

Can We Make Sense of 'Analytical Sociology' (and, If So, How?)

Werner Raub

Department of Sociology/ICS
Utrecht University

Workshop

'Analytical Sociology: Theory and Empirical Applications'
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My argument in a nutshell

Two different notions of 'Analytical Sociology' (AS):

1. AS à la Peter Hedström

- According to this notion, AS is one specific research program of sociology in line with common standards of science and is a *competitor* for other such programs

2. AS as an *'umbrella term'* for different strands of sociology in line with common standards of science

The point I'll make: the first notion ('AS à la Hedström') is by now rather common, at least outside the German speaking context, while the second notion ('AS as an umbrella term') is more appropriate

==> Yes, we can make sense of AS (but we then deviate from Hedström's notion and the meanwhile common notion)

Outline

1. Sociology as a science: key features
2. Analytical sociology à la Peter Hedström
3. An alternative (and preferable) notion of 'analytical sociology'
4. Conclusion



1. Rigorous sociology*

Werner Raub, Nan Dirk de Graaf, and Klarita Gërçhani†

INTRODUCTION

Sociology today manifests itself in textbooks, journals, departments, conferences, and professional associations in two different ways. First, like other social science disciplines, sociology covers a broad and diverse range of research problems, research topics, and research fields. This indicates that sociology is thriving. Second, sociology is fragmented. It comprises a multitude of 'approaches' that do not share a common core of basic methodological standards for theoretical and empirical work. This is a worrisome feature and is less common in several other social science disciplines. Without a common core across approaches, theoretical and empirical work is hard to evaluate and to compare, and cumulative growth of knowledge is impeded. Yet, this fragmentation is sometimes euphemistically welcomed within the discipline, using labels such as 'multi-paradigmatic' (see Goldthorpe 2007, Chapter 1 and Hedström 2005, Chapter 1 for critical discussion of multi-paradigmatic fragmentation).

Multi-paradigmatic fragmentation must be distinguished from pluralism. Growth of knowledge and scientific progress benefit from pluralism in the sense of alternative and competing theories – 'theoretical pluralism' (Popper 1972, Chapters 6 and 8; Lakatos 1970). Growth of knowledge and scientific progress also benefit from 'empirical pluralism', that is, from alternative and complementary research designs and methods of data collection, from complementary data, and from alternative and complementary methods of data analysis (or 'empirical pluralism' in this sense, see Baskens &

1. Sociology as a science: key features

Sociology as a science: key features (I)

- Sociology as a problem- and theory-guided discipline; aim: cumulative growth of knowledge
- Theory construction : \approx explanation of social phenomena
- Explanation : \approx deductive arguments or variants of such arguments
 - \Rightarrow Needed: specification of assumptions (including but not limited to hypotheses) and of implications of these assumptions
 - \Rightarrow Needed: conceptual clarity and analytical rigor (sometimes including 'formalization' and model building)
- Focus on explanation of macro-level phenomena and macro-level regularities, in line with 'methodological individualism' (MI)
 - \Rightarrow Needed: specification of macro-micro-macro links (useful heuristic scheme, though *not* itself a theory: Coleman's diagram)
 - Note: MI allows, in principle, for using *different* assumptions on behavioral regularities (e.g., MI \neq rational choice theory)

Sociology as a science: key features (II)

- Focus on...
 - ...interactions and interdependencies between actors (see Max Weber on 'social action')
 - ...*macro-outcomes* due to interactions and interdependencies
 - ...*unintended* and *unanticipated* macro-outcomes
- Similarity of explanations along these lines with 'middle range theories' (Merton)
 - Note: this neither requires nor excludes the use of *general* theories on individual behavior as an element of explanations
- 'Interdisciplinary flavor': formal models from applied math; insights from (social) psychology; intersections with economics, political science, history, ethnography, and also life sciences,...
- *Methodological* unity of the social sciences

Sociology as a science: key features (III)

