WTMC | *Netherlands Graduate Research School of Science, Technology and Modern Culture*

Core Literature of WTMC

2018 edition

INTRODUCTION

The Dutch national research school WTMC seeks to analyse, understand and explain the manifold and intricate relationships between science, technology and modern culture. This, of course, is an interdisciplinary effort that draws from and contributes to various research traditions, each with their own literatures. In this overview we list the core literature of the research school WTMC.

The aim of this list is threefold:

- it provides an introduction to the intellectual and academic aspirations of WTMC;
- it helps PhD students to locate their studies within a broader set of literatures;
- it supports the ongoing reflection of research agendas within WTMC.

The list of core literature is organised into four categories: classics, introductions, research clusters, and journals. The first, the ***classics***, is a list of books that operate as a landmark in the broad, yet distinguished field of WTMC research. These scholarly works have introduced a new perspective that has been proved to be useful - and they still inspire today's researchers. Their contribution to the field is uncontested, although their factual claims may have been challenged, as it should. The classics are systematically introduced and discussed in the WTMC PhD workshops.

The second list, of ***introductions***, is in particular useful for new entrants in the field. The classics, of course, are also informative, but may require more background knowledge. The introductions provide an overview of the main perspectives, methods and findings of the research field of WTMC.

The third category, the ***research clusters***, proposes more specific literature for the many lines of research in WTMC. Within each of the clusters some key references are suggested to orient the researcher interested in these more specific areas of study. These references may also be used in the programs of the PhD workshops, depending on the topic. Together, the research clusters are a demonstration of the richness and excitement of the research school WTMC.

The overview ends with a list of ***journals*** that are important for the research school WTMC. Some cover the full breadth of science and technology studies, others have a more specific profile or topic. Browsing through these journals will provide an excellnet overview of the wealth of topics and approaches in this field of study.

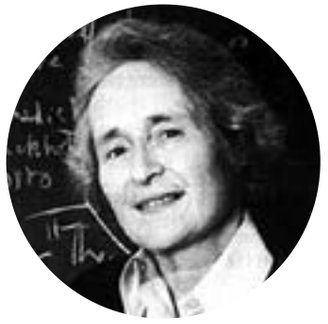
This list should not be seen as demarcation of what is 'in' and 'out' of the field or the research school, but rather as an imperfect collection of imperfect gems.

CLASSICS

W. Bijker
T. P. Hughes
& T. J. Pinch
(Eds.)

David Bloor

G. Dosi,
C. Freeman
R. Nelson
G. Silverberg
Soete, L.



Mary Douglas

L. Fleck

Michel Foucault

Ian Hacking

These books, organised alphabethically, are considered reference points for wider debates in science ad technology studies.

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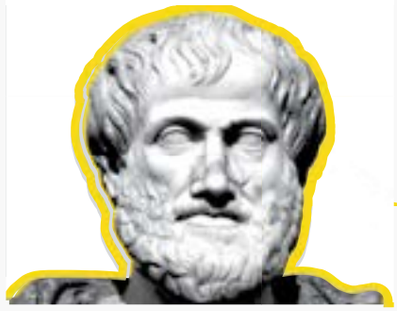
CLASSICS



Thomas P. Hughes

Thomas S. Kuhn

Latour, Bruno
and Steve
Woolgar

Bruno Latour

Robert K. Merton

Lewis Mumford

Karl R. Popper

Derek J. de Solla Price

Nathan Rosenberg

Introductions and handbooks General introductions

The Handbooks of STS

Felt, U., R. Fouché, C.A. Miller & L. Smith-Doerr (Eds.)

2016

The Handbook of Science and Technology Studies, Fourth Edition

Cambridge, MA: MIT Press

Hackett, E., O. Amsterdamska, M. Lynch, J. Wajcman eds.

2007

New Handbook of Science, Technology, and Society

Cambridge: MIT Press

Jasanoff, Sheila, Gerald E. Markle, James C. Petersen, and Trevor Pinch, eds.

1995

Handbook of Science and Technology Studies

London: Sage

The three editions of the Handbook are collections of review articles, covering the development of theory and research in areas prominent at the time they were written. They are a collective effort of the STS field. Older handbooks are still very much relevant for their treatment of specific topics. Several chapters of the handbooks have now become classic references in their own right. However, they are probably too specialised for a first exploration of the field.

