Faculty of Arts and Social Sciences
MA ESST

2023/2024

Handbook ESST

CONTENTS

PREFACE

Welcome to the MA ESST, a programme of the Faculty of Arts and Social Sciences at Maastricht University. You are about to start a very exciting year. Whether you are from the Netherlands or elsewhere, whether your background is in the natural sciences, social sciences, humanities, professional life, or a combination of those, you are bound to learn a lot of new things, and we hope that together we can make this academic year a rewarding one.

The purpose of this handbook is to inform you about the contents and structure of the ESST programme. It is designed to help answer most of the practical questions you may have. It provides information about the procedures and formalities related to the ESST curriculum, tips about the field of Society, Science and Technology studies, some study advice, and also useful information about Maastricht and its university.

Much general practical information on the faculty level can also be found at intranet.maastrichtuniversity.nl/en/fasos-student-intranet. If you should still be in doubt, do not hesitate to contact one of our faculty officers via study-fasos@maastrichtuniversity.nl or in person at the Frontoffice desk at Grote Gracht 90-92.

We hope and trust you will enjoy your studies with us.

Dr. Geert Somsen, *Director of Studies*
g.somsen@maastrichtuniversity.nl

1. GENERAL INTRODUCTION TO ESST

1.1. SOME BACKGROUND

In the late 1980s the European Commission Technology Assessment Committee, FAST (Forecasting and Assessment in Science and Technology) chaired by Dr. Riccardo Petrella, envisioned an academic programme that would train a new intellectual 'cadre' able to relate science, technology and science in novel ways. This new generation of academics and professionals, who have acquired intimate knowledge about how the laboratory, factory, university, market and science-policy all work together, complement those specialists working in narrowly-defined branches of science, technology, and social science. To this end the *European Inter-University Association of Society, Science and Technology* (ESST) was established in 1991. From the early 1990s this association provided the Masters programme ESST to train a new scientific generation who has the expertise to address the challenges that Europe and the global community faces, with an eye on the immediate future.

The European Inter-University Association on Society, Science and Technology (ESST) is an association of universities who jointly teach and carry out research in the field of social, scientific and technological developments. Universities from across Europe are members of the association, which is registered as a non-profit organisation in Belgium. The intention behind establishing the association was the recognition that education and research within the field of Society, Science and Technology (STS) should be strengthened.

WHAT IS STS?

Science and Technology Studies (STS) is a relatively new academic field. Its roots lie in the interwar period and continue into the start of the Cold War, when historians and sociologists of science, and scientists themselves, became interested in the relationship between scientific knowledge, technological systems, and society. The best-known product of this interest was Thomas Kuhn's classic 1962 study, *The Structure of Scientific Revolutions*. This influential work helped crystallize a new approach to historical and social studies of science, in which scientific facts were seen as products of scientists' socially conditioned investigations rather than as objective representations of nature. Among the many ramifications of Kuhn's work was a systematic effort by social scientists to probe how scientific discovery and its technological applications link up with other social developments, in law, politics, public policy, ethics, and culture.

STS, as practiced in academia today, merges two broad streams of scholarship. The first consists of research on the nature and practices of science and technology (S&T). Studies in this genre approach S&T as social institutions possessing distinctive structures, commitments, practices, and discourses that vary across cultures and change over time. This line of work addresses questions like the following: is there a scientific method; what makes scientific facts credible; how do new disciplines emerge; and how does science relate to religion?

The second stream concerns itself more with the impacts and control of science and technology, with particular focus on the risks that S&T may pose to peace, security, community, democracy, environmental sustainability, and human values. Driving this body of research are questions like the following: how should states set priorities for research funding; who should participate, and how, in technological decision-making; should life forms be

patented; how should societies measure risks and set safety standards; and how should experts communicate the reasons for their judgments to the public?

The rise of STS as a teaching field reflects a dawning recognition that specialization in today's research universities does not fully prepare future citizens to respond knowledgeably and reflectively to the most important challenges of the contemporary world. Increasingly, the dilemmas that confront people, whether in government, industry, politics or daily life, cut across the conventional lines of academic training and thought. STS seeks to overcome the divisions, particularly between the two cultures of humanities (interpretive inquiry) and natural sciences (rational analysis).

STS teaching seeks to promote cross-disciplinary integration, civic engagement, and critical thinking. Undergraduate STS courses are especially popular with engineering and pre-professional students, including pre-meds. They help to illuminate issues of professional responsibility and ethics. Such courses also build bridges between disciplines that do not ordinarily meet each other in the undergraduate curriculum, such as sociology and science, law and science, anthropology and technology, environmental science and political theory, or technology and philosophy. Graduate STS courses offer ways of integrating knowledge in areas that are impossible to grasp through any single discipline; examples include security studies, environmental studies, globalization, the human sciences, and biology and society. STS courses in these areas enable students to form more robust understandings of the nature of controversy, the causes of scientific and technological change, the relationship of culture and reason, and the limits of rational analytic methods in characterizing complex problems.

In sum, STS explores in rich and compelling ways what difference it makes to human societies that we, collectively, are producers and users of science and technology. STS research, teaching, and outreach offer citizens of modern, high-tech societies the resources with which to evaluate—analytically, aesthetically, and ethically—the benefits and the risks, the perils and the promises, of notable advances in science and technology.

1.2. AIMS AND OBJECTIVES

The overarching aim of the MA ESST is to train future researchers, innovation consultants, research managers and policy-officers with a profound and critical understanding of the relation between research, innovation and today's social realities, including governance structures, processes of policy-formation, ethics etc. On basis of this aim we 'produce' a certain kind of graduates. But what kind of graduate do we want to 'produce'? What is the profile of the ESST graduate?

a. Problem-definers in order to act as problem-solvers

The ESST programme aims to train professionals to become problem-solvers who are able to address today's challenges. This implies training not from a singular point of view but from many different perspectives, as a technocratic approach is not sufficient to fully grasp the cultural aspects and the global dimension of the governance of innovation. Hence, by taking one step further in the so-called "responsible innovation" curriculum and placing responsible innovation in the ESST programme as its starting point instead, students are educated to become first-class problem-solvers, or to put it differently, sensitive innovators or innovation consultants.

However, it can be argued that 'sensitive innovator/ innovation consultant' should be a secondary consequence of educating students able to undertake thorough analysis of the problem itself, since intellectual academic work is still what we do and should be proud to deliver. We should insist on that simply educating people to provide thorough empirical analysis of specific cases of contemporary dynamics and conditions is in itself of substantial value. After all, although we may, in general terms, agree on the overall diagnosis, there is still plenty of analytical work to do. We should be careful not to be too hasty in defining what the present is like and start 'solving problems'. Defining problems or being able to make very precise definitions of problems is a major achievement after all. A well-posed problem, paraphrasing Bergson, is far better than a solution provided on the backdrop of badly posed problem. In short, we insist that we educate students to make thorough, in-depth, 'slow' analysis, in a time where everybody is in haste to solve problems, and by implication students (might) become sensitive innovators.

b. Bridge-builders with an advanced level of generic skills

We need to emphasize general (transferable) skills such as communication, synthesis, understanding, translation that enables ESST graduates to act as bridge-builders between the 'Two Cultures'. After all, technology-building is society-making by other means. We can translate one into the other. Such "translation" not merely a matter of rhetorical or organisational/ managerial skills. The key point is: Are the graduates able to understand a) the epistemology of natural scientists and engineers, b) the epistemology of qualitative social research and different altogether c) the epistemology of lay-people, practitioners and civil society actors. Building bridges means to understand what these epistemologies each imply and what makes mutual understanding so difficult. Generic skills are crucial in this respect. Generic skills include formulating critical questions, developing strategies for investigating those questions, evaluating the results of their enquiries and presenting them in a media format suited to the audience (professional and non-professional), the ability to integrate empirical research and theoretical analysis, and switch between micro and macro levels of analysis. Other generic skills are: academic writing skills; communicative skills; argumentative skills; time management; personal effectiveness; text analysis; project management; teamwork and library techniques and the APA citation style. These generic skills and the interdisciplinary approach make ESST graduates able to question what is knowledge, and how to create conditions favourable to innovation & creativity.

c. Specialized generalists

The ESST program aims to train professionals with a 'cosmopolitan' quality by which we mean both the competence to work constructively in international and interdisciplinary teams as and the competence of being versed in understanding the frameworks and tools emanating from different disciplines, their merits and limitations. The wide scope of the first semester makes students not only aware of the many theoretical and methodological approaches but also of the interrelationship between them: defining situations, problems, circumstances, based on a particular theoretical framework has methodological implications and vice versa (e.g. realism – relativism frame). Their awareness of how particular situations, facts and artefacts can be defined in various ways, makes them more alert to recognize the underlying assumptions in problem definitions, policy papers and positions in (academic or public) debate. Equipped with this way to see the world they enter the second semester and apply the perspectives in a narrower area of their interest. In this way, they become a 'specialized generalist'. Twenty years of experience has proven that the combination of a broad scope and specialized knowledge is appealing for employers.

1.3 THE BASIC PRINCIPLES OF ESST

1. An interdisciplinary approach
2. Case studies
3. The relation between theories and empirical material
4. The politics of any theory or any method
5. Competences

Ad 1. An interdisciplinary approach
An interdisciplinary approach is at the heart of the ESST program. Interdisciplinarity is not simply a buzzword in STS. Both in the way teaching and supervision are organized and in the way students are encouraged to think and work. Students are urged to draw on resources from different disciplines. This does not mean that every student is involved with a handful of disciplines, but as the ESST partner universities each have different orientations and specialization, inevitably students will work with people coming from many different backgrounds, and they will be encouraged to draw on different disciplines as they compose their own theoretical and methodological frameworks.

Because of the interdisciplinary aspects of problems and solutions at the interface of science, technology and society contributions from many different disciplines are needed. This interdisciplinary character requires a sensibility or intellectual empathy of the students to recognize and open up for different approaches. In order to do so, students have to learn to recognize recognise and distinguish anthropological, historical, political-science etc. perspectives as such, and are thus enabled to combine them themselves. In other words, students need to be able to recognize the disciplinary ingredients from the mix. This approach does not argue for disciplinarity, on the contrary. Interdisciplinarity only works if students sense of what the unmixed approaches are and then juxtaposition them.

Ad 2. Role of case studies
In ESST, students work with cases and so they are trained in problematizing and in doing analysis of issues faced by policy-makers, industrial organizations, NGOs etc. In their casework students discover that the level of complexity faced by companies and organizations or in the political process, is high. They also discover that scientific knowledge is used in all kinds of decision-making – not only in the sphere that is usually considered 'the scientific sphere'. Having grappled with governance and scientific knowledge production in relation to innovation processes is highly relevant for later employment, as this helps navigate the complexity of organizational and political life.

Ad 3. The relation between theories and empirical material
Application of theoretical concepts always co-constructs what it tries to classify and describe. Therefore, an important element of the program is to train students to experiment with and reflect on the dynamic relation between theories and empirical material. Students learn that analysis and intervention is a co-construction process where theory and empirical material are brought together in a dynamic process.

Ad 4. The politics of any theory or any method
Also, the politics of any theory or any method is a key point that students learn to pay attention to. Since in ESST theories and methods are seen as lenses, students learn to become aware

that lenses always have a limited range and focus. They are being taught that theories and methods amplify and silence viewpoints and positions.

Throughout the program, a main message to students is this: If you know the dynamics of science and technology you are well equipped to engage in society and its institutions and organizations. Though case work you learn to be proactive and reactive. Also, you get a keen eye for the formal and informal structures in society and how they intersect.

Ad 5. Competences: skills training

Students learn that conducting research implies per definition intervention and engagement. Engaging with other actors, who bring in their own cultural, political or economic commitments, has consequences for one's own research agenda, methods and even conclusion. This requires that one has to sort out how to engage with other organizations and their agendas (sorting attachment). Students learn that studying practices of research, innovation and governance always implies a mutual spread of ideas and ambitions between themselves and those they study (artful contamination). Research, in other words, is entering a field of negotiation that necessitates choosing which relations to build and nurture. Therefore, we need to teach students to become sensitive to the point that attachments and detachments are continuously made. And accordingly there is no inconsequential action, because not doing, not acting, not intervening is to contribute to existence.

ESST students receive advanced training in generic skills

That makes them interesting candidates for the academic or professional careers for the following reasons:

- *ESST students learn to integrate empirical research and theoretical analysis.* They will succeed in integrating theory and empirics: one of the most difficult challenges in research. They can explain how all empirical data are theory-laden, how conceptual analysis will help to highlight ambiguities in empirical claims, how carefully crafted case-studies may support a certain theoretical perspective (without naively "proving" it).
- *ESST students will receive trans-disciplinary training and as such are able to tackle today's complex problems on basis of a diverse set of disciplines.* Like, philosophy, history, sociology, economics, anthropology, ...
- *ESST students will be training in intellectual empathy*: being aware of and open for other approaches, vocabularies, disciplines, cultures, etc.).
- *ESST students will be trained to switch between micro and macro levels of analysis.* They have studied macro phenomena (from economics, historical, cultural and philosophical perspectives), but also analysed detailed case-studies at micro-level. Switching between macro and micro levels of analysis can yield important insights that remain hidden without such switching.
- *ESST will gain international experience due to their mobility between countries during the program, which makes them extra flexible in a variety of ways.* Instead of 'just' following courses abroad, ESST students will gain international research experience. Doing a research project in another country, another language, and another (academic) culture is a substantial accomplishment: they have encountered difficulties and they did overcome them. This they can do again.
- *ESST students will be trained to work with innovative concepts and approaches.*
- *ESST students will develop the ability to adapt to changing external circumstances.*
- *ESST students will be trained to take an innovative approach to problems.* ESST did not teach them a standard approach to problems, but rather stimulated them to see every problem in its own right and look for the best possible solution — in terms of

discipline, concepts, methodology, empirical sources. They are helped by the variety of disciplines, levels of analysis that they encountered: it is quite likely that they will come up with a novel and feasible approach to a nagging problem because they can draw on more resources.

- *The ESST training will extend their previous undergraduate education, not replace it.* They do not have to deny their first identity (from their undergraduate or other master degree). ESST builds on that. Now they can do the same things as previously but better, and now they can do new things that are still relevant for their previous agenda.
- *ESST students are able to solve unexpected problems and challenges.*
- *The world is generally moving into a "contextual" direction, and ESST students will be specifically prepared for that.* They can cite the legal requirements in EU regulations to pay attention to ELSA of genetics and other new scientific developments such as nanotechnology. Many countries are specifically devoting funds to stimulate interdisciplinary research. Industry recognizes that narrow-minded innovation without attention to user requirements, environmental and ethical issues, does not work anymore. EU legislation and regulation recognise the multi-faceted nature of innovation and research.
- *ESST students are trained in collaboration and modesty* as they learn throughout the program the essential role of networks and network accomplishments and implicitly one learns that nothing is accomplished individually but only through engagement, collaboration and alliances if you will.

1.4 RESOURCES

Besides the text that you will read as compulsory literature, the course books also provide you with advice about related literature. Of course, we hope you will also try to find relevant texts yourself. Below we have listed some interesting books, journals and websites.

Introductions to STS
Some authors, mostly old dogs in the field, manage to write an overview with a personal touch and from a specific perspective. Such books are a compelling read. If you can afford it, such books add lustre to your bookshelf at home. Our tips for your shelf:

- Bauchspies, W., Croissant, J., & Restivo, S. (2006). *Science, technology and society: A sociological approach.* Oxford: Blackwell Publishing
- Bijker, Wiebe E., Thomas P. Hughes & Trevor J. Pinch (Eds.) *(2012) The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology.* Cambridge, MA: MIT Press (originally published in 1987)
- Bucchi, M. (2004). *Science in Society: An introduction to social studies of science.* London: Routledge.
- Collins, H. and T. Pinch (1993). *The Golem: What Everyone Should Know about Science.* Cambridge: Cambridge U.P.
- Collins, H., & Pinch, T. (1998). *The Golem at Large: What Everyone Should Know about Technology.* Cambridge: Cambridge U.P.
- Collins, H., & Pinch, T. (2005). *Dr Golem: How to Think about Medicine.* Chicago: The University of Chicago Press.
- Cutcliffe, S., & Mitcham, C. (Eds.) (2001). *Visions of STS. Counterpoints in Science, Technology and Society studies.* Albany: State University of New York Press.

- Hess, D. (1997) *Science Studies: an advanced introduction.* New York: New York University Press.
- Jasanoff, S. et al. (Eds.) (1995). *Handbook of Science and Technology Studies.* Seven Oaks: Sage.
- Hackett, E.J. et al. (Eds.) (2008). *The Handbook of Science and Technology Studies* (2nd ed). Cambridge Mass: The MIT Press.
- Kleinman, D. L., (2005). *Science and Technology in Society: From Biotechnology to the Internet.* Oxford. Blackwell Publishing.
- Kleinman, D.L. et al (Eds.) (2005) *Controversies in Science & Technology: from maize to menopause.* Vol.1. New Rochelle: Mary-Ann Liebert Publishers.
- Kleinman, D.L. et al (Eds.) (2008). *Controversies in Science & Technology: from climate to chromosomes.* Vol. 2. New Rochelle: Mary-Ann Liebert Publishers.
- Kleinman, D.L & Moore, K. (Eds.) (2014) *Routledge Handbook of Science, Technology and Society.* Routledge
- MacKenzie, D.A., & Wajcman, J. (Eds.) (1999, 2nd edition). *The Social Shaping of Technology.* Milton Keynes: Open University Press.
- Restivo, S. (2005). *Science, Technology and Society: An Encyclopedia.* Oxford: Oxford UP.
- Sismondo, S. (2010). *An Introduction to Science and Technology Studies.* 2nd revised edition. Oxford: Wiley-Blackwell Publishing.