- Testability and empirical corroboration as 'quality criteria'
 - == > need of linking theory construction with empirical research and statistical modeling
- Alternative designs (observational, experimental...)
- 'Quantitative' and 'qualitative' research
- Importance of descriptive research: establishing macro-level regularities (explananda)
 - Conjecture: important contributions by computational social science, 'big data', 'non-designed data' specifically in this area
- Guidelines concerning scientific integrity and transparency

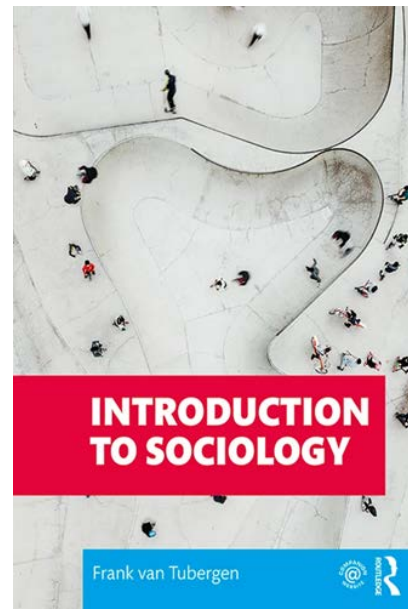
Sociology as a science: examples

- *'Research programs' and 'approaches'*: sociology as a population science, analytical sociology à la Hedström, variants of rational choice theory, other 'choice-based models' (e.g., 'framing', 'dual self'),...
- *Diverse fields and topics*
 - *Well-established*: inequality, education, migration, networks, families, work, organizations,...
 - *New developments*: computational approaches (ABM, CSS); advances concerning the integration of theory construction and statistical modeling such as stochastic actor-oriented network modeling-SAOM (e.g., SIENA); intersection sociology–life sciences,...

Sociology as a science: examples of 'infrastructure'

[Background: Merton 1973 – social conditions affect how science develops and makes progress]

- Akademie für Soziologie (including resources such as 'Ethikkodex', 'Checklist for quantitative social science articles', etc.)
- Journals such as *Sociological Science*, *ESR*
- New resources for teaching

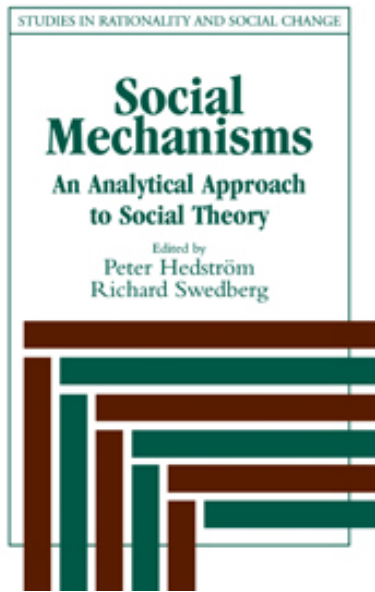


Key features and 'family resemblance'

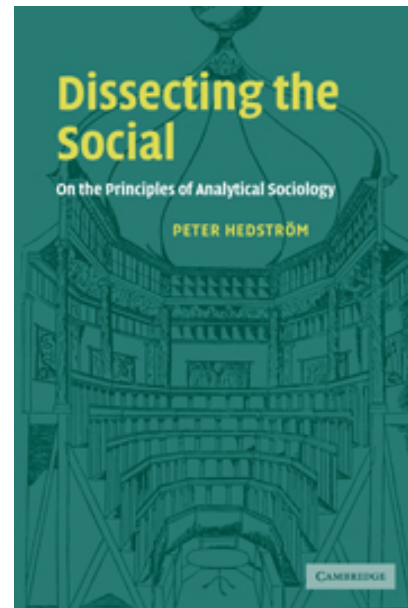
- *I don't claim* that the key features mentioned are jointly necessary and/or sufficient for characterizing sociology as a science
- *Modest claim (integrative perspective)*: Rather than sharing a unique set of key features, different strands of sociology as a science share quite some, but not all features; strands may differ in their emphasis on specific features ==> **'family resemblance'** of different strands of sociology as a science