General first introductions to the field of STS and some of its debates:

Bauchspies, W. K., Croissant, J., & Restivo, S.

2006

Science, technology, and society: a sociological approach

Malden, MA: Blackwell Publishing

Sismondo, S.

2004

An Introduction to Science and Technology Studies

London: Blackwell Publishers

Introductions and handbooks General introductions

Introductions into science studies specifically (the "W" of WTMC):

Biagioli, M.

1999

The science studies reader

New York and London: Routledge

Barnes, Barry, David Bloor and John Henry

1996

Scientific Knowledge. A Sociological Analysis

London: The Athlone Press

Bucchi, M.

2004

Science in Society: An Introduction to the Sociology of Science

Routledge

Hagendijk, Rob

1996

Wetenschap, Constructivisme en Cultuur

Amsterdam: Universiteit van Amsterdam (in Dutch)

Hess, David J.

1997

Science Studies. An Advanced Introduction

New York: New York University Press

Yearley, S.

2005

Making Sense of Science: Understanding the Social Study of Science

London: Sage

Introductions and handbooks General introductions

Introductions into technology studies (the "T" of WTMC):

Bijker, Wiebe and John Law

1992

Shaping Technology / Building Society: Studies in Sociotechnical Change

Cambridge, MA: MIT Press

Collins, Harry and Pinch, Trevor

1998

The Golem at Large: What You Should Know about Technology

Cambridge: Cambridge University Press

MacKenzie, Donald and Judy Wajcman (Eds.)

1999 / 1985

The Social Shaping of Technology

McGraw Hill Education (second ed.)

Introductions into sci/tech and modern culture (the "MC" of WTMC):

During, S., (ed.)

1993

The Cultural Studies Reader

London and New York: Routledge

Misa, Thomas, Philip Brey & Andrew Feenberg (eds)

2003

Modernity and Technology

Cambridge, MA: MIT Press

Latour, Bruno

2005

Reassembling the Social: an Introduction to Actor-Network-Theory

Oxford: Clarendon

Sorensen, Knut H. and Robin Williams (Eds.)

2002

Shaping Technology, Guiding Policy: Concepts, Spaces and Tools

Cheltenham, UK: Edward Elgar

Research clusters Cluster-specific key literature

We think the various perspectives and themes within WTMC can be clustered into about 20 categories. See table.
We also indicate the relative weight of the focus on Science (W), Technology (T) and/or Modern Culture (MC).

Sociology of science W	**Technology studies** T	**Philosophy of science** W
Philosophy of technology T	**History of science** W	**History of technology** T
Questioning modernity MC	**Innovation studies** T	**Ethnography of science and technology** W T
Risk and uncertainty T MC	**Knowledge society** MC	**Ethics of science and technology** MC
Cultural studies MC	**Governance of science and technology** W T MC	**Public understanding of science and technology** W T MC
Technology assessment and participatory approaches T	**User studies** T	**Scenarios and expectations** T MC
Sociology of health and the body W T MC	**Nature, space and environment** W T MC	**Science, technology and development** W T MC

Research cluster some key references

Sociology of science W

Pickering, Andrew (ed.)

1992

Science as Practice and Culture

Chicago: University of Chicago Press

Whitley, Richard

1985

The Intellectual and Social Organization of the Sciences

Oxford: Oxford University Press

Bowker, G., & Star, S. L.

1999

Sorting things out: Classification and its consequences

Cambridge, Mass.: MIT Press

Lynch, M.

1997

Scientific Practice and Ordinary Action: Ethnomethodology and Social Studies of Science

Chicago: Chicago University Press

Technology studies T

MacKenzie, Wacjman

1985/1999

The Social Shaping of Technology

Buckingham: Open University Press

Callon, M.

1986

The sociology of an actor-network: The case of the electric vehicle
in Callon, Law and Rip (eds.)
Mapping the dynamics of Science and Technology, pp. 77-102

Bijker, W.E.