Method books:

- Booth, W., Colomb, G., & Williams, J. (2008). *The craft of research* (3rd ed.). Chicago: The University of Chicago Press.
- Gilbert, Nigel (2008) *Researching Social Life.* Thousand Oaks, CA: Sage Publications.
- Seal, Cl. (2011). *Researching Society and Culture* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Czarniawska-Joerges, B. (2014). *Social science research: from field to desk.* London: Sage Publications.

SOME LEADING JOURNALS IN THE FIELD OF STS

– *Social Studies of Science*
– *Science, Technology & Human Values*
– *Isis*
– *British Journal for the History of Science*
– *British Journal for the Philosophy of Science*
– *Perspectives on Science*
– *Science as Culture*
– *Science in Context*
– *Technology and Culture*
– *Configurations*
– *Representation*
– *Organizational Studies*

SOME INTERESTING WEBSITES

The ESST International website
http://esst.eu

The STS-wiki
https://session.wikispaces.com/

Interviews with important STS scholars
https://www.cbc.ca/radio/ideas/how-to-think-about-science-part-1-24-1.2953274

An STS podcast
https://shobitap.org/the-received-wisdom

Free documentaries online
http://topdocumentaryfilms.com/watch-online/

Research in philosophy and technology
http://scholar.lib.vt.edu/ejournals/SPT/

Science and technology policy publications:\
http://sciencepolicy.colorado.edu/students/st_publications.html

Actor Network resources:
http://www.lancs.ac.uk/fass/centres/css/ant/ant-a.htm

http://latourbugblog.blogspot.nl/2009/01/actor-network-theory-terms-and-concepts.html

Society for Social Studies of Science (4S)
http://www.4sonline.org

European Association for the Study of Science and Technology
http://easst.net

1.5. CANVAS ELECTRONIC LEARNING ENVIRONMENT

Maastricht University uses Canvas as its electronic learning environment. Once you are registered as a student, you can access Canvas via canvas.maastrichtuniversity.nl. Canvas lists all the courses that you are signed up for. Within each course, you can find the syllabus, the upload points for papers you need to hand in, the powerpoints of lectures given (usually after the fact), and all other kinds of information. Canvas also gives you access to the assigned literature via the Resources button – this links to our library's KeyLinks system that stores all the texts.

Your course coordinator will also use Canvas to make announcements. So when you are partaking in a course, do check Canvas regularly. Also check your email regularly – we will only use your UM email account – not private ones.

Finally, Canvas has even more options – for distributing grades and feedback, setting up zoom meetings, showing videos, etcetera. But coordinators will use these differently. As in most parts of life, people differ, and this technology only partly standardizes this diversity.

1.6 THE COORDINATION OF ESST

<u>Director of studies</u>: Dr. Geert Somsen
The director of studies can assist you with general academic matters and questions regarding the contents of the Programme.

<u>Module Coordinators:</u>
Module 1: Dr. Geert Somsen
Module 2: Dr. Jessica Mesman
Module 3: Dr. Odinn Melsted
Module 4: Dr. Harro van Lente
Module 5: Dr. Jens Lachmund

Module 6: Dr. Jens Lachmund

<u>International Coordinator</u>: Dr. Jessica Mesman
Together with the directors of studies of the entire ESST network, the International Coordinator is responsible for the overall planning of the ESST Programme in Europe.

1.7. LIFE DURING ESST

FASoS
Whilst the selection process ensures entry of high-quality students, it is acknowledged that ESST is a challenging programme. Potential problems might arise due to the heavy workload in combination with, for example, difficult private circumstances or a non-social science background. Therefore, in addition to the social and intellectual support that you share amongst yourselves, and the general facilities as offered by the University (like Banditos, the common room and the library), ESST provides additional forms of organized support. In order to alleviate any potential problems, we offer you different forms of advice and support, these include: advise and guidance in different forms (your mentor Vincent Lagendijk), your tutor during the module, the supervisor of your thesis and the FASoS student advisor of our faculty) and this student handbook with its many guidelines (guidelines for supervision, for preparing the thesis outline, for academic writing, and for writing the thesis, supervision agreement, and style sheet).

The University Library
As a Master student you know that wikipedia and google should not be your prime intellectual resources. Instead, scientific journals and books as provided by the library (electronically or on the shelves) will be your main resource. The University Library of Maastricht has two locations: the inner-city library (humanities and social sciences) and the Randwijck library (Life sciences, Medicine and Psychology oriented). As an ESST student the inner-city library is your main location, but we advise you to check out the other one as well.

To find you way around and become acquainted with their services (support and facilities) it might be helpful to check out their websites http://library.maastrichtuniversity.nl/skills-and-support/#manuals

ILL for students
Books or periodicals that are not available in the collection of the Maastricht University Library can be requested from other Dutch libraries using the Inter Library Loan service (ILL). For more information on this service, and on how to get an account, please see library.maastrichtuniversity.nl/visit/borrowing-membership/ill/.

1.8 LIFE AFTER ESST

MAASTRICHT ESST ALUMNI
In 2018-19 we have started a LinkedIn page for all previous and current ESST students. See https://www.linkedin.com/groups/13642238/ and ask to join.

EUROPEAN ESST ALUMNI ASSOCIATION: INTERESST
InterESST is the alumni European organisation of ESST. Its aims are to communicate information about ESST subjects, to foster social contacts among ESST students and former students, to promote the ESST programme and its curriculum among industry, administration and academic institutions, and to keep up with what is going on within the field of ESST studies. The organisation has contacts with other similar organisations in Norway, Turkey and London. Its members are current or former ESST students (now ESST Masters) or individuals with a particular interest in STS-studies. There is an InterESST group on LinkedIn and on Facebook. To join you do not need to be a graduate yet. Being a member of the ESST community –also as a student- is what counts. See and join:
www.linkedin.com/groups?gid=1795180
Facebook: InterESSTMaastricht

MAASTRICHT UNIVERSITY ALUMNI ORGANIZATION
After graduation you belong also to the Alumni of the Maastricht University (UM). See for more information: http://www.alumni.unimaas.nl/

UM CAREER SERVICES
A special department of Maastricht University, UM career services, is there to help you (amongst others) in finding an internship. Please consult their website for further information about their possibilities (e.g. database with internships, trainings, individual consultation):
http://www.maastrichtuniversity.nl/web/ServiceCentres/SSC/InformationForProspectiveStudents1/StudentGuidanceAndAdvice/CareerServices.htm

2. THE FIRST SEMESTER

2.1. STRUCTURE AND CONTENTS OF THE FIRST SEMESTER

September	**Module 1 – Introduction in Science and Technology Studies** ECTS: 6 Core question: How to understand the relationships between science, technology and society? Core disciplines: sociology of technology and science, philosophy of technology Theoretical foci: Deterministic perspectives on S/T; STS perspectives on S/T and Society
October	**Module 2 – Science and technology in the making** ECTS: 6 Core questions: How are facts constructed? What is the relation between science, industry and the state? Core disciplines: anthropology of science, philosophy of science, innovation studies Specific skills: participant observation, interview training Theoretical foci: Stabilisation of facts and artefacts, Triple helix
November	**Module 3 – Interpreting the history of science and technology** ECTS:6 Core question: How to interpret the history of science and technology? Core disciplines: history and sociology of science and technology, historiography Specific skills: source interpretation Theoretical foci: Historisation of S/T
December	**Module 4 – Science and technology dynamics** ECTS:6 Core question: What are the economic and policy dynamics of science and technology? Core disciplines: Innovation studies, evolutionary economics, political science Specific skills: interpreting quantitative data Theoretical foci: Innovation, globalization, regulation, institutions
January	**Module 5 – The politics of knowledge** ECTS: 6 Core question: How to analyse controversies about S&T as conflicts about knowledge and expertise? Core disciplines: Political science, risk studies Specific skills: article reviewing Theoretical foci: politisation of science, scientification of policy, science–policy boundary work

Integrated skills track

Writing skills
- Academic writing
- Writing a position paper
- Writing a research proposal

Strategic communication
- Communicative skills
- Presenting for a professional audience
- Negotiation skills
- Argumentative skills

Team-working and personal effectiveness
- Group dynamics
- Project management
- Time management
- Personal effectiveness

Research skills
-research design: problem statement; hypothesis formulation, research structure
-data collection: literature review; fieldwork, interviews, archival studies, library techniques
-Text analysis:
- Project management

ESST is divided in two semesters of 30 ECTS each. The first semester of the ESST study programme has a general and introductory character and acts as a solid preparation for the second semester where you will specialise. The first semester is divided in five modules of each four weeks (September – January). Although all five modules are based on an inter-disciplinary approach, each module stresses particular theories and disciplines (see overview 2.1). Upon successful completion of the 1st semester you will be familiar with key STS literature, issues, debates, conceptual perspectives and methodological approaches, all of which will provide a basis on which to develop the research project in the 2nd semester.

Module 1: Introduction in Science and Technology Studies
Code: EST4000
Period: Period 1
Coordinator: Dr. Geert Somsen
Credits: 6.0

Objectives: This course offers an advanced introduction into different perspectives and analytical approaches on ways in which science, technology, individuals and institutions shape one another.

Content: Technology and science shape society: from the shaping of mobility patterns and gender and sexual identities, to the standardization of practices in health care. Mobile phones have changed what it means 'to be alone' or connected; organ transplantation has redefined our understanding of life; 'scientific planning' has reshaped our policy-making practices. There is, vice versa, a cultural influence on science and technology too. Thus we can only hope to understand science and technology when we acknowledge their cultural base. Historical and comparative studies have shown how different cultural circumstances yield very different forms and contents of science and technology. Science and engineering are, finally, also cultures themselves. Recent work in the anthropology and sociology of scientific practices has shown how fruitful it can be to look at scientific experimentation, fieldwork, technical workshops, laboratories, and international scientific cooperation as cultural phenomena. In this course, we take a "comparative" approach and study three different perspectives on the interrelationship between science, technology and society. These perspectives are based on ideas about the level of (political) influence of society on scientific development and technological innovations. These perspectives differ also in the way they understand technological artefacts: are they neutral tools in the hands of human beings or are they less innocent and have political force? Comparing these ways of defining the relationship between science, technology and society will provide students a tool to recognize underlying assumptions in newspaper articles, policy papers and science-fiction about society, science and technology ad their interrelationship.

Teaching methods: seminars, lectures, discussion of documentaries, skills trainings, student presentations
Assessment methods: position paper, theory-case paper
Key words: sociology of S&T; technological determinism; Social Construction of Technology; Actor-Network Theory; Large Technological Systems; co-production; ethics of S&T

Module 2: Science and Technology in the Making: Entering the World of the Laboratory
Code: EST4001

Period: Period 1
Coordinator: Dr. Jessica Mesman
Credits: 6.0

Objectives: The primary aim of this Module is to acquaint students with the analysis of the complexities involved in the production and dissemination of scientific knowledge. In essence, this course is an introduction into science studies and involves: a micro-analytical perspective on the complexities involved in the processes of building up scientific facts, and a meso-analytical perspective on the altered institutional ecologies as well as a macro-analytical perspective on the role of industry, the State and the society at large.

Content: You will be introduced to the way experimental research programs are set up and how they involve negotiations, translations of interests, and have political as well as cultural relevance. The anthropological perspective of science that we will use, involves a close look at the actual way scientists work in constructing facts and artefacts. Facts are not given by nature. They are not discovered by scientists in any simple sense of the word. Their construction results from complex processes involving heterogeneous networks of scientists, machines, techniques, institutions, engineers, intellectual property rights, politicians, skills, corporate labs versus public labs, role of industry, state and military, information, commercialization, knowledge, strategies, choices, patents, ethical conflicts, controversies, innovations, etc. Because of this heterogeneous mixing of humans and non-humans, facts and artefacts, fictions and realities, we have chosen the laboratory to give unity to the lectures, seminars. The module includes a one-day anthropological fieldwork (in teams) in a lab to observe real science-in-action.
In terms of knowledge to be acquired, you are expected, at the end of the three- week period, to have some idea of the way science in action actually function. This includes their internal functioning, the way they fulfil various functions in modern societies (industry, state, commerce and military) and the way they relate to other laboratories and sustain links with industrial contexts.

Teaching methods: seminars, lectures**,** fieldwork, skills training, discussion of video-vignettes.
Assessment methods: oral (group) and written (individual report) presentation of fieldwork results.
Key words: anthropology of scientific practice; science-in-action; integrity of science; commercialization; IPR; facts and values; science wars; participant observation & interviewing.

Module 3: Interpreting the History of Science and Technology
Code: EST4002
Period: Period 2
Coordinator: Dr. Odinn Melsted
Credits: 6.0

Objectives:
This Module aims to teach you how to set up and conduct an historical interpretation. It focuses zooms in on how, through time, different interpretations have been made about scientific and technological change. Apart from becoming acquainted with important themes in the history of science and technology, you will also practice working with (primary & secondary) sources, and assessing different interpretations.

Content: This module consists of two lectures (one on the Scientific Revolution, and another on the History of Modernisation). In addition, in five seminars you will deal with the rise of math and empirism, the nexus technology/nation-state, and the science-technology relationship. You will encounter quite a number of historical events, but learning about these is not the main point. Rather, the module focuses on issues of **historical interpretation**. How can we explain developments like the Industrial Revolution? How can we make sense of old scientific beliefs? Where do current relations between science and technology come from? Historians have developed various perspectives to tackle such questions, and in this module we will study a number of them, while focusing on the history of science and technology. In order to train the interpreting part, we will do a skills training in source interpretation. Both papers also assess your abilities to do such interpretative work.

Teaching methods: Seminars, lectures, skills training, presentations.
Assessment methods: skills paper, final paper.
Key words: Scientific Revolution, Modernisation, Techno-politics, Historiography

Module 4: Science and Technology Dynamics
Code: EST4003
Period: Period 2
Coordinator: Dr. Harro van Lente
Credits: 6.0

Objectives: The main focus of Module 4 is to examine the policy implications of the linkages between Economics and STS. The Module introduces the students to some of the key concepts and ideas about innovation, as viewed from the evolutionary, institutional, and systems-based perspectives such as STS. These form a set of tools, which the student is then guided to apply critically to an STS-related area of interest.

Content: From a policy perspective a need has been felt to better understand the innovation process and to determine how, through policy measures, this process may be strengthened to provide impetus for sustained economic growth - arguably a major policy priority for nation-states around the globe. An outcome of these developments has been the emergence of government- sponsored projects to capture the impacts of technology and R&D on national economic performance. The fourth module of the ESST course examines the dynamics of science and technology from an innovation, economics, and policymaking perspective. In doing so, the Module discusses responsible innovation, evolutionary economics, the network and national innovation approach, transitions and the multilevel perspective, and intellectual property right. The Module also offers a skills course on writing policy briefs.

Teaching methods: lectures, seminars and skills training
Assessment methods: take-home exam
Key words: Economics, Innovation, Institutions, Policy, Technological Change

Module 5: Politics of Knowledge
Code: EST4004
Period: Period 3
Coordinator: Dr. Jens Lachmund
Credits: 6.0

Objectives: The fifth module introduces the political dimension of contemporary science and technology. Throughout much of the modern period, science and technology had been perceived as neutral instruments of cultural, social and economic progress. Much work in Science and Technology Studies has meanwhile problematized this view of science and technology as a neutral force of societal rationalization. Scholars in this area now seem to agree that knowledge-claims and artefacts 'have politics', in the sense that they are shaped by selective and context-bounded practices, values and interests, but also in the sense that politics itself is framed and facilitated by context-bound cultures of knowledge and expertise.

Content: In the first three session of the module we look at three different ways in which scientific and technological knowledge can be regarded as "political". Whereas the first sessions focus on specific content-areas of science, the second part sheds light on more general institutional features that run across such domains. The course ends with a debate about new forms of participatory governance in science and technology and their democratic potential. During the entire course, also many topics will reappear that you already know from previous ESST modules albeit from a different perspective and with other consequences.

Teaching methods: seminars and lectures
Assessment methods: research proposal
Key words: risk society; politics & policy; controversies; expert; citizen participation; media

Detailed information on the content of the five modules can be found in the module books. All modules are structured in the same way. There are approximately 5 to 6 two-hour sessions per week, each covering a different topic. The format of these sessions generally consists of a mixture of a lecture, a seminar and skills training.

2.2. TEACHING APPROACHES AND STUDENT PARTICIPATION

Teaching approaches: In the ESST programme we use a set of different teaching forms. The table below provides you with a short description of each of them. (Be aware: not all forms will be used in each module).

