 (online)

Publisher: Charlotte Cockle
Acquisitions Editor: Megan R. Ball
Editorial Project Manager: Devlin Person
Production Project Manager: Anitha Sivaraj
Cover Designer: Christian J. Bilbow

Typeset by SPi Global, India

Contents

PROLOGUE 3

Design is challenging the fields of knowledge

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The collapse of disciplinary knowledge starts from the awareness that we always move within complex systems, which in turn force us to give up reducing knowledge to unified theories. Electronic data processing has exposed us to an exponential increase in the amount of information we interface with, in which we can navigate with different magnifying glasses each time. Likewise, the infinite possibilities developed by electronic data processing show us intelligent systems that are more complex than the sum of the individual elements of which they are composed, in turn capable of learning and evolving in exceptional ways. Systems are not only different in quantity but also in quality because they involve cultural, social, technological, infrastructural, scientific, economic, and environmental systems, all of which are strongly intertwined and thus interdependent.

Heinz von Foerster, considered the founder of "second cybernetics," in his epistemological wandering expressed his antidiscipline while touching biology, philosophy of language, and systems theory together, starting from physics: "I have no idea which is my specialty. My specialty, perhaps, is just not having a discipline" (Von Foerster & Porksen, 2001). Not surprisingly, one of his best known books was provocatively titled *Truth is the Invention of a Liar* (2001). von Foerster's work stands out from the first cybernetic wave of Wiener and McCulloch (McCulloch, 1965; Wiener, 1948) because it radically changes the object of observation, from observed systems to observing systems, that is, to living systems capable of looking at themselves, of observing their own observations, crossing concepts and paradigms of biology, mathematics, and physics, such as the concept of self-poiesis of Maturana and Varela (1985) to distinguish the living from the nonliving, or that of self-organization, typical of complex systems that cannot be reduced to their basic elements. His research work colonizes other territories, borrows from other disciplines, uses epistemological "theft" to deconstruct and open up to new scenarios of knowledge, using and transforming the same methods. Trans-Discipline does not just connect disciplines, but also transforms them

into something different from the starting state, undermining their certainties and building innovation.

Complexity is therefore not considered a denial of cognitive action, but rather as a greater opportunity for action, indeed as a multiplication of opportunities for action, while moving the object of observation and walking on the borders.

If on the one hand we see the collapse of historical categories, operational scales, as well as the disciplinary knowledge that appears increasingly mobile and fast, design develops a hybrid way of investigating reality and looking outside of itself.

While studying the birth of the discipline, Michel Foucault observed how the encyclopedic knowledge inherited from the Enlightenment resulted in the development of specialized practices through the classification and objectification of categories, in order to allow the dissection of knowledge: "the disciplines characterize, classify, specialize, place along a scale, divide in a normative way, hierarchize and, in the last analysis, disqualify and invalidate" (Foucault, 1975). As a result, the disciplines we inherit from modern society take on the task of stabilizing complex forms in clear and neat geometries, normalizing multiplicities, classifying diversities, containing change. The disciplinary space in this regard risks becoming a space for cataloging and measuring the differences of a knowledge that is instead mobile and fast.

With the awareness that human action takes place within complex systems and that indeed women and men are complex systems themselves, the apparatuses of knowledge and disciplinary structures find themselves facing new problems that force them to leave consolidated awareness and monolithic theories. The result is a methodological "antidiscipline" that crosses disciplinary concepts and paradigms, to translate a constantly changing reality and in which differences can take on a value for the evolution of knowledge itself.

As a consequence, design appears "undisciplined" because it looks outside itself and develops a hybrid way of investigating reality. This is due to its nature of being incessantly "in-between," in the middle, between, and on the borders of knowledge and techniques that design takes away from other disciplines, to bring them into the applications of everyday life, translating them into real and virtual artifacts, scenarios, and communication. If innovation has to face the unknown, often by hybridizing different factors and often developing connections that seem unlikely, design challenges

disciplines by opening up structures and blurring recognized boundaries of knowledge, often overcoming conventions.

Design develops a structurally open territory of knowledge, which is at the same time flexible and has no fixed rules, nor a too rigid definition of its various declinations. While practicing the contamination of skills, design shows a great creative capacity to perceive unusual and different connections and ideas. As in the methodology of scientific programs, the way in which design operates is eminently interdisciplinary, outside of rigorous sectoral logic, playing with the creative "lateral thinking" from which innovation is born (De Bono, 1992). Design walks on the boundaries and at the same time incorporates them: the character of flexibility that follows is not a form of weakness, nor a defect of identity, rather a form of strength that allows it to face the challenges launched by the new condition of contemporary life, developing every time new tools.

The multiplication of contemporary products, which include complex material and social features, implies a challenge to the "scalar" knowledge developed in history through the different operational scales; to each one a field, from the smallest to the largest. The project takes the strategic role of managing complexity, focusing on the innovation of processes and instrumental equipment, to knowledge, which, as is the case of design thinking, are adopted in remote fields and sectors.

The collapse of the operational scales of design does not repropose the ancient binomial of synthesis from the spoon to the city, rather a new awareness of the great complexity brought by contemporary artifacts helps us to recognize the profound transformation of the nature of the project and of the related professional figures to respond to new questions for change. The decline of the "scalar" professions developed around the design disciplines that we inherited was the result of the process of "dissecting" the reality into operational scales; from everyday products to furnishings of spaces, to the interiors where to live in, to visual communication, to architecture, to the organization of cities. Each scale represents an incremental cognitive model with its own "vertical" instrumental apparatus.