2. Analytical sociology à la Peter Hedström

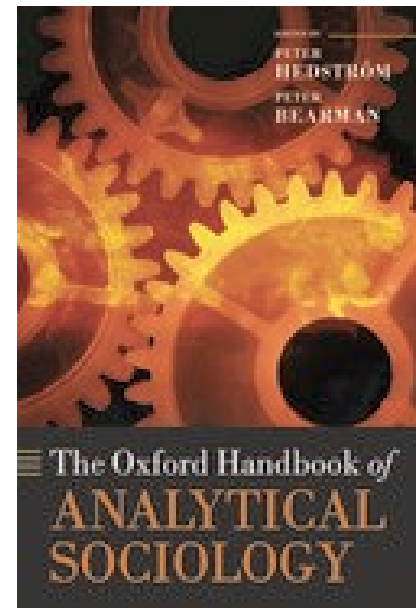
AS à la Hedström: some key publications



1998



2005



2009



2021

AS à la Hedström reflects quite some features of sociology as a science concerning theory formation as well as empirical research

AS à la Hedström: focus on differences between AS and other strands of sociology as a science

Three examples:

1. 'Mechanism-based explanations' in AS à la Hedström versus the HO-model of explanation
 2. DBO in AS à la Hedström versus other action theories such as RC
 - Hedström's (2021) more radical new variant: AS should avoid 'intentional explanations' altogether
 3. ABM in AS à la Hedström versus analytical formal models
- ==> AS à la Hedström is a *competitor* for other strands of sociology as a science

AS à la Hedström: some problems

- 'Mechanism-based explanations' versus the HO-scheme
 - But: are mechanism-based explanations indeed incompatible with (variants of) the HO-model (e.g., controversy Opp – Manzo – Ylikoski 2013)?
- DBO versus other action theories such as RC
 - But: DBO only specifies kinds of assumptions needed for an action theory but lacks a decision rule; thus, DBO itself is not (yet) an action theory (e.g., Diekmann 2010)
- ABM versus analytical formal models
 - But: studies considered as paradigm examples of AS à la Hedström often do not employ ABM (Manzo 2021)
- *A more general concern*: AS à la Hedström overemphasizes differences, is sometimes perceived as a 'sect', and thus contributes to (further) fragmentation of the discipline (e.g., Lizardo 2012: 'Analytical sociology's superfluous revolution')

3. An alternative notion of 'analytical sociology'

An alternative notion of 'analytical sociology'

- 'AS' as an 'umbrella term' for variants of sociology with key features as outlined in this talk ==> *'AS' as a generic label for different strands of 'sociology as a science'*
- I'm afraid that the label 'AS', in the eyes of 'supporters' as well as critics of Hedström and at least outside the German speaking context, is meanwhile (too) closely associated with 'AS à la Hedström'
- ==> 'Das Kind muss einen (anderen) Namen haben': why not **'rigorous sociology'** as an umbrella label for variants of sociology as a science?

On the label 'analytisch-empirische Soziologie'

- The Akademie für Soziologie employs the label 'analytisch-empirische Soziologie' ('analytical-empirical sociology')
- As far as I can see, this label stands for 'sociology as a science' as outlined in this talk
- The label 'analytisch-empirische Soziologie' is *uncommon* outside the German speaking context. Moreover, outside the German speaking context, the label will often be understood as 'AS à la Hedström'.
- This induces misunderstandings: 'in Germany, the somewhat sectarian approach "AS à la Hedström" has been institutionalized as an association' – the Akademie für Soziologie has of course a very different meaning in mind of 'analytisch-empirische Soziologie'
- ==> It is useful to avoid such misunderstandings. This could be an additional reason for using a different label such as 'rigorous sociology', at least for communication in English

With apologies for a further remark on terminology...