Teaching approaches	Short description of teaching approach
Seminar/Tutorial session	These sessions provide a platform to reflect and clarify key literature and topics. The coordinator acts as tutor and chairs the meetings in order to achieve the learning objectives of the tutorial sessions.
Lecture	In a lecture, central perspectives and their possible applications are presented and discussed. Besides a FASoS staff member, academic and professionals from outside are involved. The Course Coordinator introduces the lecture by putting it in the overall context of the module. Students are expected to actively participate in the discussion after the lecture.
Discussion session	These sessions are focused on discussing a topic which is mostly introduced with the help of a documentary (usually explicitly produced for teaching purposes). The videos provide (historical and topical) overviews and critical reflections in another format (visual) of the key issues of the module. Class discussions of these documentaries not only

	provide a learning context, but also an opportunity for the tutor to elaborate on issues and check the level of understanding of the students.
Student presentation	Students present (in a team/ individually) their work (literature overview and analysis, results of empirical data collection and analysis) in front of an audience (fellow students, teacher(s) and guests (scholars and professionals). Students are encouraged to use visual aids (hand outs, Power point) and receive feedback on the form and content of the presentation from the tutor, their fellow students, and guests. The presentation should also provide a basis for discussion. Presenters are expected to act as discussion leader.
Fieldwork	A team of two or three students is engaged in a one-day session in a laboratory in order to study 'science-in-action'. By undertaking participant observation and conducting interviews with researchers on the spot, students can mentally adjust and increase their knowledge and understanding of the dynamics of science, technology and society in a real-time science context. Due to the limited time-frame, students must formulate a precise research question before entering the lab.
Project work	Students are assigned and carry out a small-scale project individually or in teams. A project can involve e.g. the design of a table regarding the differences and similarities of theoretical and methodological approaches in STS or a fieldwork project.
Skills training	These training sessions are based on the idea of learning-by-doing. See 2.1.2 for further details.

Although the programme involves a full-time workload, the number of contact hours is limited, which means that you should plan your work carefully. It may be worthwhile to organise your own reading groups in order to discuss the readings with fellow-students outside of class. At the UM, teaching is in English and all papers should be written in English and handed in by using 'Safe-Assignment' (plagiarism checker) at the UM's Student Portal

Attendance rules: You are expected to attend all meetings, no matter their nature. You are allowed to miss two meetings if you have a legitimate reason and after consultation with the course coordinator. If the coordinator does not find the reason legitimate (e.g. if it is for a birthday party) you will have to make up for the missed meeting(s) with an additional assignment. In case you miss three or more meetings for any reason you will have to make up for all the missed meetings, including the first two. The coordinator determines the content and deadline of additional assignments.

Participation criteria: Students are expected to be well-prepared and contribute actively to class discussions. A good preparation means reading all compulsory readings, processing them (to the extent that you can comment on them) and making all the assignments. The quality of participation is assessed by the instructor. Students are encouraged to vary roles in the seminars – for example by sometimes raising new issues, sometimes developing thoughts of others, sometimes providing counterarguments, etcetera. Try to judge not only what to say and when to say it, but also how to make discussions more productive in general. Most generally, participation will be assessed on the basis of:

- Your level of preparedness for classroom discussions
- Your input to the discussions

- Your contributions to facilitating the discussions

More specifically, the following participation criteria apply:

Professional Attitude: the student…
- is well-prepared: has done and digested the compulsory readings and made the assignments
- communicates in a respectful way with fellow students and teachers
- contributes to a productive, collaborative atmosphere
- is aware of his/her strengths and weaknesses
- informs his/her tutor in case of absence.
- is able to recall relevant insights from previous sessions and courses

Communication Skills: the student…
- is able to communicate his/her ideas in a clear and succinct way
- listens carefully to fellow students
- dares to raise questions in case issues remain unclear
- recognizes that there are no silly questions
- is able to create synergy between theories, practices, and personal experiences
- is able to wrap up a discussion

Analytical Skills: the student…
- is able to summarize theories
- is able to distil and communicate relevant topics from a text/assignment
- is able to give relevant examples or counter examples
- is able to reveal false arguments
- demonstrates reflective insight
- has the ability to give a discussion analytical depth
- is able to raise additional questions which highlight issues which are overlooked or taken for granted
- is able to highlight the analytical/theoretical progress which has been made during a group session

Module 2 has an extra set of criteria for teamwork participation.

General tips:
- The ESST master is a full-time program, and we thus expect you to be present. In case you are not able to be present at a meeting, please contact the coordinator in advance via e-mail.
- You should prepare thoroughly for all meetings. If, for some reason, this is not possible be sure to inform the teaching staff.
- It goes without saying that you arrive on time and that talking during lectures is rather impolite.
- A substantial part of the program will consist of group work. Consequently, it is important that you do not forget your responsibilities as a group member. This includes good communication, preparation and meeting mutually agreed deadlines.

- Following up on the previous point please make sure that all deliverables are handed in on time. Both fellow students and teaching staff will have to be able to read (and correct) your contributions.

2.3. ESST CORE TEXTS AND TOPIC LIST

The ESST Association has designed a list of topics and texts which are considered as being the core of the programme. No matter if you are enrolled in the ESST programme in Madrid, Oslo, Maastricht or elsewhere, all ESST students in Europe will discuss the following matters and texts in the first semester:

A. LITERATURE

Science and Technology Studies

1. Bijker, W. E. (1995). *Of bicycles, bakelites, and bulbs: toward a theory of sociotechnical change.* Cambridge, Mass: MIT Press.

2. Daston, L., & Galison, P. (2007). *Objectivity.* New York, NY: Zone Books.

3. Callon, M., Lascoumes, P., & Barthe, Y. (2009). *Acting in an uncertain world: an essay on technical democracy.* Cambridge, Mass.: MIT Press.

4. Epstein, S. (2009). *Inclusion: The Politics of Difference in Medical Research.* University of Chicago Press, pp. 1-16, Chapter One (17-29) and Conclusion (277-302).

5. Fagerberg, J. (2003). Schumpeter and the revival of evolutionary economics: an appraisal of the literature. *Journal of Evolutionary Economics*, 13(2), 125–159.

6. Ian Hacking. (1986). Making Up People. In Thomas C. Heller, Morton Sosna, & David Weilbery (Eds.), *Reconstructing individualism: Autonomy, individuality and the self in western thought* (pp. 222–236). Stanford: Stanford University Press.

7. Haraway, D. (1991). "Situated Knowledge: The Science Question in Feminism and the Privilege of Partial Perspective" in D. Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature,* New York: Routledge, pp. 183-201.

8. Jasanoff, S. (2004). *States of knowledge: the co-production of science and social order.* London; New York: Routledge.

9. Knorr-Cetina, K. K. (1999). *Epistemic Cultures: How the Sciences Make Knowledge.* Harvard University Press.

10. Latour, B. (1987). *Science in action: how to follow engineers and scientists through society.* Cambridge: Cambridge University Press. Introduction, pp. 1-17; chapter 2, pp. 63-100; chapter 3, pp. 103-144.

11. Latour, B. (2004). Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern. *Critical Inquiry*, 30(2), 225–248.

12. Lundvall, B. (2007). National Innovation Systems: Analytical Concept and Development Tool. *Industry & Innovation*, 14(1), 95–119.

13. Marres, N. (2012). *Material participation: technology, the environment and everyday publics*. Houndmills, Basingstoke, Hampshire; New York: Palgrave Macmillan.

14. Mol, A. (2002). The body multiple: ontology in medical practice. Durham: Duke University Press

15. Nowotny, H., P. Scott, and M. Gibbons (Eds) (2001), *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty*. London: Polity Press, preface and chapter 1, pp. vii-20.

16. Owen, R., Bessant, J. R., & Heintz, M. (Eds.). (2013). *Responsible innovation: managing the responsible emergence of science and innovation in society*. Chichester, West Sussex: John Wiley & Sons.

17. Rogers, E. M. (2003). *Diffusion of Innovations* (5th edition). New York: Free Press.

18. Shapin, S. (1984). Pump and Circumstance: Robert Boyle's Literary Technology. *Social Studies of Science*, 14(4), 481–520.

B. TOPICS

General issues
- The development of the fields of STS and Innovations studies
- The knowledge society and its consequences
- The interaction between different actors in different parts of society and how it fosters development of science and technology
- Scientific controversies in the meeting of nature and culture – and how this influences policy
- Innovation theory and innovation systems
- Management of innovation and its consequences for policy

Specific concepts (and their related concepts)

1. **AGENCY**
   -mediation
   -invisible work; articulation work
   -affordance;

2. **ACTOR-NETWORK THEORY**
   -Latour, Callon, Law, Akrich
   -critiques;
   -post-ant
   -script
   -black box
   -script: inscription; description; enscription

3. **COMMODIFICATION**
   -Intellectual property rights (IPR),
   -commercialization of science;

4. **CONTEXT AND CONTINGENCY**
   -Construction of facts and artifacts;
   -boundary work;
   -determinism;
   -linearity;
   -interpretative flexibility
   -co-production

5. **CONTROVERSIES AND EXPERTISE**
   -Role of (social) media
   -advise (science; policy)
   -authority of science
   -public understanding of science
   -Scientific expertise and public participation
   -citizen science

6. **EPISTEMIC CULTURES**
   -spaces of knowledge
   -controversy studies;
   -science war
   -realism – relativism
   - internalism - externalism
   -feminist epistemology
   -Scientific vs. manifest image
   -scientific representation

7. **GOVERNANCE AND RRI**
   -responsible research and innovation
   -Technologies of governing;
   - politics of knowledge
   - regulation and standardization
   - Valuation and/or evaluation, audit society
   -policy-driven science vs. science-driven policy

8. **INNOVATION AND CREATIVITY**
   -creative destruction; interactive learning; entrepreneurship
   -systems of innovation: diffusion of innovations; evolutionary approach; geography of innovation; globalization and localization innovation networks; innovation and social challenges; innovation policy; innovation typologies; institutions; knowledge typologies; multi-level perspective; path-dependence;
   -sustainable transitions;
   -technological transitions
   -Technology regimes (e.g., innovation regimes, IP regimes, regulatory regimes)

9. **KNOWLEDGES**
   -MODE 1, 2, 3

-tacit knowledge
-affective turn
-ways of knowing
- embodied knowledge
–situated knowledge:
-ecologies of knowledge

10. MATERIALITY
-agency
-politics of artefacts;
-material semiotics
-material culture
-affordances

11. METHOD
-symmetry
-web approach
-interactive approach
-interventionist turn
-interdisciplinarity
-ANT: actants; networks
-SCOT: social relevant groups
-System: components; reverse salient; entrepreneurs

12. MODERNITY
-a-modern;
-post-modern;
-science and modernity:
-reflexive
-high modernity

13. MORALITY
-matters of concern
-ethicisation
-inequality

14. PRACTICE
ecologies of practice;
communities of practice:
practice turn:

15. RISK AND VULNERABILITY
-Assessment of technology (TA, CTA)
-risk and uncertainty in sociotechnical transitions
-resilience and robustness

16. SOCIAL CONSTRUCTION OF TECHNOLOGY (SCOT);
-interpretative flexibility
-closure
-obduracy
-critique

17. **SCIENCE**
   -Sociology of Scientific Knowledge (SSK):
   -Cultural studies of Science:
   -history of science:
   -normative structure of science
   -philosophy of science:
   -Strong Program;
   -Laboratory Studies;
   -experimenter's regress;
   -science and modernity;
   -science and religion;
   -science and politics
   -black boxing;
   -purification and inversion process;
   -instrument;
   -normative structure (Merton);
   - gender and science
   -Science as an ideology
   -Numbers and Evidence

18. **TECHNOLOGY**
   -technological determinism;
   -momentum;
   -social shaping of technology
   -black box;
   -gender and technology
   -philosophy of-;
   -history of technology;
   -industrial revolution
   -system approach: Large Technological Systems; momentum
   -Technological citizenship

19. **USER**
   -user participation;
   -configuring users;
   -non-users;

C. EMPIRICAL THEMES

Body (medicine, gender, identity, trans-humanism; Biotechnology and the status of new life forms; human enhancement; neuroscience and responsibility)

Civic (civic science, public understanding of S&T communication, public participation in S&T)

Democracy (digital, technological; decision-processes)

Economic Growth and Inequality (crisis: environment, economic, innovation, financial)

Ethicization (of science and technology)

Infrastructures (vulnerable, critical, complex, natural, politics of, symbolic nature of…)

IPR and standardization

Nature and Environment (climate, geo-engineering, waste, food; energy transition; pandemic management and disasters)

New Emerging Science and Technologies (NEST): robotics, genomics, nanotech

New Information systems (Big data; social media; privacy; Web 2.0 / E-Governance)

Public Engagement

2.4. ASSESSMENT OF THE FIRST SEMESTER
In every module your participation is part of the assessment. Additionally, each module has specific exam formats. Details about these, and their assessment, can be found in the module course books.

THE DUTCH GRADING SCALE – AN INTRODUCTION
Grading at Maastricht University and in the ESST programme follows the Dutch grading scale where 10 is the highest grade, 6 the minimum pass and 1 the lowest grade. Most Dutch students and teachers can easily specify the meaning of these grades – they grow up with this scale as it is applied at all educational institutions in the Netherlands: from elementary schools to universities. But for staff and students from elsewhere, the situation is different, and can potentially lead to misunderstandings. The following section, therefore, aims to ensure the systematic and consistent application of the Dutch grading scale to reduce misinterpretations and increase the transparency of grading. It has been provided by the FASoS Board of Examiners.

Interpretation and common misconceptions about the Dutch grading scale

When asked to clarify the meaning of grades, Dutch examiners uniformly comment on the great difficulty in obtaining 9's and 10's and the respectability of 6's. There is also agreement that an 8 represents a high level of achievement, while grades 6 and 7 generally account for the majority of passing grades awarded. The Dutch grading scale is typically explained via the following qualitative descriptors:

10 = excellent
9 = very good
8 = good
7 = ample sufficient
6 = sufficient
5 = marginal fail
< 5 = clear fail

This is also how the grades feature on the official Maastricht University diploma supplement. The grades 0 and 1 are set administratively. Zero (0) is the grade a student receives when the

Board of Examiners finds him/her to be guilty of plagiarism. Then the student's work is invalidated and the paper (partial result) or sometimes the entire course grade is set on 0.

One (1) is the grade a student receives when there are partial results for a module (course/skills/tutorial/etc.) but (s)he does not have all results required by the module. In a scheme this looks as follows:

Exam result	Participation result	Final Result
No (final and intermediate exam(s) not taken)	No (not participated at all)	No Grade (NG)
No (final and intermediate exam(s) not taken)	Yes (sufficient or insufficient)	1
Yes (final and/or intermediate exam(s) taken:) sufficient or insufficient final grade	No (not participated at all)	1
Yes (final and/or intermediate exam(s) taken:) sufficient or insufficient final grade	Yes (sufficient or insufficient)	Final result achieved will be listed

The chosen adjectives (i.e. qualitative descriptors of the grading scale) can be confusing for students or staff coming from teaching systems where 'good' is understood as average, and 'excellent' is the sole descriptor of high quality performance. In the Netherlands, anything above 8 is in fact a marker of very high academic achievement. This is why the Honors' diploma (Cum Laude) requires an average of 8 or higher. For foreigners it might be contradictory that 'good' (the grade 8) actually signifies excellence (Cum Laude, honours' distinction). For the Dutch students and graders, however, this is perfectly consistent and they do not recognize this contradiction. This has to be understood against the historical background of the scale.

Background and psychology of the Dutch Grading Scale

The best way for a foreigner to acquire an understanding of the Dutch grading scale is to get acquainted with its origins and the underlying norms and values. Consider the following quote (emphasis added)[1]:

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[1] Netherlands Organization for International Cooperation in Higher Education (NUFFIC), "Grading Systems in the Netherlands, the United States and the United Kingdom" (2012). See: www.nuffic.nl/en/files/documents/about-nuffic/publications/gradingsystems.pdf/view.

"Grading culture
Grading practice in the Netherlands differs from that in the US and the UK inasmuch as the really high grades (10 and 9) are rarely awarded, regardless of the achievements of a given group of students. It is part of the grading culture in the Netherlands, *dating back to the late 19th century* when the scale from 10 to 1 was officially introduced. At the time, it was decided that a 10 should only be awarded in the case of **absolute perfection**. But as it was felt to be *almost blasphemous for mere mortals to be the judge of absolute perfection*, a 10 was hardly ever awarded. Instead, the 9 was considered to be a slightly less impossible goal to reach. With the advent of multiple choice testing and the yes/no type of questions, 10s and 9s came within reach of ambitious students. To this day, however, these grades are still very rarely given in oral examinations or open question testing, such as essays, presentations, project reports or dissertations."

Clearly, the grading scale in the Netherlands reflects a particular cultural and psychological angle to testing and grading: the primary aim of the examination is not to rank the examined or to single out superior academic performance, but rather to certify the group of students who have attained the educational objectives. In this context, the different grades do not indicate the distance from the perfect answer, but the distance from the sufficient answer. The implication of this system is that Dutch students typically aim to demonstrate sufficient educational performance rather than perfect educational performance, which is considered near to impossible in the Dutch (culturally-bound) understanding. This, in particular, can be the source of many misconceptions of foreign students and graders, as for many educational systems abroad the aim of the learning process is to reach excellence (the highest possible grade).

