Preface

The principles and the methods of analytical sociology have been under elaboration and critical debate over the last twenty-five years. After a period of sustained programmatic discussion, substantive works inspired by the analytical sociology's research strategies have started to appear in the major journals of the discipline. A prize recognizing the best article in analytical sociology was created in 2012 and, since 2013, it has been presented each year at the annual meeting of the *International Network of Analytical Sociology*.

The present *Research Handbook on Analytical Sociology* intends to contribute to the further development of analytical sociology's content and frontiers. It builds on the shoulders of giants. In particular, it is thought as a follow-up on the foundational *Oxford Handbook of Analytical Sociology*, edited by Peter Bearman and Peter Hedström in 2009. It has the ambition to provide an updated pedagogical resource for readers that are new, or only partially acquainted, to analytical sociology. This new *Research Handbook* is animated by three objectives.

First, it wants to establish a more explicit dialogue between analytical sociology and potentially close, as well as more distant, research fields and theoretical perspectives. This is the common goal of the eight chapters contained in the *Research Handbook*'s Part 1, titled "Theoretical conversations". Second, it wants to provide an updated overview of the main theoretical resources that, for now, can be considered the basic building blocks for designing models of social mechanisms. This is the common goal of the nine chapters contained in the *Research Handbook*'s Part 2, titled "Pivotal concepts and mechanisms". Third, it wants to foster a new form of methodological pluralism under constraint for analytical sociologists; the constraint being the awareness that different methods have different potentialities with respect to the formalization and the empirical test of the different parts of a model of a mechanism. This is the common goal of the eight chapters contained in the *Research Handbook*'s Part 3, titled "Pivotal methods".

The present *Research Handbook* is primarily intended to speak to readers that are new to analytical sociology. Among them, advanced under-graduate and doctoral students, as well as young scholars in sociology, economics, demography, social psychology or computer science, are a special target. They may have heard about analytical sociology without exactly knowing the history, the theoretical literature and debates, the main concepts, and the methods of analytical sociology. With this *Research Handbook*, my hope is that these newcomers can access a new synthesis of the relevant theoretical, conceptual and methodological resources to understand what analytical sociology is and how it can be practiced in an effective way. The goal is to make the reader capable of navigating the diversity of options that are present in the field of analytical sociology, thus making her/him fully aware of what a research design inspired from the analytical perspective could look like. For this reason, contributors were asked to conceive their chapters as critical overviews of existing problems, points of view, evidence and technical options on a given theoretical perspective, concept, mechanism or method. Fundamentally, this new *Research Handbook* is intended to be practically useful to do research *with* analytical sociology rather than

providing another programmatic "polished" and "policed" *manifesto* for believers in analytical sociology.

With this aim in mind, the *Research Handbook* is introduced by a general chapter where the book's editor overviews the progressive evolution of analytical sociology on a programmatic level over the last twenty-five years and then systematically describes what analytical sociology looks like in substantive works that are supposed to be first-class illustrations of analytical sociology's research *agenda*. This analysis confirms that, to a large extent, analytical sociology exists in practice, not only in principle. However, the substantive works investigated also reveal that several aspects of the way analytical sociology is put to work can be improved. In particular, "practiced" analytical sociology seems hesitant to exchange with analytical sociology's theoretical *manifestos*; mechanism comparison and accumulation is still under-developed, and the specific contribution of each method for mechanism model-building and testing is often left unspecified.

These three problems motivate the content of the three main parts in which the *Research Handbook* is organized. In particular, the chapters included in the first part of the book, "Theoretical conversations", aim at the further clarification of analytical sociology's principles and paradigmatic antecedents and borders. This should help to make it clearer when one should refer to analytical sociology in her/his substantive works as well as to facilitate the dialogue between analytical sociology and other perspectives that one may want to mobilize when addressing a particular substantive problem.

This operation of paradigmatic clarification is pursued in various, but complementary, ways. First, Chapter 1 by Petri Ylikoski invites the reader to go back to a fundamental conceptual tool of analytical sociology, i.e. the Coleman boat, and shows that the flexibility of this tool for theory construction goes well beyond the usual interpretations of the Coleman's diagram. Second, Chapter 2 by Daniel Little and Chapter 3 by Werner Raub reconsider some aspects of the historical roots of analytical sociology; in particular, analytical Marxism and analytic philosophy on the one hand, and the research program of "structural individualism" on the other hand. Third, Chapter 4 by Michael Mäs and Chapter 5 by Carlo Barone investigate similarities and differences between analytical sociology and potentially close research fields like complexity science and social stratification research respectively. Finally, a more explicit comparison between analytical sociology and theoretical perspectives that are in principle distant from analytical sociology is proposed by Francesco Di Iorio and Francisco J. León-Medina in Chapter 6 on critical realism, by Filippo Barbera in Chapter 7 on cultural sociology, and by Matthew Norton in Chapter 8 on pragmatist-inspired sociology.