With the end of "grand narratives," we rediscover a world that suddenly appears more complex to us and in which we are learning to redefine the real meaning of "knowledge." Consequently, we experience the collapse of historical categories and operational scales as well as disciplinary fields. When we speak about food design, we are developing a wide transdisciplinary field that includes any scale of operation for the design project, from the micro of the action of eating, through the tools and the spaces, to the macro of the big

industry of production, distribution, and dismission, from the communication, marketing and the packaging, to the industrial processes and even before to agriculture and farming. Design is key in interpreting the needs of producers and end-users, passing through every intermediate stakeholder, in the perception of the social and the ecological environment that will have to welcome at the same time the final product and its final waste.

In conclusion, I would like to follow an analysis by Giovanni Anceschi that explains how contemporary products ask us complex questions, no longer reducible to the dimensional scales of the past: how can we consider the design of a Nike shoe? Is it an industrial product or a project of communication or fashion? Also, can we consider a website to be large or small scale? Is it the result of interface design or service design? Or again, should packaging design be considered as a product or as communication? Is interaction design connected to the products, or to communication, or can it even be extended to architecture and urban studies? And what about info-design or user experience?

The design project assumes the strategic role of handling complexity, focusing on the refinement of processes and instrumental gears: design thinking, systems thinking, creativity and prototyping, group work, co-design, problem-solving become the toolbox that holds together disciplines and systems of knowledge that have been separated in time in a hybrid way.

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Notes for the reader

I decided to include three Prologues because I wanted distinctive voices from different fields to introduce the theme of design in the food and sustainability sectors. I wanted the concept of transdisciplinarity "to be tangible" from the beginning of this book. Therefore, I thank food designers Sonja Stummerer and Martin Hablesreiter (aka HoneyandBunny), activist Marc Buckley, and Professor Lorenzo Imbesi for accepting my request.

This book demonstrates that food design is not only about the shape of pasta or about the packaging of a product, but it is also a process, a method of research, and a tool for innovation. The design approach in the field of food is transdisciplinary and therefore this book highlights different types of creativities through several successful case studies.

The first chapter, written by me, introduces the themes of the book through a collection of different case studies. In this chapter, I explain what it means to teach and use the competence of transdisciplinarity and what role this could play in the current age of change.

The last chapter presents my conclusions. It is important to show academics and practitioners how food design is now present in various food-related fields of study, as well as how other fields appear to be potentially interested in its use in the future. This book doesn't use case studies to categorize, but instead uses them to include and explain the different forms and applications of design to food and sustainability. This book was ideated with the goal of explaining successful food design projects and methods and to promote reflection on how food design could be a means to build innovative and sustainable food systems. Design appears to be an interesting research method to apply to food system education, capable of creating innovative interactions between disciplines and new critical and creative mindsets for food studies. Design applied to food system education will be a powerful research methodology because it will enhance creativity and critical transdisciplinary approaches and help to develop individual and collective innovation.

I close the final chapter with the words of a climatologist, Frank Raes, a scientist (typically anchored to hard sciences) who confirms once again that if we want to change, it is necessary to all go in the same direction, and that

creativity is needed to collaborate and build a fair and more sustainable world for us and the planet.

I understand that this is not an exhaustive book on food, design, and transdisciplinarity, but through these case studies, I hope to inspire other professors, students, and practitioners to see food systems from a different point of view.

Enjoy the reading.

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Demonstrates the presence of design in various agri-food-related fields of study to provide a deeper understanding of successful design projects and methods

Transdisciplinary Case Studies on Design for Food and Sustainability, a volume in the Consumer Science and Strategic Marketing series, analyzes the interconnectivity of food, sustainability, and creativity, demonstrating the presence of design approaches in various food-related fields.

Organized into five parts, the book immediately highlights the fact that although food sustainability is a complex world, we can understand, plan, and innovate it through the described design methods. The following four sections include several case studies focusing on the different forms and applications of design methods, including creating innovation brokerage in the food supply chain, developing new restaurant and food businesses, using food education to achieve the United Nations' Sustainable Development Goals in emerging careers in sustainability, and engaging humans as global citizens with healthier and more sustainable food cultures.

Using a case study approach to meet the needs of both academics and practitioners, ***Transdisciplinary Case Studies on Design for Food and Sustainability*** includes practical examples to illustrate food system challenges, to explain phenomena, and to build theories.

Key Features

- Considers impacts, use assessments, and scalability assets when presenting projects and case studies
- Addresses practical problems in design in agri-food sectors
- Offers the reader an understanding of the components of successful food design and equips them to consider food design as a pathway toward innovative and sustainable food systems

About the Editor

Dr. Sonia Massari has 20 years of experience as researcher, lecturer, consultant, and designer in the fields of sustainability education, food design, and innovative agri-food systems. She holds a Ph.D. in Food Experience Design from the Engineering Department at the University of Florence, Italy. For 12 years, she was the Academic Director of the University of Illinois Urbana-Champaign Food Studies programs in Rome, and she designed and coordinated more than 50 academic programs and 150 educational activities on food and sustainability for prestigious international institutes. She teaches at several Universities around Italy, and is a senior researcher at the Barilla Foundation. She received the International Women Innovation Award "Tecno-visionaria" (2012), the NAFSA TLS Knowledge Community's Innovative Research in International Education Award (2014), and the Food Studies ASFS Pedagogy Award (2020). She is a board member of the Association for the Study of Food and Society and serves on the editorial board of the International Journal of Food Design.

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ISBN 978-0-12-817821-8
9 780128 178218