The likelihood of students in social science/humanities disciplines in the Netherlands achieving the grades of 6, 6.5, 7 or 7.5 is approx. 47% (almost every second student). The grade of 5.5 is an outlier in the grading scale, because the examiners prefer to state clearly whether the work is a pass (6) or a fail (5), instead of the marginal fail (5.5).

Grades at the top end of the grading scale (8, 8.5, 9) are given more frequently than grades at the bottom range of the grading scale (1.5 – 3.0), whereby grades below 1.5 and above 9 are virtually <u>never</u> used – with the exception of grades generated by multiple-choice exams or administratively set grades.

Example of a grading matrix and recommendations to FASoS examiners

By means of example, we provide an application of the 10-point grading scale for several commonly tested educational achievements (e.g. knowledge, argumentation, analytical depth, etc.) The grading matrix below may provide responsible examiners and course coordinators with a coherent set of appropriate qualifications for each grade and tested skill.

Grade	Knowledge	Interpretation and Analysis	Construction of argument	Relevance	Language Proficiency	Documentation & Presentation
10 **Excellent/ Outstanding**	Perfect use of sources and information, exceptional initiative shown in locating material.	Exceptional and groundbreaking insight into the material and its significance. Originality and/or work close to publishable standard.	Perfect handling of theoretical and/or methodological and/or empirical material, close to publishable standard.	Perfect in its coherence. Demonstrates exceptional and groundbreaking understanding of the subject matter.	Prefect use of language conventions, and impeccably clear communication.	Perfect use of documentation conventions and presentation close to publishable standard.
9 **Very good**	Highly rigorous use of sources. Impressive initiative shown in locating material.	Highly subtle insight into the material and its significance. Very original and sophisticated analysis and interpretation.	Highly perceptive and incisive. Dept and sophisticated handling of theoretical and/or methodological and/or empirical material.	Exemplary in its coherence and focus on the question. Nuanced and deep perception of the topic's implications.	Exemplary use of grammar, spelling and language conventions.	Exemplary use of documentation and highly effective presentation which significantly enhances communication.
8 **Good**	Displays special initiative. Includes unusual or extremely full information.	Exhibits special, distinctive, or powerful insight into the material and its significance.	Exhibits such characteristics as: independence, cogency, nuance, subtlety, sophistication, and a powerful grasp on methodology	Keeps and unusually clear and confident focus, and shows a fine grasp of issues and of their nuances.	Exhibits excellences and sophistication across the constituent elements of language proficiency.	Displays very full and appropriate documentation and especially effective presentation.
7 **Ample sufficient/ More than satisfactory**	Provides substantial information, displays a solid knowledge of mainstream material.	Has a clear understanding of the material and its significance.	Argues in an assured and orderly way, with clear development. Shows some understanding of methodology.	Displays a secure sense of relevance of the material to the chosen method of argument.	Exhibits a high level of competence across the constituent elements but may contain a significant number of errors, whilst not impairing communication	Displays a thorough grasp of appropriate principles of documentation and presentation.
6 **Sufficient/ Satisfactory**	Provides a reasonable quantity of accurate information.	Has a competent (if independent and incomplete) understanding of the material and its significance.	Presents the general outline of an appropriate argument.	Displays a sound general sense of relevance through sometimes wavering and unreflective.	Demonstrates a general competence across the constituent elements but contains a range of errors which significantly impact on communication.	Displays a general grasp of appropriate principles of documentation and presentation.
5 **Marginal fail/ Almost satisfactory**	Provides a limited quantity of information with some accuracy.	Has some limited understanding of the material and its significance.	Presents some elements of an appropriate argument.	Displays some limited sense of relevance.	Achieves limited communication despite numerous and varied errors in the constituent elements, particularly in morphology and syntax.	Displays some limited care and competence in documentation and presentation.

< 5 Clear fail	Is incompetent in quantity or accuracy.	Has no real sense of what the material means.	Presents practically no appropriate argument.	Displays no adequate sense of relevance.	Barely able to achieve communication due to wide-ranging error in the constituent elements.	Displays an inadequate grasp of appropriate principles of documentation and presentation.

Example of grading conversion of Dutch grades into the German grading scale

Years of experience have learned that especially German students are interested in the conversion of their Dutch grades into the German grading scale. Such questions about the translation of grades between the educational systems of the Netherlands and Germany are in the jurisdiction of NUFFIC[2].

On its website (www.nuffic.nl), and concretely under the section 'Diploma Recognition', NUFFIC presents the so-called 'country modules'. The country modules[3] provide information about the correspondence between the Dutch education levels and their equivalents abroad. The country modules also include grade conversion formulae and comparative information[4]. Hereby an excerpt from the German country module (from 2012, p. 14, emphasis added):

"In Germany, the highest mark (1) is awarded more often than in the Netherlands (10). In the context of admission to higher education, the following formula has been used for many years to convert Dutch secondary education examination results into German results:

$$x = 1 + 3*(N_{max} - N_d)/(N_{max} - N_{min})$$

where x = the German exam result,
N_{max} = the highest possible pass mark in the Netherlands
N_{min} = the lowest possible pass mark in the Netherlands, and
N_d = the candidate's result.

Initially, N_{min} was set at 6 and N_{max} at 10. However, this produced results that were far too low compared to those obtained in Germany. For this reason, for the purpose of converting higher education examinations results, *N_{max} has been set at 9 since 2011.*"

Example: The calculations for the grade conversion of a 7,5 obtained in the Netherlands are as follows:

German grade = 1 + 3*(9-7,5)/9-6 = 1+ 3*1,5/3 = 1 + 1,5 = 2,5

Hence, it is expected that the candidate's grade of 7,5 from the Netherlands, will be considered as equal to 2,5 in Germany.
As a rule, in the first semester the ESST students at Maastricht University are evaluated on the basis of the Dutch '10-scale' grading-system.

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[2]   The Netherlands Organization for International Cooperation in Higher Education (NUFFIC).

[3]   See: http://www.nuffic.nl/en/diploma-recognition/country-modules/country-modules

[4]   See the following link for examples from grade conversion in various countries: http://www.nuffic.nl/diplomawaardering/diplomawaardering/cijfersystemen .

2.5. FORCE MAJEURE: THE HARDSHIP CLAUSE

It may happen that circumstances beyond your control and responsibility prevent you from passing an exam or completing your thesis. In such cases, where, according to the exam regulations "application of the Education and Examination Regulations would lead to manifestly unreasonable results", you can appeal to the so-called Hardship Clause. The FASoS Board of Examiners can then grant you an extended deadline or another alleviating measure. An example of a case where the Hardship Clause might apply is extended medical treatment.

In most cases it is advisable to inform yourself about these possibilities **early**, and to contact the MA ESST **Study Advisor**, Miranda van den Boorn.

You can find all information on the Hardship Clause, including how to apply, on the Student Portal. Go to: Student Portal > MyLinks > FASoS Student Intranet > Study programmes and Regulations > Hardship Clause.

3. THE SECOND SEMESTER

The second semester starts in the first week of February. It is devoted to your specialization. You choose your specialization (roughly three months before the second semester starts) out of the options offered by our partner universities in the ESST network. In most cases this implies that you will move abroad. Staying in Maastricht means choosing its specific specialization.

The ESST network consists of more than a dozen European universities. Each offers one or more second semester specializations matching their specific expertise. The precise set of choices varies slightly from year to year. You can find the actual list of available specializations, made definitive around the start of the academic year, on: esst.eu/specializations.

3.1. SELECTION OF SPECIALIZATION

In order to distribute students over the specializations in the ESST network there is a selection procedure. After they have familiarized themselves with the options, students are asked to submit their top three choices for consideration. The Directors of Studies of the ESST network then review these applications and try to place students according to their highest priorities.

GUIDELINES FOR SELECTION PROCEDURE

To enter the selection procedure, you

- check the specializations on: esst.eu/specializations
- contact the coordinator of the specific specialization in case if you have questions or difficulties choosing, (email addresses are on the same web page)
- hand in your application, listing your top three priorities, plus motivations for choice 1 and 2, by email to the Programme Director (of your first semester university). **Deadline: 30 September 2023**.

The application should be 3-4 pages long and consist of four parts:

1. CV / short explanation of your background (scholarly, professional, and/or relevant otherwise)
2. A statement identifying your 1st choice of specialization; the motivation for your choice; the thesis topic you have in mind
3. Indication of your 2nd choice; short motivation for your choice; the thesis topic you have in mind
4. Indication of your 3rd choice (no motivation or topic required)

Note that choices should be made based on specialization, not on city or university. In the cases where one university offers two or more specializations it is possible to have a 1st and 2nd choice at the same university. It is strongly recommended that you make your motivation relatively detailed and identify a potential thesis topic. This makes it easier for the Directors of Studies to judge whether the university will indeed have supervision capacity and competency available. Be aware that this does not imply that you are bound to stick to this topic – after all, we hope you learn new things in the second semester as well.

You will be informed about your placement by **November 30th** latest. In most cases students will be able to study the specialization of their choice.

FINANCE

If you go to one of our partner universities, you do not have to pay tuition fee – you stay enrolled as a regular student at Maastricht University. Erasmus grants are available if the partner is in the EU and if you have not used the Erasmus fund yet. This grant is a compensation for extra costs – it certainly does not cover all expenses. For more information about both grants and how to apply for them, you may contact Sabine Vanhouwe (sjmj.vanhouwe@maastrichtuniversity.nl).

3.2. STRUCTURE AND CONTENTS OF THE SPECIALIZATION

The precise structure and contents differ per specialization but follow one general pattern: you start with some coursework; you soon find a supervisor and write a thesis proposal (also known as "research proposal" or "thesis outline"); after this you spend most of the semester doing research and writing your thesis. In table form:

5 February	start second semester
	coursework, finding thesis supervisor
mid March	deadline thesis proposal
	work on thesis
21 June	deadline thesis
30 August	deadline thesis resit

The thesis is worth 22ECTS. Coursework and thesis proposal are worth 8ECTS. In places where the coursework is not standard or where several choices are available, do make sure that you get at least the 8ECTS.

3.3. THESIS SUPERVISION

At the start of the thesis process, a member of the ESST teaching staff will be found and appointed as your supervisor. This person is in charge of the entire trajectory involved in the writing of the student's thesis, but it is your job as a student to assess when a meeting is required, when advice is needed, or when specific feedback will help the writing process further along.

GUIDELINES FOR SUPERVISION

The following guidelines establish the essential elements of the student/supervisor relationship and the minimum requirements that a student will be expected to fulfil:

1. At the beginning of the research period, students will have a detailed discussion with their supervisor covering the following points:

   a) the subject and contents of the research;

b) the importance of finishing within the time available – establishing an overall timetable for the work;
c) the standard of work expected (e.g. by using theses from previous years as examples);
d) the use of literature and other sources (access to libraries, information, etc. in particular should be made clear);
e) efforts to avoid fabrication of results and/or plagiarism;
f) good practices in the collection and use of research data;
h) constraints which may affect the progress of the work, such as costs associated with arranging and conducting surveys and/or interviews.

2. It is expected that regular meetings or communications with the supervisor will be held to discuss problems and progress – preferably face-to-face (although this may not be possible given the constraints of distance). The number of meetings can be set on basis of mutual agreement.

3. After the thesis is completed and has been handed in, the supervisor, in cooperation with a second reader, composes and submits an examiner's report on the student's thesis.

4. If there are problems with regard to supervision (e.g. if the standard of supervision is inadequate or the student is unable to gain contact with the supervisor), these difficulties should be raised as soon as possible with the coordinator of the specialization, or the Maastricht Director of Studies.

All of you, no matter at which university you spent your second semester, will discuss the supervision with your supervisor. If you want to you can use the ESST supervision agreement (see below) that lists the rights and duties of the student and supervisor. As such it can prevent misunderstandings and disappointment during the supervision process. A copy of the form below can be found on Canvas, Thesis, under Modules.

SUPERVISION AGREEMENT

ESST Student / Second Semester University

The second semester university

....

has appointed dr.

....

as MA thesis supervisor for student

....

for the period

....

The topic of the thesis is:

....

....

....

RIGHTS AND DUTIES

Through this agreement, student and supervisor acknowledge the following rights and duties.

The student will:
- be well-prepared for all meetings
- follow the accepted schedule and working plan
- keep the supervisor informed on his/her progress
- hand in the drafts to be discussed at least three days before the meeting
- inform the coordinator of the specialization or director of studies on any difficulties or problems of supervision
- be responsible for the process of supervision

The supervisor will:
- be well-prepared for all meetings
- remain informed on the progress of the student in relation to the schedule and work plan
- discuss and evaluate the plans, methods and implementation of the plan
- inform the student on how the supervision will be conducted
- inform the director of studies of any problem relating to the progress of the work

Beware: a supervisor acts as a consultant. A supervisor is not a co-author; the MA thesis is an individual research project.

A supervisor DOES:
- give feedback and recommendations about the potential research questions(s), research objectives, the structure of a thesis, and theoretical framework;
- evaluate methodological approaches, give comments and suggestions on that matter;
- read drafts, bring out the strengths and weaknesses of the text;
- give an assessment to the completed MA thesis.
-

A supervisor DOES NOT:
- present a student a topic or phrase research problems and questions;
- look for or present a theoretical framework;
- supplement or tweak a draft;
- make corrections in the thesis in terms of grammar, spelling, editing etc.

3.4. WRITING THE THESIS

GUIDELINES FOR PREPARING THESIS OUTLINE

<u>Around the middle of March</u>, students are to hand in an outline of the thesis, including a specific research question (or set of questions), an impression of the relevant literature, methodological considerations, and a preliminary thesis set-up/table of contents. At this point, students will receive feedback from their supervisors and they will get an opportunity to present their plans to the other ESST students.

Aim at 3-4 pages. The following items should be addressed somewhere in your outline, although not necessarily in this order.

<u>Working title</u>
This may well change for the final draft of the dissertation.

<u>Your name; your supervisor's name and email address; title of specialization</u>

<u>Aims and objectives</u>
Clearly specify what you aim to achieve in the thesis. You can express this as a set of research questions you intend to address. Limit their overall number so that the project remains manageable.

<u>Identification of key literature and debates</u>
Identify main bodies of literature that you will be drawing upon and key debates to which your work is intended to contribute. You should try to identify potentially useful theoretical frameworks and/or concepts that will help your research.

Remember that you need to engage critically with theories of science and/or technology in your chosen area. Do not 'black box' science and technology.

<u>Methods</u>
Identify key methods you will use to achieve your aims and objectives. These may include different methods for different aspects of the project. Some examples are:

1. literature search (always)
2. archival research
3. interviews
4. discourse analysis
5. observation
6. document analysis
7. case study

You should state which method will be used for each objective previously identified. This will allow your supervisor to check that you are approaching your data collection in a way that is likely to achieve the best possible results.

<u>Timetable</u>
Indicate the amount of time you will spend on each part of the project (literature review, data collection, analysis, write-up, etc.). This will help your supervisor judge the feasibility of the project in the time available. You can then set suitable dates for meetings and for handing in chapter drafts.

<u>Bibliography</u>
This is a list of key books, articles, reports that you have already identified as being of central importance to your study. Again, this will allow your supervisor to 'spot' any obvious gaps and to advise you accordingly.

<u>Suggested structure for final thesis</u>
Provide a preliminary table of contents with the headings and sub-headings you think you will use in structuring your final dissertation. You will not be held to these, but this exercise will help you envisage the whole and consider the parts.

Please remember that the more information you provide at this point, the easier is it for your supervisor to help you improve further. Thin, patchy or vague outlines at this stage are likely to lead to delays in getting started, including difficulties in identifying an appropriate supervisor. On parts where you are not sure, just say so and add what you would like to do or achieve.

GUIDELINES FOR WRITING THE THESIS

The thesis is the single most important piece of written work you will produce during your year of study. Its main purpose is to allow you to demonstrate your intellectual grasp of a relevant area and your ability to research and present a complex set of ideas. In researching and writing your thesis, you can draw on everything you have learned in your first semester and specialization modules. In addition to content itself it should display the following skills:

1. clear specification of objectives / research question(s)
2. effective searching of literature
3. choice and application of appropriate analytical methods
4. critical use of data
5. convincing interpretation of results
6. good comparison of findings and ability to determine originality
7. presentation of the work in a scholarly and professional manner

Formal requirements:
The thesis should be double-spaced with reasonable margins. It should include a title page, indicating your name, student number, the thesis title, the name of your supervisor(s), your first and second semester universities, and a word count. Provide a 250 word abstract and a table of contents at the beginning and a bibliography at the end. You may also add appendices with additional information. In the thesis, tables, diagrams, etc. should be clearly titled and referenced.

You should aim your thesis to be 20 000 words long. There is a margin of 10%, hence the word count must end up between 18 000 and 22 000 words total.