The chapters included in the second part of the book "Pivotal concepts and mechanisms" have the common goal of providing an updated overview of the theoretical resources that can be considered the basic building blocks for designing models of social mechanisms thus, hopefully, helping analytical sociology to increase knowledge accumulation and to favor mechanism comparison.

In particular, the first four chapters of this second part present conceptual building blocks at various levels of abstraction. From the most microscopic to the most macroscopic: Chapter 9 by Clemens Kroneberg and Andreas Tutic covers various understandings of action theory within analytical sociology; Chapter 10 by Michael Mäs treats dyadic interactions; Chapter 11 by Emily Erikson and Eric Feltham presents the concept of structure, and more particularly its

understanding in terms of network structures; Chapter 12 by Pierre Demeulenaere contains an analytical treatment of norms; and Chapter 13 by Filippo Barbera and Nicola Negri discusses various types of larger contexts, among which are organizational settings. Generic elements shared by all these basic building blocks, like contingency and randomness, are then discussed by Ivan Ermakoff in Chapter 14. The last three chapters of this second part systematize the knowledge accumulated so far on generic mechanisms that have been especially studied by analytical sociologists. This is the case of cumulative advantage mechanisms covered by Freda B. Lynn and Hannah W. Espy in Chapter 15; network amplification studied by Filiz Garip and Mario D. Molina in Chapter 16; and complex contagions fueled by particular features of social networks reviewed by Damon Centola in Chapter 17.

Finally, the chapters included in the third part of the book, "Pivotal methods", move on to data and methods and have the common goal of increasing analytical sociologists' awareness of how various types of data and methods can specifically contribute to formalize and document empirically various aspects of a model of a social mechanism thus, hopefully, helping analytical sociology to increase even more the transparency of the proposed explanations.

In particular, the first two chapters of this third part give priority to information that have been less frequently exploited by analytical sociologists so far. This is the case of historical and qualitative, as well as numeric, archival data discussed by Katharina Burgdorf and Henning Hillmann in Chapter 18; this is also the case of digital data covered by Viktoria Spaiser in Chapter 19. In spite of their focus on data and methods, these two chapters, in fact, also contribute to conversations between analytical sociology and other research fields, namely network-oriented historical sociology (in the former case) and computational social sciences (in the latter case). The following five chapters cover methods, placing a strong emphasis on causal inference such as mediation analysis, treated by Kinga Makovi and Christopher Winship in Chapter 20, and experiments covered by Giuseppe A. Veltri in Chapter 21, as well as methods that focus on dynamic processes and generativity like game theory, presented by Wojtek Przepiorka in Chapter 22 (in connection with social dilemmas), network models discussed by Christoph Stadtfeld and Viviana Amati in Chapter 23, and agent-based computational models and simulations problematized by Andreas Flache and Carlos A. de Matos Fernandes in Chapter 24. To emphasize without ambiguity the complementarity of these resources to represent and document a given social mechanism, Scott E. Page discusses in Chapter 25 the relevance for analytical sociology of his claim on the many-model approach.

Through a personal and provocative outlook on the past and the current state of analytical sociology, Peter Hedström's *Coda* closes the *Research Handbook* by inviting the reader to reflect on what action theory, models of social interactions and disciplinary alliances can do to optimally foster the further development of analytical sociology.

The homogeneity of edited volumes should never be claimed without precaution. In the present case, perfect consistency was not even an objective. Analytical sociology is still under construction. Variations on a common theme should be considered a richness of the approach. The present *Research Handbook* did not want to polish asperities. Despite this, it is surprising to see a *posteriori* how strongly an impression of family resemblance arises when the theoretical, conceptual and methodological contributions are considered together. I do hope that readers will have the same feeling, and benefit from this collective effort.

Contributors should all be praised for playing seriously a game, whose rewards are highly uncertain. I am deeply grateful to them for their commitment to this project. I am especially in debt to Viviana Amati, Filippo Barbera, Andreas Flache, Peter Hedström and Werner Raub for reading various parts of the manuscript and providing helpful written remarks. I would also like to thank Hans-Peter Blossfeld for giving me the responsibility for editing a new *Research Handbook* on analytical sociology, and Daniel Mather at Edward Elgar Publishing for his continuous editorial support and assistance. The usual disclaimers apply.