1995

Of Bicycles, Bakelites and Bulbs: Towards a theory of sociotechnical change

Cambridge: MIT Press

Research cluster some key references

Philosophy of science W

Gillies, Donald	John Dupré	Pickering, Andrew	Barad, Karen	Hacking, Ian
1993	2003	1995	2007	1990
Philosophy of Science in the Twentieth Century: Four Central Themes	**Human Nature and the Limits of Science**	**The mangle of practice time, agency, and science**	**Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning**	**The Taming of Chance**
Oxford: Blackwell	*Clarendon Press, Oxford*	*Chicago, Illinois: University of Chicago Press*	*Durham, North Carolina: Duke University Press*	*Cambridge: Cambridge UP*

Philosophy of technology T

Val Dusek	Frederick Ferré	Mitcham, Carl	Harbers, H. (Ed.)	Peter Kroes
2006	1995	1994	2005	2012
Philosophy of Technology: An Introduction	**Philosophy Of Technology**	**Thinking through Technology: The Path between Engineering and Philosophy**	**Inside the Politics of Technology: Agency and Normativity in the Co-Production of Technology and Society**	**Technical Artefacts: Creations of Mind and Matter: A Philosophy of Engineering Design**
Blackwell Pub	*University of Georgia Press*	*Chicago: University of Chicago Press*	*Amsterdam: Amsterdam University Press* +	*Springer*

Research cluster some key references

History of science W

Shapin, Steven, and Simon Schaffer
1985
Leviathan and the Air-Pump
Princeton: University Press

Porter, T.
1995
Trust in numbers: The pursuit of objectivity in science and public life
Princeton University Press

Daston, Lorraine & Galison, Peter
2007
Objectivity
New York: Zone Books

Pickstone, John V.
2007
Working knowledges before and after circa 1800: practices and disciplines in the history of science, technology, and medicine
ISIS, 98(3), 489-516

Jardine, N., Secord, J. A., & Spary, E. C. (Eds.)
1996
Cultures of Natural History
Cambridge: Cambridge University Press

History of technology T

Merrit Roe Smith & Leo Marx (eds.)
1994
Does Technology Drive History? The Dilemma of Technological Determinism
Cambridge MA.: MIT Press

Edgerton, D.
2007
The Shock of the Old: Technology and Global History Since 1900
Oxford: Oxford University Press

Oldenziel, R., & Hård, M.
2013
Consumers, Tinkerers, Rebels: The People Who Shaped Europe
London: Palgrave McMillan

Mokyr, J.
2005 / 2002
The Gifts of Athena: Historical Origins of the Knowledge Economy
Princeton: Princeton University Press

Research cluster some key references

Questioning modernity MC

Haraway, D.J.

1991

Simians, cyborgs, and women: the reinvention of nature

London : Free Association Books

Latour, Bruno

1993

We have never been modern transl. by Catherine Porter

New York [etc.] : Harvester Wheatsheaf, cop.

Vert. van: Nous n'avons jamais été modernes. - Paris : La Decouverte, 1991

Misa, Brey & Feenberg (eds)

2003

Modernity & Technology

Cambridge, MA: MIT Press

Anne Fausto-Sterling

2012

Sex/Gender: Biology in a Social World

Routledge

Evelyn Fox Keller

2010

The Mirage of a Space between Nature and Nurture

Duke University Press

Innovation studies T

Garud, Raghu, and Peter Karnøe (eds.)

2001

Path Dependence and Creation

Mahwah , N.J.: Lawrence Erlbaum Associates

Utterback, J. M.

1996

Mastering the dynamics of innovation

Boston, Massachusetts: Harvard Business School Press

Coombs, R., Green, K., Richards, A., & Walsh, V.

2001

Technology and the Market. Demand, Users and Innovation

Cheltenham, UK: Edward Elgar

Grin, G., Rotmans, J., Schot, J.

2012

Transitions to sustainable development. New directions in the study of long term transformative change

Routledge +

Van de Ven, A., Polly, D.E, Venkataraman, S., Garud, R.

1999

The Innovation Journey

Oxford University Press +

Research cluster some key references

Ethnography of science and technology W T

Collins, Harry M.

1985

Changing order: Replication and induction in scientific practice

London: Sage

Knorr Cetina, Karin

1999

Epistemic Cultures. How the Sciences Make Knowledge

Cambridge: Harvard University Press

Hine, C.

2000

Virtual Etnography

London: Sage

Hutchins, E.

1995

Cognition in the wild

Cambridge: MIT Press

Atkinson, P., Coffey, A. & Delamont, S.

2001

Ethnography and the development of science and technology studies

In Atkinson, P., Coffey, A. & Delamont, S. Handbook of ethnography (pp. 234-245) Sage

Fortun, K.