The word count <u>does include</u>:	The word count <u>does not include</u>:
- introduction,	- title page
- chapters	- table of contents
- conclusion	- abstract
- references	- bibliography
- footnotes	- figures and captions
	- appendices (but do not use these to park parts of the main text)

COMMON PITFALLS

A few tips:

- Do not treat science and technology as black boxes. It is not enough that your thesis is about a particular piece of science and technology, this topic needs to be investigated, particularly in its relationship with society. Some students seem to forget all about their first semester. You should not. One way of avoiding this is to examine the social, historical, cultural, political or economic entanglements of the science and technology you are considering.

- Avoid jargon. Your thesis should be readable and understandable by anyone, regardless of their academic background.

- Do not automatically restrict yourself to a field or setting you are already familiar with. For instance, if you were trained in nanotechnology in Germany, consider stretching your thesis research beyond German nanotechnology. One of the benefits of the ESST cohort is that you will be exposed to many different national and disciplinary backgrounds.

- Sometimes students conduct a huge amount of empirical work but forget to reflect sufficiently on the relevance of their material for the STS problematic. Given the short time available, you are advised to limit your empirical work in order to leave enough space for analysis and conclusions.

- Make sure your literature section does more than merely summarizing a series of relevant books and articles. It should most of all *review* the literature and do so critically. In order to do so, it is important that you discuss texts in the light of your own research question and approach and that you connect the authors' perspectives to your project.

- Make sure to not only describe your research design and methodology, but also to clarify and justify your choices. Make your reasons explicit and discuss the advantages and possiblelimitations of your choice.

- Bizarrely, some students seem to regard it as a matter of pride *not* to meet with their supervisors. It is their job to help you. We advise to meet your supervisor at least once every two weeks to discuss your ideas, plan your work, etc. Prepare those meetings by signalling beforehand what you want to discuss. Also make sure to send your supervisor a draft of your thesis in time, so you can still revise it based on their comments.

A REFLEXIVE CHECKLIST

Your thesis should fulfil a diverse set of academic criteria. To help you to fulfil these criteria we offer you a set of questions in order to reflect on the progress you make in you research and writing. The topics are related are related to data collection, data analysis and writing.

Data Collection

Finding your sources:
1. What are the different systems of data collection you use (for example google scholar/ UM library metasearch)?
2. Which databases did you include in your meta search in the library search system?

3. What is the mechanism you use to select your data?
4. Explain how you avoid plagiarism and give examples from your own text.
5. What other methods of data collection do you use?

Research design
1. Is the topic of this thesis sufficiently focused?
2. Is there a clear research question that helps to direct the research & writing process?
3. Is the wider significance (or rationale) of the research question made clear?
4. Is the problem well positioned *vis-à-vis* societal problems and existing academic studies?

Collection of data
1. How do you have selected your key informants (interviewees)?
2. Have you used an interview guideline? Please upload the guideline(s) in the designated 'method' folder.
3. What kind(s) of qualitative interview did you use?

Data analysis
Framing in research context
1. How do you use the theories?
2. Which analytical concepts have you selected?
3. How do you use analytical concepts in your thesis: as analytical lens (helps you to explain the case study) or as object of discussion (case study helps you to say something more about a theoretical frame)?
4. Have you provided and explanation in the way you use qualitative/quantitative methods in your data collection and/or analysis?
5. Where would you position your project in the STS literature: which area (reflections about innovation/reflections on policy/in a particular debate / etc.)

Contribution and reflection
1. Does your selection of empirical data/primary sources help to answer your research question?
2. How thorough is the analysis in this chapter/thesis and how convincing is your argument?
3. Does the thesis have potential for further development (for example into an article) – which aspects?
4. Are the potentials and limitations of available data/primary sources acknowledged?
5. Do the insights of the thesis have to potential to be applied?
6. What is the conceptual added value of your thesis?
7. What is the empirical added value of your thesis?

Writing
Formatting
1. Does the chapter have an appropriate length?
2. Are title page and type page (margins, indention, lettering, line spacing, etc.) according to the style sheet?
3. Is the bibliography formatted according to the APA guidelines?
4. Documentation: are quotations, footnotes, and in-text references according to the APA guidelines?
5. Spelling, syntax, grammar.
Which of your examples are problematic in APA)? (For example: how to quote a phrase that is already a quote itself?; or how to refer correctly to a website?)

Language and rhetorical skills
1. Who is your audience?
2. Does the thesis have an appropriate (i.e. academic) tone of voice?
3. Rate the quality of your English spelling, grammar, punctuation on a scale from 1 to 10 and explain the basis for this assessment.
4. Rate the quality of your writing regarding sentence structure, transition between sentences, paragraph development on a scale from 1 to 10 and explain the basis for this assessment.

How do you consider the quality of your own titling, subheadings, opening and final words.

Structuring
1. Is there a clear head (intro) – body (main text) – tail (conclusion) structure in your thesis/chapter/section?
2. Does the introduction of the thesis provide a contextualizing background, state the research problem/question, and outline a response to this problem/question?
3. Does the conclusion return to research problem/question (present main findings & their significance)?
4. Does your concluding section (within a chapter) or chapter (end of thesis) articulates a conclusion in addition to the summary on basis of your findings?
5. Does the text consist of coherent parts, which are well connected to each other, and presented in a logical sequence? Where is this problematic (which section) and why?

Indicate the number of pages for each chapter and each section.

Argumentation
1. Does the thesis defend a central claim or provide a main answer to the research question?
2. Is the main claim or thesis supported by good reasons and reliable evidence?
3. Do you as the author anticipate (acknowledge & respond to) alternative accounts?
4. Rate your own quality of reasoning on a scale from 1 to 10 and explain the reasons for this assessment.
5. Rate the logical structure of the chapter or thesis on a scale from 1 to 10 and explain the reasons for this assessment.

3.5. THESIS ASSESSMENT

Your ESST thesis will be marked by two markers. One is your supervisor; the other is from a partner university, or from Maastricht in case you did your specialization abroad. The Director of Studies will choose second markers; you do not need to find one yourself. The second marker acts independently and is not a second supervisor.

The assessment is based solely on the product and not on the process leading to the thesis. Progress, growth, and learning during the thesis project are good, but not awarded in themselves. There are no oral examinations in connection to the thesis.

ASSESSMENT CRITERIA AND GRADES

Assessment categories
There are different ways of writing and presenting a thesis and we do not wish to be too prescriptive. However, a good thesis should normally include an introductory chapter, stating the aims, scope, rationale and methods of the project and providing an outline of what follows. It should also include a conclusion summarizing the argument, *not* introducing new substantive material, and returning to the original aims and research question(s). The conclusion can also

reflect on the implications of the findings, possibly (but not necessarily) turning to wider but related themes of both content and method.

The first and second marker use an assessment form including the following assessment categories. Take a good look at these to see if how well your thesis addresses all these.

Main questions which the dissertation attempts to answer:
Is there a clear research question/research puzzle that helps to direct the reader? Is the research question original and feasible? Is the topic of this thesis sufficiently focused? Is the wider significance (or rationale) of the research question made explicit? Is the problem well positioned *vis-à-vis* societal problems and existing scholarship? Is the research design related to the research question?

Structure and Organization: Is the thesis clearly structured and well balanced?

Line of Argument: Is the argument well developed and critically supported by evidence?

Use of literature: Is the relevant literature integrated comprehensively and is there some value added to the treatment of the literature? Are there any major gaps? Does the student say how the literature relates to the main questions of the dissertation?

Data collection: Does the selection of empirical data/primary sources help to answer the research question? Are the potentials and limitations of available data/primary sources acknowledged? Does the author (provide insight in the) use (of) qualitative and/or quantitative methods for data collection?

Data analysis: Does the author (provide insight in) use (of) qualitative and/or quantitative method(s) for data analysis? Does the author make use of theory and/or analytical concepts in data analysis? How useful was the case study (if appropriate)?

Contents: How original are the thesis' subject and approach? How does the thesis build on or reflect on the curriculum of ESST? How does the author build on existing theories? How convincing are the author's arguments?

Overall conclusions, insights and contributions: Is this an original contribution to the (academic) debate in the respective field? Is this an original contribution to the (academic) debate in the respective field?

Presentation, format and technicalities (reference style, bibliography, data, use of language, structure): Does the thesis have the appropriate length? Is it formatted according to our standards? Do references follow the APA style? Is the English good? Does the thesis have the right (academic) tone of voice?

Grades
ESST theses receive both a grade on the ECTS scale (A-F) used in the ESST network and a grade on the Dutch scale (1-10) used at Maastricht University. Grades A to E respectively 6 to 10 are varieties of pass. Grades F respectively 5.5 and below are fails, meaning that a resit is required.

Meaning of grades on the ECTS scale:@@@

Symbol	Description	General, qualitative description of valuation criteria
A	**Excellent**	An excellent performance, clearly outstanding. The candidate demonstrates excellent judgement and a high degree of independent thinking.
B	**Very good**	A very good performance. The candidate demonstrates sound judgement and a very good degree of independent thinking.
C	**Good**	A good performance in most areas. The candidate demonstrates a reasonable degree of judgement and independent thinking in the most important areas.
D	**Satisfactory**	A satisfactory performance, but with significant shortcomings. The candidate demonstrates a limited degree of judgement and independent thinking.
E	**Sufficient**	A performance that meets the minimum criteria, but no more. The candidate demonstrates a very limited degree of judgement and independent thinking.
F	**Fail**	A performance that does not meet the minimum academic criteria. The candidate demonstrates an absence of both judgement and independent thinking.

Correspondence between the ECTS and Dutch scales:

ECTS scale	ESST	Dutch scale
A	**Excellent, pass with distinction**	9-10
B	**Very good**	8½
C	**Good**	7½-8
D	**Satisfactory**	6½-7
E	**Sufficient**	6
F	**Fail**	1-5½

An A is also called a "pass with distinction" (equivalent to pass with honours or *cum laude*) and will be indicated on the ESST Association diploma.

THESIS DEADLINE

All students who followed the first semester in Maastricht, also those who do their specialization elsewhere, hand in their thesis on:

<div align="center">

21 June 2024

</div>

Electronic submission suffices. You do not need to give us a paper copy.

Submission procedure:
- Make sure your thesis meets all layout requirements
- Follow the file name convention for exams
- Make sure your thesis is in pdf format
- Upload your thesis on Canvas, via course EST4800
- Separately, send an email to the Director of Studies, containing:
    o your thesis title
    o abstract (which is also in your thesis)
    o 5 keywords

We use these data for a publicly available database. If you don't want your thesis to become available, please tell the Director of Studies.

If you have problems uploading due to the Student Portal, please contact Eleum-fasos@maastrichtuniversity.nl and cc g.somsen@maastrichtuniversity.nl, any day before the deadline, before 17:00.

PLAGIARISM

The examiners of your module exams and thesis have to be confident that you alone have done the work. Copying from books, without acknowledging the original author, is called 'plagiarism'. It is acceptable to use phrases and sentences you find in books and journals, as long as you do not do it too often, and you indicate which bits you have copied by putting them in quotation marks, italics or indenting them. You must also state from where you obtained the quotations, including page numbers. If you do not indicate who first wrote something, you are 'stealing' the original author's words and ideas.

To deal with plagiarism all written work that is assessed and graded as part of a course at our Faculty must be submitted digitally and checked for plagiarism by the examiner. Our Faculty uses a standard plagiarism detection method for all exam papers: SafeAssign. You submit the documents yourself, after which the plagiarism check is processed automatically. In this way we will notice if things are copied.

All universities within ESST have very severe penalties for students who plagiarise. The most extreme penalty is asking the student to leave the university (without a degree). In some cases, students are not allowed to return to a university for several years. If an ESST student is accused of plagiarism, the regulations of his/her first semester university will be invoked to deal with the charge.

We strongly advice students to use the FASoS Writing Guide, which is available on Canvas, under Thesis.

WHAT HAPPENS IF YOU FAIL?

Of course, we all hope this won't happen, but sometimes it does. You will be allowed to re-submit your thesis once. This needs to be done before August 31st, 2023. If you fail the first time, you will not be eligible to receive a 'distinction' on your second attempt.

3.7. FORCE MAJEURE: THE HARDSHIP CLAUSE

It may happen that circumstances beyond your control and responsibility prevent you from passing an exam or completing your thesis. In such cases, where, according to the exam regulations "application of the Education and Examination Regulations would lead to

manifestly unreasonable results", you can appeal to the so-called Hardship Clause. The FASoS Board of Examiners can then grant you an extended deadline or another alleviating measure. An example of a case where the Hardship Clause might apply is extended medical treatment.

In most cases it is advisable to inform yourself about these possibilities **early**, and to contact the MA ESST **Study Advisor**, Miranda van den Boorn.

You can find all information on the Hardship Clause, including how to apply, on the Student Portal. Go to: Student Portal > MyLinks > FASoS Student Intranet > Study programmes and Regulations > Hardship Clause.

4. GUIDELINES FOR ACADEMIC READING AND WRITING

4.1. ON HOW TO READ SOCIAL THEORY TEXTS – BY DAVID SONNENFELD

Reading social theory can be slow, grueling, and frustrating. However, if you are patient, take the time, and make the effort, doing so will reward you with powerful insights into fundamental social institutions and processes. Some suggestions to facilitate the process:

Your first time through the assigned text, *skim lightly*, before you get "lost in the forest of details". Get an overview of the structure of the section you are reading. Read the introductory and concluding paragraphs. Take note of section structure & headings.

Once you have an overview of the assigned text, return to the beginning and *read more closely*. Focus on the author's main points and/or what you want to get out of it.

Take notes. In text margins, keep a running dialog with yourself and/or the author. In a notebook, record the author's main ideas, as well as your reactions and responses.

Ask yourself: *What is the author's main point?* Try summarizing those main points -- in writing, orally with a fellow student, etc.

If necessary, *outline the author's argument.*

Read as many times as you have to -- 2, 3, or more -- until you at least get the gist of the author's main points and have a feeling for the structure & components of the author's argument

Make full use of other students in the class. Study together. Compare notes.

If you don't understand a term, look it up in one or more dictionaries. Start with a comprehensive collegiate dictionary. Also, look in a good, disciplinary-specific dictionary.

If you're still stumped, or feel you are not grasping basic concepts, consult an introductory text, or ask your instructor during office hours.

Construct your own course dictionary using the above.

4.2. MEMO: QUESTIONING A TEXT

What is the text "about" -- empirically and conceptually?
What modes of inquiry were used to produce it?
How is the text structured and performed?
How can it circulate?

What is the text about – empirically?

What phenomenon is drawn out in the text? A social process; a cultural and political- economic shift; a cultural "infrastructure;" an emergent assemblage of science-culture-technology-economics?

Where is this phenomenon located – in a neighborhood, in a country, in "Western Culture," in a globalizing economy?

What historical trajectory is the phenomenon situated within? What, in the chronology provided or implied, is emphasized -- the role of political or economic forces, the role of certain individuals or social groups? What does the chronology leave out or discount?

What scale(s) are focused on -- nano (i.e. the level of language), micro, meso, macro?

What empirical material is developed at each scale?

Who are the players in the text and what are their relations? Does the text trace how these relations have changed across time – because of new technologies, for example?

What is the temporal frame in which players play? In the wake of a particular policy, disaster or other significant "event?" In the general climate of the Reagan era, or of "after-the-Wall"

globalization?

What cultures and social structures are in play in the text?

What kinds of practices are described in the text? Are players shown to be embedded in structural contradictions or double-binds?

How are science and technology implicated in the phenomenon described?

What structural conditions– technological, legal and legislative, political, cultural – are highlighted, and how are they shown to have shaped the phenomenon described in this text?

How – at different scales, in different ways – is power shown to operate? Is there evidence of power operating through language, "discipline," social hierarchies, bureaucratic function, economics, etc?

Does the text provide comparative or systems level perspectives? In other words, is the particular phenomenon described in this text situated in relation to similar phenomenon in other settings? Is this particular phenomena situated within global structures and processes?

What is the text about – conceptually?

Is the goal to verify, challenge or extend prior theoretical claims?

What is the main conceptual argument or theoretical claim of the text? Is it performed, rendered explicit or both?

What ancillary concepts are developed to articulate the conceptual argument?

How is empirical material used to support or build the conceptual argument?

How robust is the main conceptual argument of the text? On what grounds could it be challenged?

How could the empirical material provided support conceptual arguments other than those built in the text?

Modes of inquiry?

What theoretical edifice provides the (perhaps haunting – i.e. non-explicit) backdrop to the text?

What assumptions appear to have shaped the inquiry? Does the author assume that individuals are rational actors, for example, or assume that the unconscious is a force to be dealt with? Does the author assume that the "goal" of society is (functional) stability?

Does the author assume that what is most interesting occurs with regularity, or is she interested in the incidental and deviant?

What kinds of data (ethnographic, experimental, statistical, etc.) are used in the text, and how were they obtained?

If interviews were conducted, what kinds of questions were asked? What does the author seem to have learned from the interviews?

How was the data analyzed? If this is not explicit, what can be inferred?

How are people, objects or ideas aggregated into groups or categories?

What additional data would strengthen the text?

Structure and performance?

What is in the introduction? Does the introduction turn around unanswered questions -- in other words, are we told how this text embodies a research project?

Where is theory in the text? Is the theoretical backdrop to the text explained, or assumed to be understood?