The label 'wide AS' is ambiguous

- It can refer to 'a "relaxed" version of AS à la Hedström'. For example: 'wide AS allows for the use of analytical formal models *as well as* simulation models (ABM)'
 - Note: 'wide AS' would then still be one strand of 'sociology as a science', competing with other strands
- Alternatively, as an 'umbrella label', 'wide AS' would refer to the set of different research programs and approaches that conceive of sociology as a science
 - I assume that Josef Brüderl, in his review of Manzo 2021, had this 'umbrella label'-interpretation in mind

A largely forgotten antecedent of rigorous sociology

- *'Structural individualism'* and *'explanatory sociology'* as developed in the 1970s and 1980s
 - Germany: Opp, Hummell, Ziegler, Esser, Albert, Vanberg, and others
 - Netherlands: Lindenberg, Wippler, and others
- Quite some key ideas of rigorous sociology have been specified in this intellectual movement, often much earlier than elsewhere
- Much of the literature was published in German and Dutch – presumably a reason why this literature is largely forgotten, even in German speaking countries and the NL
- More information:

Werner Raub and Thomas Voss

Micro-Macro Models in Sociology: Antecedents of Coleman's Diagram

3. Analytical sociology and its lesser-known antecedents: structural individualism in European sociology¹

Werner Raub

AS à la Hedström versus rigorous sociology

For the record – my own ‘history of ideas’ on this:

1. INAS Mannheim 2014, Plenary session, panel with Hedström and others
2. Contribution to Manzo (ed.) (2021), *Research Handbook on Analytical Sociology*
3. Introduction Gërkhani et al. (eds.) (2022) *Handbook of Sociological Science*

MICRO-MACRO MODELING, RATIONAL CHOICE SOCIAL RESEARCH, AND ANALYTICAL SOCIOLOGY¹

Werner Raub
Department of Sociology/ICS
Utrecht University

Plenary Session: Analytical Approaches to the Study of Social Mechanisms
7th INAS Conference, International Network of Analytical Sociologists
Mannheim, June 6-7, 2014

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3. Analytical sociology and its lesser-known antecedents: structural individualism in European sociology¹
Werner Raub
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1. Rigorous sociology*
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-

4. Conclusion

Take home message: 'unity in diversity' – an integrative perspective

- Avoid 'multi-paradigmatic fragmentation' of the discipline
- == > (More) focus on *common features* (in the sense of '*family resemblance*') of different strands of rigorous sociology with respect to theory construction and empirical research
- AS à la Hedström, intentionally or unintentionally, contributes to 'multi-paradigmatic fragmentation'
- == > We should consider avoiding 'analytical sociology' as a label for 'sociology as conceived by the Akademie für Soziologie'

Unity in diversity : \approx pluralism *and* methodological standards

Growth of knowledge in sociology benefits from

- ... *pluralism*
 - Diversity of research fields and topics
 - *Theoretical pluralism* (Popper): alternative and competing theories
 - *Empirical pluralism*: alternative and complementary research designs; complementary data; complementary methods of data analysis
- ... *unity*: shared methodological standards for assessing competing theoretical and empirical claims ==> avoiding 'multi-paradigmatic fragmentation' of sociology

Thanks for your attention!

w.raub@uu.nl <https://www.uu.nl/staff/WRaub>

Further reading



1. Rigorous sociology*

Werner Raub, Nan Dirk de Graaf, and Klarita Gërkhani†

INTRODUCTION

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Appendix

Theory construction: issues and controversies *within* analytical and empirical sociology

Three examples:

- Micro-to-macro links ('transformation rules', 'logic of aggregation'): are these as complex and problematic as Coleman and others assumed?
- Micro-assumptions: Which ones? How much focus on (the development of) these assumptions?
- 'Acceptable' simplifications in explanations? How much 'realism' needed, for example concerning assumptions on behavioral regularities? Assumptions on behavioral regularities as 'central tendencies', with deviations that 'cancel each other out', thus not affecting macro-implications?

==> Shared methodological standards facilitate rational discussion of such issues

Empirics: issues and controversies *within* analytical and empirical sociology

Three examples:

- Use of experimental designs: testing implications of assumptions versus establishing empirical regularities
- Notion of causation: 'robust dependence' versus 'consequential manipulation' versus 'generative process'
- Implications of requirements concerning scientific integrity and transparency for *qualitative research*

= => Shared methodological standards facilitate rational discussion of such issues

HANDBOOK OF
Sociological Science: Contributions to Rigorous Sociology

'This is an ambitious, comprehensive, and much-needed Handbook that aims to bring back rigor to the current practice of sociology. The emphasis is on rigor, not old battles of theory versus empiricism or quantitative versus qualitative research. I recommend it to anyone who wishes to conduct or understand sociological research.'