2003

Ethnography in/of/as Open Systems

Reviews of Anthropology 32(2), 171–90

Risk and uncertainty T MC

Ulrich Beck

1992

Risk Society: Towards a new Modernity

London: Sage

Maarten Hajer

1995

The Politics of Environmental Discourse: Ecological modernization and the policy process

Oxford: Clarendon Press

Jasanoff, S.

2005

Designs on Nature: Science and Democracy in Europe and the United States

Princeton: Princeton University Press

Lahsen, M.

2005

Seductive simulations? Uncertainty distribution around climate models

Social Studies of Science, 35(6), 895-922

Walker, W. E., Harremoes, P., Rotmans, J., van der Sluijs, P., van Asselt, M. B. A., Janssen, P., et al.

2003

Defining Uncertainty - A Conceptual Basis for Uncertainty Management in Model-Based Decision Support

Integrated Assessment, 4(1), 5-17

Research cluster some key references

Knowledge society W T MC

Gibbons et al.

1994

The new production of knowledge: the dynamics of science and research in contemporary societies

London, etc.: Sage

Beck, Giddens, Lash

1994

Reflexive Modernisation: Politics, tradition, and esthetics in the modern social order

Cambridge: Polity Press

Castells

1996 / 2000

The Rise of the Network Society (The information Age, vol. 1)

Cambridge: Blackwell Publishers

Nowotny, H., Scott, P., & Gibbons, M.

2001

Rethinking science: knowledge and the public in an age of uncertainty

Cambridge: Polity Press

Stehr, Nico

1994

Knowledge Societies

Sage Publications

Gross, M.

2010

Ignorance and Surprise: Science, Society, and Ecological Design

Cambridge, MA: MIT Press

Strathern, M.

2004

Commons + Borderlands: Working Papers on Interdisciplinarity, Accountability and the Flow of Knowledge

Wantage, Oxfordshire: Sean Kingston Publishing

Research cluster some key references

Ethics of science and technology MC

Keulartz, J., M.Schermer, M.Korthals, T.Swierstra (Eds.)

2002

Pragmatist Ethics for a Technological Culture

Deventer: Kluwer Academic Publishers

Mitcham, Carl, R Shannon Duval

1999

Engineering Ethics

Prentice Hall. Upper Saddle River, New Jersey

Christian Munthe

2011

The Ethics of Screening in Health Care and Medicine: Serving Society Or Serving the Patient

Springer

Peter-Paul Verbeek

2011

Moralizing Technology: Understanding and Designing the Morality of Things

Chicago University Press

Wendell, Wallach & Colin, Allen

2010

Moral Machines: Teaching Robots Right from Wrong

Oxford University Press

Cultural studies MC

During, S., (ed.)

1993

The Cultural Studies Reader

London and New York: Routhledge

José van Dijck

2013

The Culture of Connectivity: A Critical History of Social Media

Oxford University Press

Stuart Hall

1997

Representation: Cultural Representations and Signifying Practices

Sage

Mieke Bal

2002

Travelling Concepts in the Humanities: A Rough Guide

Toronto: University of Toronto Press

DuGay, P., S. Hall, L. Janes, H. MacKay & K. Negus

1996

Doing Cultural Studies – The Story of the Sony Walkman

London, Sage Publications

Research cluster some key references

Governance of science and technology W T MC

Sclove, R.
1995
Democracy and Technology
New York: Guilford Press

David Held
1995
Democracy and the Global Order
Cambridge: Polity Press

Whitley, R., Glaeser, J. (Ed.) & Engwall, L. (Ed.)
2010
Reconfiguring Knowledge Production: Changing Authority Relationships in the Sciences and Their Consequences for Intellectual Innovation
Oxford University Press

Smits, Ruud; Kuhlmann, Stefan; Shapira, Philip
2010
The Theory and Practice of Innovation Policy
Cheltenham, Edward Elgar

Strathern, Marilyn (ed.)
2000
Audit Cultures: Anthropological Studies in Accountability, Ethics, and the Academy
Routledge

Public understanding of science and technology W T MC

Nelkin D.
1995
Selling Science. how the press covers science and technology
Freeman Press

Wynne, B. (S. Lash, B. Szerszynski & B. Wynne ed.)
1996
May the Sheep Safely Graze? A Reflexive View of the Expert-Lay Knowledge Devide
Risk, Environment & Modernity: Towards a New Ecology
London, etc.: Sage Publications, 44-83