What is the structure of the discourse in the text? What binaries recur in the text, or are conspicuously avoided?

How is the historical trajectory delineated? Is there explicit chronological development?
How is the temporal context provided or evoked in the text?
How does the text specify the cultures and social structures in play in the text?
How are informant perspectives dealt with and integrated?
How does the text draw out the implications of science and technology? At what level of detail are scientific and technological practices described?
How does the text provide in-depth detail – hopefully without losing readers?
What is the layout of the text? How does it move, from first page to last? Does it ask for other ways of reading? Does the layout perform an argument?
What kinds of visuals are used, and to what effect?
What kind of material and analysis are in the footnotes?
How is the criticism of the text performed? If through overt argumentation, who is the "opposition"?
How does the text situate itself? In other words, how is reflexivity addressed, or not?

Circulation?

Who is the text written for? How are arguments and evidence in the text shaped to address particular audiences?
What all audiences can you imagine for the text, given its empirical and conceptual scope?
What new knowledge does this text put into circulation? What does this text have to say that otherwise is not obvious?
How generalizable is the main argument? How does this text lay the groundwork for further research?

What kind of "action" is suggested by the main argument of the text?

4.3. Modes of reading - BY JOE DUMIT

Notes on reading that I have sent to my students:
I wanted to respond to the questions raised during our class regarding what kind of a reading I have been doing over these weeks. I see it as close (as opposed to general), constructive (as opposed to deconstructive), positive (as opposed to negative), generous (as opposed to critical), slightly genealogical (as opposed to hermeneutic), methodological in focus (as opposed to explicative), and ethical (as opposed to descriptive). Given this little machine of reading possibilities I can see almost any combination of the above as a possible mode of reading. I should note here that this is not necessarily a 'conceptual system of possible readings' that I am committed to – I may not use it in this way again – nonetheless it is a working draft. Comments appreciated. Now I will more fully elaborate what I mean.

Close reading means that I attend to the specifics of the text. I am interested in how a text as a text makes arguments. What specific modes of writing, grammars, uses of words, modes of characterizing others, and of characterizing others' arguments are used. I bring up the author's other works as part of a general context of the kinds of problems being addressed but am committed to figuring out how to find these problems within the text, even if this means reading across a number of pages for a small number of passages. My aim here is to locate the textual basis for making a claim about what the text is doing. Hence my predilection for comments about the method of the text within the text. A general reading I would (perhaps unfairly) characterize as one that sees a text as an instance of something that transcends it (the author's intention, oeuvre, the times, etc., see Foucault's "What is an author?").

Constructive means that I aim to locate/generate coherent arguments/stands from the text. I am interested in finding a line of argument and showing how the argument is supported and elaborated within the text. This does not mean that I am inattentive to problems, to contradictions, and incoherences, but I have tended to read these as problems with the text, not with the arguments that I locate. A deconstructive reading, as we discussed today attends specifically to the incoherences and contradictions in the text and attempts to show how they are motivated. It looks at the 'structure' of these arguments with a kind of psychoanalytic/multiple-logic eye. It emphasizes the arguments of the margins of the text and shows how these are often better than the central arguments, and how the central arguments depend either on the margins or on the specific things they attempt to exclude. My readings of the cognitive science books (Cognition in the Wild, and Plans & the Structure of Behavior) were deconstructive in that they showed how the apparent arguments of the books were dependent upon a binary-like valuing of reason and rationality that permitted the temporary exclusion of social and emotional issues at the outset so that they could be added later on – but that these issues were in fact the foundation of the enterprises and that this foundation could be seen in various traces throughout the books.

A positive reading to me is one which aims to create new concepts or arguments, or to elaborate on existing ones in order to articulate them with current issues. As I discussed today, I think a negative reading is one which is addressed to one's own limitations as a cautionary tale. A negative reading points out how errors happen and offers means to be aware of them and hopefully avoid them. As such it is usually about a mode of attention: watch what you are doing. But it does not offer a different mode of operating. I think the negative mode is extremely important and worth a lot of effort. At the same time, for this class, for 'information', my interest is in finding new ways of talking about it. So one task is to locate intriguing existing ways of talking about information and thinking about how they can be extended. It also means locating in the texts that we have been reading a set of possible metaphors, models, logics, and arguments that might be fruitfully applied to information (even if info is not thematized).

A generous reading is very close for me to a constructive one, but is more general in that it emphasizes the text's strengths. I am interested in making the best case for most texts, pulling out their strongest arguments, even if this means constructing them from scattered fragments in the text. It is important here to make a close reading and to see where the text fails to make the argument and where it makes counter-arguments. A generous reading thus requires a certain fidelity to the text that a positive reading does not. The positive reading need only use the text as a site from which a new argument can be launched (Nietzsche: the philosopher shoots the arrow, another picks it up and shoots it somewhere else). A constructive generous positive reading thus works to find a coherent defensible new argument/concept within the text. An argument that perhaps goes beyond "the author's intention" but could be demonstrated to be nascent or latent within it (a solid set of traces).

A critical reading on the other hand, emphasizes the weaknesses of a text, and holds it particularly responsible for inconsistencies, and usually attempts to tie these problems to the value of the text in general (often implying that these problems raise a general question of the legitimacy or truth-value of the text as a whole). Again, critical readings are very important, worth training on, and wonderful allies in making a case against your enemies. But I feel that we academics are often so much better trained at critical rather than generous modes of reading that we value those who make them more, think they make more sense, and experience them as so much easier to do than generous ones. I see Derrida's Grammatology as deconstructive, mostly negative, but generous.

My mostly un-worked-out mode of **archaeological reading** is a means of constantly locating a text's arguments, statements, and metaphors within a set of other discourses. I see a hermeneutic mode as one that works almost completely within the text to unfold a meaning by insight and in Heidegger's case a kind of etymology. Or in Gadamer's, the **hermeneutic** mode of analysis concerns locating a text within a geo-historical epoch's "horizon of thought and common sense." My sense of an archaeology means that I am interested in how a certain figure of speech echoes managerial business lingo at the time of text; how a formulation of rationality shows strong traces of a Shannon+cognitive-science lineage. I see this as a potential continuum in that the archaeological pays attention to more local and struggling modes of discourse whereas the hermeneutic (say in Derrida) attends to epochal modes (linguistics, hermeneutics, Western philosophy). An archaeological reading tends to create a web of connections among different texts (New Corporate Activism borrowing its rules and structure from Rules for Radicals, its notion of citizenship from the neoconservative-libertarian-fiscal-Right, and its notion of discourse from rhetoric via PR).

In a **methodological reading** I attend to the traces in the text of how the text was made, the research that was done to provide the text and the work of the construction of the text (meaning the constructive, generous, positive, archaeological one that I have been identifying). I ask the question: what could I learn from this text about how to go about my own research? A more **explicative** approach might ask what does this text say, and how can I use its conclusions in my own writing? Or more prosaically: what is the main argument of this text, what are its main supports and weaknesses, and what is potentially worth citing in the future by me? The explicative approach is important and part of what we must attempt with all texts. But my feeling reading the secondary literature that abounds about most key texts is that there are many plausible, competing accounts of the meaning of the text (including along the above set of dimensions) and that to engage at this level is a choice that involves one in a responsibility toward that secondary literature. Also, I feel that this is not my strength for a number of reasons (most of this stuff is in translation from languages I don't read, most of it is within traditions that I am inadequately trained in, most of the secondary literatures develop internal vocabularies and concerns that lie outside of my own research interests). A methodological engagement with a text seems to offer me the most valuable way of learning from it (cf. Ignorant Schoolmaster: one researcher engaging with another).

I am very ambivalent about the notion of an 'ethical' right now – but that means that I am drawn to it in spite of my reservations and deep sense of the vagueness of what follows. I call my mode of reading **ethical** because I am interested in how the arguments, concepts, and models that I draw out of a text can be read as being deployed against social things that one is opposed to. A **descriptive** approach I would characterize as presuming a distinction between an argument and how it might be deployed. This does not mean that I read arguments as having a necessary politics, far from it, but I do read them as deployed-arguments (within the text, and for my own purposes), they are articulated within a set of discourses and bodies (and abstracting them from these is to create a different argument). Nor do I think that ethics is necessarily good: I read new corporate activismethically in two ways: for how it articulates a coherent ethical position for the corporation (the person of the corporation), and then again for how it offers me a mode of thinking through the weaknesses of corporate tactics (their often dependence on cooperation among competitors for instance). In 1000 Plateaus terms, I read texts ethically as order-words, as interventions (and not as descriptions, representations, or anything secondary to some primary reality). So there you have what I hope is a helpful, considered analysis of my own reading practices at this moment. I would really welcome any comments that come to mind, especially challenges, criticisms, additions, deletions, etc.

4.4 HOW TO READ A BOOK - BY PAUL EDWARDS

How can you learn the most from a book – or any other piece of writing – when you're reading for information, rather than for pleasure? Paul N. Edwards, William J. Perry Fellow in International Security at Stanford, has written a great introduction on how the read a book. Please see http://pne.people.si.umich.edu/PDF/howtoread.pdf

4.5 A note on Methodology – BY TINE TJØRNHØJ-THOMSEN

Methodology pertains to another level of abstraction or research activity than method. The term *methodology* is used in various ways, often interchangeably with the term *method. Method* can be defined as a particular systematic way of doing an inquiry, investigation or analysis, as procedural rules or particular techniques. In-depth interviews, observations as well as surveys and questionnaires are examples of *data collection methods* or *data generation methods*, while for instance statistical analysis or narrative analysis are *methods of data analysis or data interpretation*. Sometimes methodology is used for a body of methods employed within a particular academic field. The particular methods are linked to and informed by specific approaches, research traditions or theories. In regards to qualitative research methods these are often presented in the literature as ethnography, phenomenology, case studies, narrative analysis or grounded theory. While quantitative methods are associated with for instance statistical analysis, multi-level analysis and regression analysis. But the reasoning and rationale for how these approaches link to the actual research methods belong to methodology.

In his book *The Conduct of Inquiry. Methodology for Behavioral Science* ([1964] 2004), Abraham Kaplan offers a useful definition of methodology. According to Kaplan, methodology can be defined as the "study – the description, explanation, and the justifications – of methods, and not the methods themselves" (Kaplan 2004:18). Kaplan clearly distinguish between methodology and method in pointing out that the aim of methodology is to *describe* and *analyze* methods, and "throwing light on their limitations and resources, clarifying their presuppositions and consequences, relating their potentialities to the twilight zone at the frontiers of knowledge" (Kaplan 2004: 23). Following Kaplan there are two closely interrelated meanings of methodology that relate to different forms of methodological activity:

First*, methodology* is often used as the heading for a particular section of research papers, articles, theses or book chapters. The methodology section must account for and discuss the relevance and rationale for the research design – whether it is qualitative, quantitative or mixed – thereby presenting a well-reasoned argument for why and how the chosen methods are considered suitable for accomplishing the study goals and for answering the research questions. For that reason, this section has to describe and justify the *why*, *what*, *who, where, when* and *how* of the research process. This includes why the particular research problem was undertaken in the first place, the reasons underlying the choice of research subjects or participants, the research site, the sampling, the data collection methods, the measures, and the analytical procedures. Also, it may be relevant to explicate and reflect on the role or position of the researcher in the research process, the ethical concerns and dilemmas relating to the research activities, and the measures taken to ensure validity and reliability (see Merriam 2009). Thus, methodology entails an explanation and justification of why and how particular methods were chosen – or modified as the research evolved – and their appropriateness for answering the research questions. Consequently, methodology implies reflexivity on the conditions encountered and choices made in the process of knowledge production. As Kaplan states, the aim of methodology is to help researchers to "*understand,* in the broadest possible terms, not the products of scientific

inquiry but the process itself" (ibid: 23). Furthermore, both qualitative and quantitative researchers must reflect on their particular positioning and perspective. As Hastrup points out, knowledge is always knowledge about someone or something from a particular perspective (Hastrup 2004: 409-410).

Secondly, the methodological work consists of linking methods to the philosophical foundations of the research. Thus, methodology can be defined in terms of the theoretical and philosophical frameworks that give authority or justification to choose of methods of data collection and data analysis. Research methodology and the particular researcher's methodological position are always shaped by the philosophically founded assumptions of research. These assumptions can be thought of in terms of ontology and epistemology. *Ontology* refers to basic assumptions about the nature of the reality being investigated. *Epistemology* is about how this reality can be known, the means of knowing, the access the researchers believe they have to knowledge, and the nature of knowledge (Hoeyer 2008). Epistemology is also, therefore, about the relationship between the researcher and the field of research and between knower and what is known (Hastrup 2004).

Qualitative and *quantitative* research methods (also referred to as *designs*, *approaches* or *strategies*) differ with regard to their ontological and epistemological assumptions. *Quantitative research* methods (like surveys, experiments, statistical analysis) are often characterized with reference to a positivist or postpositivist paradigm, assuming the existence of a stable, objective reality that can be observed and measured independently of people's perception of it. The researcher is assumed to be neutral, objective, independent and detached from what is being researched. Quantitative studies are characterized by a fixed design, probability sampling, structured and close-ended data collection methods, and statistical analysis (Sandelowski 2010: 81).

Qualitative methods, often linked to constructivist, interpreting or phenomenological approaches, are concerned with the ways in which the people under study experience and ascribe meaning to social phenomena, how they interact and how setting and contexts impact on their world views and practices. Qualitative methods of data collection are open-ended and flexible to the reality of research and aligned with inductive reasoning. The assumption here is, contrary to what characterizes quantitative studies, that reality is multiple or fluid and that the acquisition of knowledge rest on the researcher involvement with people under study. The researcher needs, therefore, to consider how this involvement impact on the knowledge production.

Mixed methods – mixing methodologies
It is the research objective that determines the choice of methods and the methodology. Some research problems are best solved by using quantitative methods, while some call for a qualitative approach. Yet others may call for a so-called multi-method or mixed methods design combining and integrating a combination of quantitative and qualitative methods within a single research project (Bryman 2012, Padgett 2012, Creswell and Clark 2010, Tshakkori and Teddlie 2010). The actual combination may take many forms (ibid.). Combining methods founded in different research traditions or paradigms is not a novel activity (it has for instance been practiced within the field of ethnography). However, in the last decades the notion and use of *mixed methods* have increased also within health sciences and public health research. The widespread and expanding use of mixed method raises methodological questions that need to be answered and dealt with. This is not only a question of with what purpose and how the different methods are used but also a question of which of the methods are given priority, how they are connected in the research process, i.e. the sequence of their use and how they are integrated in the final academic product (see Bryman 2007).

SEE ALSO: Qualitative Research Methods; Methods in Preventive Health Behaviour research; Medical Research; Clinical Trials; Design, monitoring and Evaluation of Health Programs; Evidence-based Medicine; Grounded Theory; Measuring Mental Illness; Phenomenology; Study of Primary Care

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4.7 PLAGIARISM - by Earl Babbie

> Plagiarism is the presentation of another's words or ideas as your own

Turning in a paper actually written by your room-mate and saying "I wrote this" would be a flagrant example of plagiarism. The same would be true if you were to buy a term paper from a "paper mill".

The lightest punishment for plagiarism of this sort would be a grade of zero for the paper. Other common punishments are failing the course or even expulsion from school. As you can see, plagiarism is a very serious offence in academia.

Plagiarism is wrong for several reasons.

First, it is *lying*. If you have been asked to write something as evidence that you have grasped the materials of the course you are taking, offering someone else's work as evidence is a lie. It is no different from having someone else take an examination in your name.

Second, it is an *insult* to your fellow students. When you plagiarize, just as when you cheat on an exam, you treat unfairly those who play by the rules. You seek an unfair advantage over

them, and inevitably, you will find yourself looking down on those who devote their time and energy to the task which you have cheated on.

Third, when you use other people's words and ideas without their permission, it is *stealing*. It would be wrong to sneak into a factory and steal the products manufactured there during the day, and in the academy, words, ideas, paintings, compositions, sculpture, inventions, and other creations are what we produce. It is wrong to steal them and claim them as your own.

Plagiarism is a big deal in the academy.

There are many forms of plagiarism, some less flagrant than the examples I began with. However, you need to understand and avoid all forms of plagiarism. Presenting someone else's words or ideas as your own--in any form--constitutes plagiarism. Some forms of plagiarism are probably not obvious to you, so I want to spell them out in detail. I think much plagiarism is inadvertent and unknowing. I want to help you avoid that potential embarrassment.

Let's suppose you were assigned to write a book review of Theodore M. Porter's book, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press, 1995). In preparing to write your paper, you come across a book review by Lisa R. Staffen, published in *Contemporary Sociology* (March, 1996, Vol. 25, No., 2, pp. 154-156).

Staffen's review begins as follows:

> It has become fashionable to reject the notion of absolute objectivity on the grounds that objectivity is simply unattainable or, even if attainable, is undesirable.

Staffen's opening is good, active prose. Let's suppose you like it. More important, you imagine that your instructor would like it a *lot*. You decide to start your paper as follows. (I've indicated Staffen's original comment in red.)

> Plagiarism: I feel it has become fashionable to reject the notion of absolute objectivity on the grounds that objectivity is simply unattainable.