Yu Xie, Bert G. Kerstetter '66 University Professor of Sociology, Princeton University and Visiting Chair Professor of Center for Social Research, Peking University

'This ambitious book tackles the challenge posed by the fragmentation of 21st-century sociology. Arguing that knowledge accumulation is possible if sociologists reach consensus on a common core of methodological standards, the authors construct a tent large enough to encompass multiple subfields and theoretical approaches. The result is inspired sociological research at its best.'

Mary C. Brinton, Reischauer Institute Professor of Sociology, Harvard University

'This Handbook covers substantive areas from sociogenomics to climate change and methodological issues from causal inference with observational data to rigorous ethnography and reproducibility. This is sociology at its best.'

Karl Ulrich Mayer, Max Planck Institute for Human Development Berlin and Yale University

'This book illustrates rather than preaches what a rigorous approach can produce: a large body of cumulative knowledge about the fundamental properties and processes of the social universe. The nature of theorizing in sociology can vary in style and focus, as can the methodologies used to test theories or to report empirical data, but in the end, the simple criterion of rigor will integrate rather than divide scholarship in the discipline and, indeed, the social sciences as a whole.'

Jonathan H. Turner, 38th University Professor, University of California

The *Handbook of Sociological Science* offers a refreshing, integrated perspective on research programs and ongoing developments in sociological science. It highlights key shared theoretical and methodological features, thereby contributing to progress and cumulative growth of sociological knowledge.

Klarita Gërxxhani is Professor of Sociology at the European University Institute, Florence. Nan Dirk de Graaf is Professor of Sociology and Official Fellow, Nuffield College, Oxford University. Werner Raub is Professor of Sociology at Utrecht University.

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The Lyptatts, 15 Lansdown Road, Cheltenham, Glos GL50 2JA, UK
Tel: +44 (0) 1242 226934 Email: info@e-elgar.co.uk
William Pratt House, 9 Dewey Court, Northampton, MA 01060, USA
Tel: +1 413 584 3551 Email: elgarinfo@e-elgar.com
www.e-elgar.com www.elgaronline.com



HANDBOOK OF
Sociological Science

Klarita Gërxxhani
Nan Dirk de Graaf
Werner Raub



HANDBOOK OF
Sociological Science
Contributions to Rigorous Sociology

Edited by
Klarita Gërxxhani • Nan Dirk de Graaf
Werner Raub



RESEARCH HANDBOOKS IN SOCIOLOGY

Handbook of Sociological Science: ToC

INTRODUCTION

1. Rigorous sociology 2
Werner Raub, Nan Dirk de Graaf, and Klarita Gërçhani

PART I RESEARCH PROGRAMS

2. Order from chaos: sociology as a population science 21
Michelle Jackson
3. Analytical sociology 38
Gianluca Manzo
4. Computational approaches in rigorous sociology: agent-based computational modeling and computational social science 57
Andreas Flache, Michael Mäs, and Marijn A. Keijzer
5. Stochastic network modeling as generative social science 73
Christian E. G. Steglich and Tom A. B. Snijders
6. Rational choice sociology: heuristic potential, applications, and limitations 100
Andreas Diekmann

PART II NEW AND ONGOING DEVELOPMENTS IN SELECTED FIELDS

7. Cultural capital and educational inequality: an assessment of the state of the art 121
Mads Meier Jæger
8. Integration in migration societies 135
Frank Kalter
9. Social networks: effects and formation 154
Vincent Buskens, Rense Corten, and Werner Raub
10. Gender inequality, households, and work 176
Eva Jaspers, Tanja van der Lippe, and Marie Evertsson
11. Validation strategies in historical sociology (and beyond) 196
Ivan Ermakoff