Alan Irwin & Mike Michael
2003
Science, social theory & public knowledge
Milton Keynes: Open University Press

Bauer, M. W., Allum, N., & Miller, S.
2007
What can we learn from 25 years of PUS survey research? Liberating and expanding the agenda
Public Understanding of Science, 16(1), 79-95

Research cluster some key references

Technology assessment and participatory approaches T

Rip, A., T. Misa & J. Schot

1995

Managing Technology in Society

London: Pinter

Van Est, R., and F. Brom

2012

Technology Assessment, Analytic and Democratic Practice

Encyclopedia of Applied Ethics (II Ed.), Ruth Chadwick ed., 306-320

San Diego: Academic Press

Rip, Arie, and Douglas K. R. Robinson

2013

Constructive Technology Assessment and the Methodology of Insertion. Early Engagement and New Technologies: Opening Up the Laboratory, N. Doorn ed., 37-53

Dordrecht: Springer

User studies T

Oudshoorn, N., & Pinch, T.

2003

How Users Matter: The Co-construction of Users and Technology

Cambridge: MIT Press

Lie, M. & K Sorensen

1996

Making technology our own, domesticating technology into everyday life

Oslo: Scandinavian University Press

Von Hippel

1994

The sources of innovation

Oxford University Press

Research cluster some key references

Scenarios and expectations T MC

Brown, N., Rappert, B., & Webster, A.
2000
Contested Futures - a sociology of prospective techno-science
Aldershot

Borup, Mads, Nik Brown, Kornelia Konrad, and Harro Van Lente
2006
The Sociology of Expectations in Science and Technology
Technology Analysis and Strategic Management 18:285-298

Adam, Barbara, and Chris Groves
2007
Future Matters: Action, Knowledge, Ethics
Leiden: Brill

Jasanoff, Sheila, and Sang-Hyun Kim, eds.
2015
Dreamscapes of Modernity. Sociotechnical Imaginaries and the Fabrication of Power
Chicago: University of Chicago

Sociology of health and the body W T MC

Mol, A.
2002
The Body Multiple: Ontology In Medical Practice
Durham, NC: Duke University Press

Stefan Timmermans and Marc Berg
2003
The Gold Standard: The Challenge of Evidence-Based Medicine and Standardization in Health Care

Charis Thompson
2005
Making Parents: The Ontological Choreography of Reproductive Technologies
MIT Press

Rachel Prentice
2013
Bodies in Formation. An Ethnography of Anatamoy and Surgery Education
Durham: Duke University Press

Margaret Lock & Judit Faquhar
2007
Beyond the body proper. Reading the anthropology of material life
Durham: Duke University Press

Blume, Stuart
1992
Insight and Industry. On the Dynamics of Technological Change in Medicine
Cambridge MA: MIT Press

Research cluster some key references

Nature, space and environment W T MC

P Macnaughten, J Urry

1998

Contested Natures

Thousand Oaks, CA: Sage

Sarah Whatmore

2002

Hybrid Geographies: Natures Cultures Spaces

London: Sage

Peter Peters

2006

Time Innovation and Mobilities

London: Routledge

Scott, J. C.

1998

Seeing like a state : how certain schemes to improve the human condition have failed

New Haven, Conn.: Yale University Press

Flyvbjerg, B.

1998

Rationality and power: democracy and practice

Chicago: University of Chicago Press

Science, technology and development W T MC

Marianne de Laet and Annemarie Mol

2000

The Zimbabwe Bush Pump: Mechanics of a Fluid Technology

Social Studies of Science 30/2: 225-263

Sheila Jasanoff

2002

New Modernities: Reimagining Science, Technology and Development

Environmental Values 11: 253–76

Sandra Harding

2011

The Postcolonial Science and Technology Studies Reader

Durham, N.C./London: Duke University Press

Some important WTMC Journals

WTMC scholars tend to write and read in the following journals. The list is far from complete, but these are some of prominent forums for the field or its specific clusters.

- Social Studies of Science
- Science, Technology and Human Values
- Science as Culture
- Research Policy
- Scientometrics
- Technology and Culture
- Krisis (Dutch/English)
- Economy and Society
- Sociology of Health and Illness
- Public Understanding of Science
- Technological Forecasting and Social Change
- Futures
- Science and Public Policy
- Theory, Culture and Society
- Genetics and Society
- Technology Analysis & Strategic Management
- Isis
- Minerva
- Science Studies
- History of Science