This would be a clear case of plagiarism and therefore unacceptable. Adding "I feel" at the beginning is a nice personal touch, but it doesn't change anything. Let's tell the truth: you have probably not spent a lot of your waking hours agonizing over "the notion of absolute objectivity", much less worrying about whether others would reject the notion or embrace it with passion.

> Plagiarism: I feel it has become stylish to reject the idea of absolute objectivity on the grounds that objectivity cannot be achieved.

Even editing the passage as I've done above would constitute plagiarism. While you have changed some of the words—"stylish" for "fashionable", "idea" for "notion", etc.--the idea being expressed, along with many of the phrases, have been taken from someone else, without acknowledging that fact.

Leaving off "I feel", by the way, wouldn't absolve the sin. Anything you write in a term paper, unless you indicate otherwise, is assumed to be your own, original thought. It's fine to have original thoughts, incidentally. In fact, we encourage it. We're happiest when your thoughts

and opinions are based in evidence and reasoning rather than rumour and belief, but don't feel that your professors are somehow perversely thrilled by the mindless parroting of ideas they already know about. (I know it sometimes seems like that.)

> Plagiarism: Many people today have rejected the idea that there is such a thing as absolute objectivity since they do not believe that it can be achieved.

Even though few of the original words remain in the passage above, the thought expressed has been taken from another writer and offered as your own. Even if you found a way to express Staffen's idea without using *any* of her original words, that would still constitute plagiarism. Sorry. If you're going to use someone else's words and/or ideas, you have to give them due credit.

Use someone else's words and ideas, go to jail. Well, it's not quite that bad, but academics don't have much sense of humour about cheating. I'll admit, I kind of enjoyed the student who turned in a paper his friend had written for the same course the preceding semester. He just whited-out his friend's name and typed his own over it--and you could read the original name from the back of the page. He took the course again.

There is nothing wrong with presenting someone else's words and ideas in a term paper or in a published, scholarly work. In fact, any field of thought evolves as people read each other's ideas, learn from and build on those ideas. The key to doing this properly lies in *acknowledgement* and citation.

When we borrow words and ideas from others, we acknowledge that we are doing so, and we give our readers a full bibliographic reference so they would be able to locate and read the original.

It might be useful for you to leaf through some academic journal articles. It will be clear that academics think it is fine to use other people's words and ideas. It's just important to use them appropriately. Use them as resources for building your own unique contribution to the ongoing conversation of ideas.

You might want to create a sculpture of an elephant. No problem. Get a block of granite and chip away everything that doesn't look like an elephant. Just don't pretend that you created the granite. (Unless you did, in which case I *really* apologize.)

Here's an example of how you might properly include Staffen's comment in your term paper, with a bibliographic entry at the end of the paper.

> Proper use: Lisa Staffen (1996:154) begins her review of Porter's book by suggesting "It has become fashionable to reject the notion of absolute objectivity on the grounds that objectivity is simply unattainable or, even if attainable, is undesirable".

This gets the information out for the reader, and it would be accompanied by an appropriate bibliographic citation at the end of your paper:

> Bibliography: Lisa R. Staffen, "Featured Essays", *Contemporary Sociology*, March, 1996, Vol. 25, No., 2, pp. 154-156.

Here are some other acceptable ways to use Staffen's passage. Each would be accompanied with a bibliographic entry at the end of the paper.

> Proper use: In her review of Porter's book, Lisa Staffen (1996:154) says the idea of absolute objectivity is now commonly rejected as "simply unattainable or, even if attainable, [as] undesirable".

> Proper use: According to Lisa Staffen (1996:154), it has become fashionable to reject the idea of absolute objectivity altogether.

In summary, it is quite acceptable -- even desirable -- to include the ideas of others in your term paper. This can be a sign of good scholarship, as well as assuring your instructor that you've done some of the reading for the course. (We like to think you read some of it.)

However, it's important that you *acknowledge and cite materials properly*. The key is that your reader knows what you are borrowing and how to look up the original materials.

By the way, if your instructor asks you to write a report on plagiarism, don't copy what you've just read here unless you cite it properly...

4.8. ESST STYLE FORMAT: APA

All writing for the ESST programme should follow the standards known as the APA style. The APA style is a format of academic writing that is developed by the American Psychological Association (APA). ESST students are obliged to follow these rules in academic writing.

We currently follow the 7th edition of the APA Style Guide, first published in 2020. Print copies can be found in print in the UM Library at its different locations.

A very helpful resource on APA where you can probably find everything you need is the Online Writing Lab of Purdue University, known as Purdue OWL.
- General overview:
  owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html
- Style sheet:
  owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html
- Poster overview:
  owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/documents/APA%20Poster%2010.22.12.png

More comprehensive writing aid can be found in the FASoS Writing Guide, produced by the Maastricht Faculty of Arts and Social Sciences. It is available on Canvas, under Thesis.

4.9. GENDER FAIR LANGUAGE - By Jenny Redfern

Introduction
Our language and society reflect one another, so it is important for us as communicators to recognize and respect change in the meaning and acceptability of words. Concern about the use of sexist language is part of our increased awareness that the perceived meanings of some

words have changed in response to the changing roles of men and women in our society. For example, *girl* once meant a young person of either sex, while *youth* indicated only a young man. Now, *girl* applies only to young female persons, while *youth* can refer to young persons of either sex. Just as you would not use *girl* with its outdated meaning, you should not use other words connoting gender that do not accurately represent the people behind them.

If you write with non-sexist language, you write to represent with fairness the gender identified in many words. Gender-fair language minimizes unnecessary concern about gender in your subject matter, allowing both you and your reader to focus on what people do rather than on which sex they happen to be. For example, the practice of using *he* and *man* as generic terms poses a common problem. Rather than presenting a general picture of reality, *he* and *man* used generically can mislead your audience. Research by Wendy Martyna has shown that the average reader's tendency is to imagine a male when reading *he* or *man*, even if the rest of the passage is gender-neutral. Therefore, you cannot be sure that your reader will *see* the woman on the job if you refer to every technician as he, or that your reader will *see* the woman in the *history of man*. On the other hand, replacing every he with *he* or *she* attracts even more attention to gender and defeats your purpose. This predicament merits special attention in scientific and technical writing, where any ambiguity is unacceptable.

Below are some examples of how you can revise the most common sexist usages of *he* and *man*.

PROBLEM: By using either *he*, *his*, or *him* as a generic pronoun when the referent's gender is unknown or irrelevant, the writer misrepresents the species as male.

Solution 1: Write the sentence without pronouns. Try to avoid conditional structures, generally introduced by "if" or "when", which often require the use of pronouns.
Original: If the researcher is the principal investigator, he should place an asterisk after his name.
Gender-fair: Place an asterisk after the name of the principal investigator.

Solution 2: Use gender-specific pronouns only to identify a specific gender or a specific person.
Original: Repeat the question for each subject so that he understands it.
Gender-fair: Repeat the question for each male subject so that he fully understands it.

Solution 3: Use plural nouns and pronouns if they do not change the meaning of the sentence.
Original: Repeat the question for each subject so that he understands it.
Gender-fair: Repeat the question for all subjects so that they understand it.

Solution 4: Use a first- or second-person perspective. Notice in the table below that only the third-person singular is marked for gender.

Table of Personal Pronouns
Singular
First Person - I, my, me, mine
Second Person - you, your, yours
Third Person - it, she, he, her, him, its, hers, his
Plural
First Person - we, our, ours, us
Second Person - you, your, yours

Original: The driver should take his completed registration form to the clerk's window and pay his license fee.
Gender-fair: You should take your completed registration form to the clerk's window and pay your license fee.
Original: The principal investigator for this report has appended data tables to his summary.
Gender-fair: I have appended data tables to the summary of this report.

The following solutions produce language less fluent than Solutions 1 through 4.

Solution 5: Use a double pronoun, i.e. s/he, he or she, he/she, him and her.
Original: Each supervisor will be at his workstation by 8 a.m.
Gender-fair: Each supervisor will be at his or her workstation by 8 a.m.

Solution 6: Use an article instead of a possessive pronoun as a modifier.
Original: After filling out his class schedule, the student should place it in the registrar's basket.
Gender-fair: After filling out a class schedule, the student should place it in the registrar's basket.

Solution 7: Sparingly use the passive voice.
Original: If a student wishes to avoid sex bias in his writing, he should examine these alternatives.
Gender-fair: These alternatives should be examined by any student who wishes to avoid sex bias in writing.
Note: Though not acceptable in formal writing, a common speech pattern uses a form of *they* (*they, them, their, theirs*) as a generic pronoun following *everyone, anybody,* and other indefinite pronouns: "Everyone cheered when their team won the game".

PROBLEM: By using *man* as a generic noun to represent groups that include women, the writer misrepresents the species as male.

Solution 1: Use *human, person, mortal,* and their variations: *humankind, humanity, human beings, human race, and people.*
Original: The effect of PCBs has been studied extensively in rats and man.
Gender-fair: The effect of PCBs has been studied extensively in rats and humans.

Solution 2: Use a more descriptive or inclusive compound word: workmen's = *workers'*; man-sized = *sizable, adult-sized*; chairman, chairwoman = *chair, chairperson, presider, convener.*
Original: The governor signed the workmen's compensation bill.
Gender-fair: The governor signed the workers' compensation bill.

With practice, you will use gender-fair constructions more readily and with less revision. For more information on sexism in language and how to avoid or revise it, please see the following bibliography.

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4.10 HELPFUL WEBSITES ON READING AND WRITING

On Citation Styles, resumes, thesis writing, abstract, cover letters, styles of writing and presentation:

Developed by The Writing Center at Rensselaer Polytechnic Institute, Troy, New York.
http://www.wecc.rpi.edu/handouts.html

On finding literature: developed by our own university library
http://library.maastrichtuniversity.nl/skills-and-support/

On Dictionaries, Thesauruses, and Other References:
http://www.wecc.rpi.edu/dictionary.html

On social science research:
Glossary: http://www.csubak.edu/ssric/glossary.htm

4.11. CONCEPTUAL ANALYSIS: AN INTRODUCTION

Sjaak Koenis and Karin Bijsterveld

Introduction
Philosophy is not possible without conceptual analysis, as is true of most disciplines in the humanities and social sciences. Many standard academic questions already provide a rudimentary basis for such analysis. What is "civilization" according to Norbert Elias? How does Bruno Latour conceive of "technology"? How does the European avant-garde of the 1920s understand the notion of "the masses"? Which sense of "Europe" does the European Convention embrace? Such questions already provide a "rudimentary basis" for conceptual analysis, as we cautiously put it. After all, it is all too common that students and scholars merely consider the meaning of some concept in the work of an author without exploring what this author in fact tries to accomplish when relying on a particular meaning of that concept. The goal of this introduction is to develop your proficiency in addressing this concern. Conceptual analysis can be defined as: a systematic investigation of what authors or speakers try to achieve by their use of concepts in particular texts and contexts.

Recognizing Concepts
Before we are able to analyze concepts, we first have to recognize them. What is a concept? According to the Oxford Dictionary, a concept is an "abstract idea". This description seems hardly helpful to us. Let us consider, therefore, a more extensive example.

In a newspaper report of a lecture by Peter Sloterdijk on the perfectibility of the human race we can read that according to this German philosopher

> the old humanistic ways towards civilization have become outdated. He called on philosophers to reflect on rules that would put the practice of genetic manipulation on the right road. Sloterdijk did not reject in advance all forms of gene technology, which he considered as merely the continuation of the humanistic "taming" en "cultivating" of individuals. (*NRC Handelsblad*, 1-5-2000)

In this brief fragment the words "philosopher" and "practice" do not count as concepts because their meaning is considered obvious. If this fragment were to address what a philosopher is, then "philosopher" would function as a concept here, but this is not the case. If you do not know the meaning of the word "philosopher" or "practice", you just look it up in a dictionary, and that will solve the problem.
By contrast, notions like "humanist", "genetic manipulation" and "gene technology" do function as *concepts* in this particular fragment. If you do not know their meaning, you will also turn to your dictionary initially. If you look up, "humanistic", for instance, the dictionary will refer you to "humanism" of which it provides the following three general descriptions:

1. an outlook or system of thought concerned with human rather than divine or supernatural matters;
2. a belief or outlook emphasizing common human needs and seeking solely rational ways of solving human problems, and concerned with mankind as responsible and progressive intellectual beings;
3. literary culture, esp. that of the Renaissance humanists.

These descriptions certainly help us get going. Still, we are not there yet, because in this newspaper fragment the meaning of "humanistic" *cannot be considered as being unproblematic*. Its

meaning is precisely subject to debate here: Sloterdijk himself suggests how we are to consider "humanistic": he speaks of "humanistic ways towards civilization" and of "the humanistic 'taming' and 'cultivating'", and he calls on people to reconsider the meaning of "humanistic" in light of the potential of the new gene technology. A concept, then, is indeed an "abstract" or complex notion, but it is also one of which the meaning(s) cannot be taken for granted. As our newspaper fragment underscores, Sloterdijk *has specific goals in mind* when using the word "humanistic" in the way he uses it, and if we are to establish what these goals are, it will not suffice to leaf through a dictionary and look up a word here and there.

Concepts and the Point of a Text

What else, then, do we need? Let us consider the following explication by Rein de Wilde of the views of Quentin Skinner, an expert in the history of ideas, and J.L. Austin, a language philosopher.

> Suppose that we do a study of the history of the notion "nobilitas" and that in a Renaissance text we come across the assertion: "The military aristocracy displays noble conduct par excellence." The meaning of this sentence depends on what the author had in mind when making this assertion. Did he really mean what he said, or was it his intention to bring this whole notion of "nobilitas" into discredit? By posing this question it becomes clear that knowledge of the meaning of a concept in a specific sentence does not yet explain the meaning of the statement. Skinner elucidates this distinction with the help of the speech act theory of J.L. Austin. According to this theory, language use, when considered pragmatically, generates two kinds of meaning: the locutionary or semantic meaning of words, sentences, and texts, and the illocutionary force of the speech acts that are performed with those words, sentences, or texts. If we want to comprehend a historical text, or parts thereof, it is not enough to trace its locutionary meaning, Skinner contends. We also need to know what the author *was doing* in that text. To this end, we need to recover a text's illocutionary force, or, as Skinner rather puts it, the point of a text. But, so he goes on, this is only possible if the historian moves beyond the boundaries of the text.
> Only against the backdrop of a particular time's intellectual conventions we may gain insight into the intentions of speech acts as well as reconstruct the point of texts.

Yet, Skinner argues, it would be wrong to explain

> the meaning of texts entirely on the basis of the social context or the political motives of authors, as if knowledge of the causes of an act is equivalent to understanding the act itself. But even if one knows someone's motives for writing a text, one has not yet established the text's thesis or point. Those who explain the meaning of texts directly on the basis of social contexts pay not enough attention to the fact that texts are always situated in a network of other texts. They are written in a specific vocabulary, they belong to a particular tradition or, conversely, try to break away from that tradition; they respond to texts from a bygone era or, conversely, consciously ignore earlier texts; etcetera.

If one tries to recover the point of a text,

> one does not so much enter an author's mind to look for "interestedness" or "motives"; rather, one joins his outward gaze, so to speak; what matters is to investigate the relations *between* that text and other texts.

It is important, after all, to realize that

> texts not only exist *in* a context, but that they also may change contexts. Because based on their point, or their illocutionary force, texts may bring about *perlocutionary* effects. Just as we may do things with words in specific settings, texts may give the world a different outlook. (De Wilde 1992, 229-231)

If we consider our first example once again and want to investigate the point of Sloterdijk's usage of the concept "humanistic", we cannot rely on a dictionary, while a consideration of the entire newspaper article from which was quoted will not solve our problem either. Instead, we should consult Sloterdijk's text, his lecture entitled "Rules for the Human Park". Which meaning does he give to "humanistic"? How does he characterize the tradition of humanism and which interpretation(s) of this tradition does he thus reject? With whom is he in fact arguing? Which consequences does he believe modern gene technology to have for humanism? If we are to recover what an author *is doing* in a text, we as readers *too* have to start doing something and adopt an active stance: do a close reading of the text at hand, draw relations between the text and other relevant texts, and study how the text intervenes in a specific context, such as a debate, a practice, a given order, or a particular tradition. We will return below to how to go about doing all this, but first it is important to ponder the question why conceptual analysis matters so much.

The Significance of Conceptual Analysis

Conceptual analysis helps us in the *selection* of interesting texts and the *understanding* of authors' intentions, and it is indispensable for those who want to *participate* in public discussions.

First and foremost, conceptual analysis offers us the opportunity to pick and choose the more interesting or better writings out of the ocean of publications that otherwise may threaten to drown us. By approaching a particular publication as if we are going to do a conceptual analysis of it, we learn to distinguish between quality work and sloppy or uninteresting work quite soon. When central notions or basic categories are not clearly explained, for instance, this frequently means that authors are unsure about their objectives or that they are unable to support their thesis consistently.