12. Rigorous ethnography 215
Federico Varese
13. Evolution, biology, and society 232
Rosemary L. Hopcroft, Joseph Dippong, Hexuan Liu, and Rachel Kail
14. Sociogenomics: theoretical and empirical challenges of integrating molecular genetics into sociological thinking 250
Melinda C. Mills

PART III METHODS

15. Causal inference with observational data 272
Richard Breen
16. Longitudinal designs and models for causal inference 287
Markus Gangl
17. Experimental sociology 309
Klarita Gërçhani and Luis Miller

PART IV RIGOROUS SOCIOLOGY IN ACTION: SHOWCASES

18. Explaining educational differentials: towards a formal rational action theory 325
Richard Breen and John H. Goldthorpe
19. 'Explaining educational differentials' revisited: an evaluation of rigorous theoretical foundations and empirical findings 356
Rolf Becker
20. Structural holes and good ideas 372
Ronald S. Burt
21. Network mechanisms in innovation: borrowing and sparking ideas around structural holes 423
Balazs Vedres
22. Experimental study of inequality and unpredictability in an artificial cultural market 443
Matthew J. Salganik, Peter Sheridan Dodds, and Duncan J. Watts
23. Self-correcting dynamics in social influence processes 446
Arnout van de Rijt

PART V FURTHER PERSPECTIVES

24. The climate crisis: what sociology can contribute 475
Dingeman Wiertz and Nan Dirk de Graaf
25. Roots of sociology as a science: some history of ideas 493
Thomas Voss
26. How to increase reproducibility and credibility of sociological research 512
Katrin Auspurg and Josef Brüderl

- Index* 528

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Handbook of Sociological Science: the key idea

There are numerous research programs and ongoing developments in sociology – in theory, methods, and statistical modeling – that do share methodological standards. The *Handbook* focuses on these research programs and developments as well as on their common core. The *Handbook* reflects ‘unity in diversity’: while addressing different research problems and topics, and thus covering different research fields, these research programs and developments share guidelines, including basic methodological standards, for theory construction and empirical research in sociology.¹ The *Handbook* explicitly employs an *integrative perspective*, emphasizing the common core for variants of rigorous sociology that contribute to sociological science. A common core does not imply that critical discussion and controversy is or should be avoided. On the contrary, there is continuous critical discussion and controversy in rigorous sociology, as will become clear in this introduction and in the chapters of the *Handbook*. It is precisely a common core of shared criteria that makes it possible to evaluate controversial claims. In the end, a common core is what allows for communication and furthering cumulation of knowledge.

Importantly, we do not use ‘rigorous sociology’ as a label for yet another new approach. In line with our integrative perspective, we use it as an umbrella label for a family of research programs and ongoing developments in sociological science.² As Goldthorpe put it, our

main concern is not to propose to sociologists how they should conceive of and practice their subject. It is rather to suggest a way in which a fuller and more explicit rationale than has hitherto been available might be provided *for what a large and steadily growing number of sociologists in fact already do* – although, perhaps, without a great deal of reflection on the matter. (Goldthorpe 2016, p. 2, emphasis in original)

'Rigorous sociology'

The label is *not* intended to suggest...

- ...an approach that is *competing* with 'analytical sociology' in the sense of, say, Hedström 2005
- ...a *specific* theory of action, let alone a specific focus on rational choice theory



'Rigorous sociology'

The label *is* intended to suggest a focus on 'unity in diversity', including, but not exclusively, 'analytical sociology' in the sense of Hedström 2005

Proof: ToC, Part I

PART I RESEARCH PROGRAMS

- | | |
|---|-----|
| 2. Order from chaos: sociology as a population science
<i>Michelle Jackson</i> | 21 |
| 3. Analytical sociology
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| 4. Computational approaches in rigorous sociology: agent-based computational modeling and computational social science
<i>Andreas Flache, Michael Mäs, and Marijn A. Keijzer</i> | 57 |
| 5. Stochastic network modeling as generative social science
<i>Christian E. G. Steglich and Tom A. B. Snijders</i> | 73 |
| 6. Rational choice sociology: heuristic potential, applications, and limitations
<i>Andreas Diekmann</i> | 100 |