Furthermore, as indicated above, conceptual analysis is vital for *understanding* what authors try to achieve when using specific concepts in their text. This form of analysis allows us to surrender to the text in a critical yet all but passive manner. By earnestly analysing it, we join, as it were, the discussion on humanism, democracy, or biotechnology. And because these concepts are not just relevant in our own day and age, we also gain access their history, which can be a quite lengthy one in certain cases. Of course, it is not always relevant to rake up old quarrels about the meaning of a concept, especially if it is no longer controversial. The concepts that play a major role in the humanities and the social sciences, however, often continue to be subject to debate or reconsideration. Sloterdijk, for instance, reopens the debate on humanism in light of new developments in biotechnology. It is still too early to determine the effect of his intervention. In the initial reactions to his lecture he was accused, albeit rather rashly, of fascism (Hartmans 2000). Especially given his fairly moderate proposals to open up a public discussion on the boundaries of biotechnological interventions in the human body, the sensitivity of such concerns in Germany – where the memory of the nazi's medical experiments still lingers – is striking. This German context, marked as it is by the history of National Socialism is indispensable for a proper understanding of Sloterdijk's lecture, but it is surely not the only relevant context. His lecture is also situated in a substantial international network of texts on eugenics and Social Darwinism.

If we are to establish the point of his text we will have to take all these texts and contexts into account.

In this way we may form an opinion about an intervention in a particular discussion: we may criticize it or agree with it. Criticism based on conceptual analysis may have both fundamental and very practical implications. An example from another discipline is the study of the concept "dismorphophobia" in medicine. Berrios et al. (1996) studied 178 historical cases of dismorphophobia. This showed that the definition of dismorphophobia (initially: an individual's fear to have or get a malformed body) drastically changed with the introduction of a medical protocol and this in turn led to a new population of patients. Another example involves the concept "privacy" in psychology. Psychologist Irwin Altman (1976) did a conceptual analysis of the usage of "privacy" and subsequently proposed to study it no longer as a certain measure of seclusion, but as someone's selective control over one's self or one's group, including the behavioral mechanisms – like non-verbal behavior – that people rely on when trying to achieve privacy. By means of this definition shift from "privacy" as a spatial phenomenon to a form of behavior, Irwin tried to accomplish two things: he tried to make privacy easier to research for behavioral psychologists and he tried to draw it into their professional domain.

Maximal comprehension of some author's usage of a concept requires an active stance on the reader's part and may involve a time-consuming effort. But there is a pay-off: once you have a good grasp of some concept's meaning in a particular text or context, it is only a small step towards actually *joining* the discussion. Proficiency in conceptual analysis also allows you to develop your own point of view on an issue more easily or to challenge someone else's position more convincingly. After all, a good debate is impossible without a careful and credible handling of concepts. Those who defend "democracy" will have to clarify, sooner or later, what they mean by that concept. And those who disqualify a specific painting as art challenge someone else's standards about what art is or does. If discussion is to be possible at all, there will have to be some articulation of standards and development of concepts – your own as well as those of others.

The Author's Objectives in Using a Specific Concept

In order to understand the point of an author's handling of concepts it is necessary:

– to collect information about the author and the medium of publication
– to learn more about the semantic meaning of a concept
– to trace the kind of intervention an author has in mind when using a specific concept. We distinguish here between elucidating, opposing and persuading
– to gather knowledge about the historical meaning (or transformation) of a concept.

Author and medium of publication

To determine an author's objective it is first important to put the text in which the concept is used in context by collecting information on the author and the medium of publication.

Concerning the author this involves questions like: What is his or her professional background? To which academic (sub)discipline does he or she belong? What are the implications of this for the text's style and vocabulary? Try to recover information on the author in monographs, (auto)biographies, encyclopedias, handbooks, books on the history of a field or discipline, and so on.

The medium of publication is also highly important. In which journal, magazine, book, newspaper, or section of the newspaper (op-ed page, economy section, etcetera) has the text been published, and what does it say about the text's genre or quality? What are the characteristic stylistic features of that genre? A scholarly article, for instance, generally requires a different kind of argument and use of evidence than a letter to the editor of the newspaper.

Who is in charge of editing a specific journal and what does it mean for a text when no one is in charge, as frequently happens on the Internet?

Semantic meaning

Whenever the meaning of concepts is discussed, often a distinction is made between the *intension* and *extension* of a notion. Philosopher Daniel Dennett explains the difference as follows:

> Each meaningful term (predicate) of a language has an extension (the thing or the set of things to which the term refers) and an intension (the special manner in which this thing or set of things is referred to). "The father of Chelsea Clinton" and "President of the United States in 1995" indicate the same thing: Bill Clinton, and therefore they have the same extension [or denotation], but they describe this common entity differently and therefore they have different intensions [or connotations]. (Dennett, 1996, 46)

If we are to understand what an author has in mind when using certain concepts we should be able to name both the denotation and connotation of those terms or descriptions properly. After all, it is quite possible, as we will see below, that authors solely capitalize on the positive connotation of a specific concept to win the reader for their point of view.

Kind of intervention

Next, we should ask ourselves what the author tries to accomplish with a certain concept: what kind of *intervention* is at issue? We will discuss three major forms: *elucidating*, *opposing* and *persuading*.

Elucidating

Above we already indicated that interesting concepts are best understood dynamically, as steps or moves in a larger (historical) discussion, rather than as static, isolated, or unequivocal notions. This explains why it is relevant for authors to explain or elucidate concepts used by other authors in their texts. Especially in the humanities and the social sciences, scholars and students frequently have to engage in explaining what some philosopher or scholar means or meant with a concept.

   Of course, such elucidation can be more or less convincing and as readers we always have to be aware that each elucidation is also an interpretation. Elucidating is interpreting, and interpreting is translating, not only from one language to another, but also from one philosophical or scientific jargon to another. It is inevitable that meanings of concepts *shift*, even if one tries to do no more than explain what some author has in mind when using a particular concept.

   When there is much at stake, it may be necessary to go back to the work of the author who first used or reflected on a particular concept. This may seem laborious at first, but reading original sources is especially valuable for those who want to develop a more subtle feeling for conceptual analysis. After all, there is a reason why certain texts about specific contexts have become authoritative. Over the years, such texts have developed into nodal points in discussions and therefore they cannot be disregarded.

   For example, those who are interested in discussions about tolerance will soon discover that John Locke's *A Letter Concerning Toleration* from 1689 is a key text to which participants in discussions on the need for tolerance continue to refer.

A superficial reader who encounters the concept "tolerance" in a text will try to find a fixed or unambiguous meaning. By contrast, students and scholars of culture and history will not look for such easy hold, because they know that there is a whole debate behind this concept that precisely underscores its complexity and ambiguity. A conceptual analysis will frequently rely on authoritative sources, not so much to find a single or general meaning of a concept, but rather to develop and refine its meanings or bring out its intricacy.

This is not to say that the crucial texts on a particular concept allow for just one interpretation. Nor is it uncommon that of the work of major authors two or more interpretations become dominant. For example, there is the "young Marx" and the "old Marx". The former refers to the interpretation in which his early philosophical work inspired by Hegel is central, while the latter refers to his later, more social science oriented work such as *Das Kapital*. Elucidating, then, is interpreting, and this means that frequently there is no agreement about the proper interpretation of an author or work.

In most cases, therefore, authors are interested in doing more than just explain or elucidate. They are interested in criticizing classic authors, in providing a new interpretation of their work, in using them in support of their own argument or for choosing sides in an ongoing debate.

Opposing

Major concepts tend to be complex and ambiguous, and this may already be ground for differences of opinion. According to Gallie, an expert in the history of ideas, some concepts constantly give rise to divergent opinions, which is why he calls them "essentially contested", or fundamentally controversial. Concepts like "democracy", "justice", and "art" belong to this category. Authors deploy them in their arguments or exchanges in order to contest each other's views.

Fundamentally controversial concepts have the following five features, Gallie proposes. First, they are complex, and, second, they have an evaluative element in them. Consider, for instance, "democracy". In political philosophy it is arguably one of the most complex concepts. Democracy does not only describe a specific factual state of affairs, namely the way a country is governed; it also refers to a certain estimation or positive evaluation of this type of governance. In the claim *"But that is not democratic at all!"* this positive element stands out, even though on the basis of this claim one cannot derive which standards for democratic governance or democratic conduct are used. Other concepts that are both descriptive and evaluative are "solidarity" or "justice", but also the seemingly more neutral concept "art".

From these two features, complex and evaluative, a third one can be deduced, namely that it is always possible to provide various rivaling descriptions of a fundamentally controversial concept. For example, with economist Schumpeter we may view "democracy" as an institutional mechanism that is characterized by competition between two or more groups of political elites that fight each other for winning the votes of the public.

In this interpretation of democracy the emphasis is on the choice of political leaders. This also implies what good democracy is: when the fight generates good political leaders, democracy "works". A rivaling interpretation of democracy does not primarily consider the quality of the leaders, but the degree in which the people or the public is represented in a particular political arrangement. The philosopher Dewey felt that good democracy is identical with the best possible representation of the public. If the first interpretation highlights efficiency and decisiveness, the second gives priority to the measure in which the public participates in politics.

A fourth characteristic of controversial concepts is that they are open: changing conditions, such as the growing importance of transnational organizations like the European Union, may rekindle the discussion on the meaning(s) of democracy in the Netherlands. A fifth feature of

these concepts is that the discussion participants are also aware of the fact that their usage of "democracy" contrasts with other usages, because, as Gallie argues, "to use an essentially contested concept means to use it both aggressively and defensively" (1968, 161).

These five features characterize concepts that are subject to contestation. Around certain interpretations of such concepts, individuals or groups will be formed that fight over the right interpretation of these concepts. Another example is "technology". This concept, as an analysis by Leo Marx reveals, only became common after the First World War. It not only refers to certain technical systems, but also to a specialized form of theoretical knowledge or expertise, a certain mental style and a unique set of skills and practices. Technology, therefore, is not just a complex concept; because of its abstract and inclusive character – it does not directly refer to specific institutions, nor is it directly associated with concrete sites or groups of people – "technology" seems imbued with metaphysical qualities and possibilities, which turn technology into a major autonomous, causal factor of social changes. This aspect, Leo Marx argues, is at the root of the illusion that history is driven forward by technology. Depending on how individuals assess the effects of technology, groups of proponents and opponents of technology will come into being. The unlimited optimism of Americans in the days before World War Two, Marx indicates, has meanwhile been replaced by a "postmodern" technological pessimism, in part because of a number of major technological disasters like Chernobyl and Three Mile Island (Marx, 1994, 249).

What the two concepts "democracy" and "technology" have in common with other controversial concepts that Gallie discusses, such as "art" and "culture", is that they have been – and still are – at the heart of a struggle for their proper definition and their normative, political and ideological value. Those who lose sight of this "contested character" or who misguidedly believe that these concepts merely indicate a "state of affairs" in the world, while in effect they involve controversial interpretations of it, those people really miss the point of what authors try to accomplish by using these concepts.

Persuading

Not all concepts, however, are fundamentally controversial, in the sense of Gallie. Even if concepts are at the center of public debate and struggle, they can still play a modest and constructive role.

Consider a concept like "paradigm". Thomas Kuhn used this concept in his epoch-making 1962 study *The Structure of Scientific Revolutions*. "Paradigm" refers to the characteristic way in which a specific scientific community practices science. It pertains to the requirements that apply to theories, the scientific achievements that a scientific community views as its models (like the work of Newton or Einstein), and so forth. The point Kuhn advances is that the choice between rivaling theories is not just made on the basis of rational, methodological "decision-rules" (which is not to say that it is purely an irrational matter, as his critics sometimes seem to think), and that for the understanding of a scientific revolution – or its failure to materialize – one has to have insight in the paradigm scientists rely on.

In reactions to Kuhn's book, "paradigm" was sharply criticized as being too vague. After some time, however, vagueness proved to be one of the advantages of this concept. It was much used in the philosophy of science, which focuses on the development of scientific knowledge, but it grew increasingly popular in other knowledge domains as well, mainly to refer to the ways in which in a specific group cognitive and social factors are entwined. Thus, it began to function in similar ways as concepts like "style", "intellectual style", "tradition" and "culture".

The disadvantage of such concepts is that they are used quite loosely, and all too often people will resist them precisely for this reason. But they also possess a quality that in interdisciplinary or multidisciplinary studies of culture and history is of great importance. They

contribute to the *intellectual transfer of insights,* both within and between disciplines. To emphasize this bridging function between disciplines, as well as to indicate the major heuristic value of this transport ("heuristic" meaning that a concept gives people *new* ideas), we say that such concepts *persuade* us to articulating new insights. It is misguided to think that new insights appear out of the blue; progress in science mostly takes place through the application of concepts (or models) from one discipline to another discipline or to a new research area. In the 1960s, for instance, the computer, both as concept and as model, caused a revolution in cognitive psychology. The "mind as computer" generated new research concerns, while the later introduction of neurological concepts heralded a new phase in cognitive psychology, known as connectionism.

Obviously, to persuade someone, or to be persuaded, is never an entirely innocent matter or without risk. Consider "evolution", for instance. This concept was not an invention of Darwin, as his grandfather and others already used it, but the evolution theory succeeded in providing a most authoritative interpretation of it. The heuristic or "persuasive" value of this concept is not only shown by the various theories that were modeled on Darwin's evolution theory outside the discipline of biology, like Popper's evolutionary knowledge theory in his *Objective Knowledge: An Evolutionary Approach* (1972), but also by Darwin's enormous influence on sociology and psychology around the turn of the twentieth century. This example also underscores the danger of an all too swiftly transfer of ideas from biology (in this case) to the social sciences. As frequently occurs in translation, such transfer may go hand in hand with a loss of meaning, and the cautious manner in which Darwin used the evolution concept was hardly shared by some of his social science colleagues, who projected his "struggle-for-life" philosophy uncritically onto societies and cultures.

The ensuing "Social Darwinism" is a product of the persuasiveness that emanated from the evolution concept, and that it is still a tempting concept is suggested by the popularity of modern evolutionary psychology. Fear of this sort of temptation is equally present, though, given the early responses to Sloterdijk's lecture as discussed above.

When an author "persuades" a reader by using an existing concept in an excitingly new way, the reader should realize that such concepts are no *tabula rasa*: they do not come out of the blue. Here, again, the great importance of having knowledge of intellectual traditions and discussions in which these concepts played a role becomes palpable. Those who are familiar with this history will be able to offer resistance to a tempting concept. This allows one to expose or criticize intellectual fashions, as the one involving the concept "new economy" (this *new* economy, after all, contains very many elements of the *old* economy). Another example is "network". Is it not used for too many phenomena? Do all sorts of people merely try to cash in on the positive connotations of that term, wherever these connotations may originate? People who are persuaded easily tend to be blind for the darker motives others may have in certain contexts. In this respect it is important to realize that many concepts have distinct political or ideological overtones.

The boundaries between the three kinds of intervention – elucidating, opposing, persuading – tend to be fluid, however. Explanation or elucidation always involves interpretation, and interpretation may contain elements of resistance to or critique of existing interpretations of authoritative texts. Similarly, opposing and persuading may go together; if, for instance, one tries to convince one's colleagues of the need for a new concept that has proved valuable in another discipline, one will implicitly argue against the use of conventional concepts. Nevertheless, for a proper understanding of the objectives authors have when deploying particular concepts, it is always important to consider the specific nature of their intervention closely.

Clearly, for each of the three kinds of intervention it is useful, if not indispensable, to have knowledge of the history of a concept. Above we indicated that it is relevant to go back to the original sources when it comes to elucidating some author's use of a concept. For example, our comprehension of philosopher Charles Taylor's use of the concept "recognition", in his influential essay "The Politics of Recognition" (1994), increases when we are familiar with the transformations of this concept in the work of Rousseau and Hegel. Mapping controversies about concepts is not possible without acquiring knowledge of the history of these controversies, as we illustrated by the example of Leo Marx's analysis of "technology". Finally, we also need to be informed about the history of a concept to resist being persuaded too easily by some new fashionable concept. In trying to make sense of our world we cannot get by without relying on concepts. This means that our elucidations will only be richer and more discerning if we consider their conceptual framework in a historical light.

Conclusion

By way of summary, and without wanting to suggest that conceptual analysis can be reduced to simple or formal procedures, we list some questions that we see as crucial for any critical analysis of concepts:

Step 1:   is this a concept? To what extent is the meaning of this notion itself discussed in this text?

Step 2:   what does this concept mean? Gather information about author, information medium, and (semantic) meaning of the concept.

Step 3:   why does the author use this concept? Explore which kind of intervention the author aims for by using the concept: elucidating, opposing, or persuading?

Indeed, all this takes time. But once you gain more knowledge, as well as more experience as a critical reader, conceptual analysis becomes an almost habitual and therefore less time-consuming endeavor. More importantly: with proficiency in conceptual analysis you are less easily overwhelmed by scholarly texts and arguments. And, finally, it will allow you to join discussions on a more abstract, conceptual level, and thus enjoy for yourself the pleasure of elucidating the world, of opposing other views on the basis of sound reasoning, and of persuading others of the need, beauty, or incontestability of your own conceptual constructions.

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3. ACADEMIC TIME TABLE

2023
September 30:   deadline choice second semester specialization

2024
early February: opening second semester
mid-March: hand in thesis outline
June 21:   deadline thesis
August 30:   deadline thesis resit