



CHALMERS
UNIVERSITY OF TECHNOLOGY



WELCOME TO THE SWEDISH

STS

CONFERENCE 2022

4-5 MAY • GOTHENBURG

Welcome to the 10th edition of the Swedish STS Conference, STS-dagarna!

The theme of this year's conference is expertise, knowledge production and politics. STS has had a long standing engagement with expertise and knowledge production in society. Today, the role of the expert in society is highly relevant due to the increasingly public role that science has gained in the national and global arena. For instance, the climate crisis and the Covid-19 pandemic have made the question of experts in society crucial to attend to.

Common to the STS field's understanding of the expert in society is a desire to understand science and technology as intertwined with values, power, politics and normativity. STS has approached expertise in terms of uncertainty troughs, public understandings of science, research communication, skepticism towards science, citizen science, amateur science, sensing, and infrastructures.

STS Futures Session

This year we would like to invite you to a discussion about collaborations and organizations of STS in Sweden. This discussion will happen at the "STS Futures" panel, after lunch on the 5th of May. We would like to start a conversation about organizing and collaborating in STS at the national level. We think this could be a good time to start such a discussion, to think through the existing conditions for STS, how to help grow the next generation of STS scholars, and how to navigate the Swedish academic landscape in an interdisciplinary field of research.

So far, the Swedish STS community – distributed over departments, research units, special interest groups, etc. – has been kept running thanks to a loosely affiliated network that has offered flexibility and autonomy. However, we want to ask if such a network, mainly based on personal contacts and/or inherited collaborations, may be strengthened, and how? Are there possibilities to network and collaborate better?

Other STS European communities – the German example is one of the most recent – are currently working on organizing and structuring themselves in order to reduce fragmentation, increase representation, visibility, and coordination. Also, Danish, Finnish, and Italian STS researchers have been more active in organizing and institutionalizing.

Would you like to join us by sharing your take on this? Or, do you have any idea that runs in a similar direction and that you deem worth discussing on such an occasion? The is organized by Francis Lee, and will feature short presentations by Michela Cozza (Mälardalen & EASST Council), Catharina Landström (Chalmers), Maria Arnelid (Linköping), Parissa Mokhtabad (Chalmers), and Alicja Ostrowska (Chalmers).

Keynote: Naomi Oreskes

Naomi Oreskes is the keynote speaker for the event. Oreskes is Professor of the History of Science and Affiliated Professor of Earth and Planetary Sciences at Harvard University. A world-renowned geologist, historian and public speaker, she is a leading voice on the role of science in society and the reality of anthropogenic climate change. Oreskes is author or co-author of 7 books, and over 150 articles, essays and opinion pieces, including *Merchants of Doubt* (Bloomsbury, 2010), *The Collapse of Western Civilization* (Columbia University Press, 2014), *Discerning Experts* (University Chicago Press, 2019), *Why Trust Science?* (Princeton University Press, 2019), and *Science on a Mission: American Oceanography from the Cold War to Climate Change*, (University of Chicago Press, forthcoming). *Merchants of Doubt*, co-authored with Erik Conway, was the subject of a documentary film of the same name produced by participant Media and distributed by SONY Pictures Classics, and has been translated into nine languages. A new edition of *Merchants of Doubt*, with an introduction by Al Gore, was published in 2020.

Scientific Committee

- Chair: Francis Lee, Science, Technology and Society, Chalmers University
- Conference Secretary: Alicja Ostrowska, Science, Technology and Society, Chalmers University
- Maria Arnelid, Thematic Studies, Linköping University
- Ingemar Bohlin, Theory of Science, Gothenburg University
- Helena Cleeve, Sociology and Work Science, Gothenburg University
- Mark Elam, Sociology and Work Science, Gothenburg University
- Ulla Eriksson-Zetterquist, Gothenburg Research Institute, Gothenburg University
- Gustav Holmberg, History of Ideas and Science, Gothenburg University
- Lisa Lindén, Sociologi & Arbetsvetenskap, Gothenburg University
- Sebastian Linke, Global Studies, Gothenburg University
- Kenneth Nyberg, History, Gothenburg University
- Anna Åberg, Science, Technology and Society, Chalmers University

Organization committee

- Alicja Ostrowska
- Jens Millkrantz
- Parissa Mokhtabad Amrei
- Francis Lee

Schedule

Day 1, Wednesday 4 May

09:00-13:00 **Workshop & lunch** for PhD Students
Götaplatsen, floor 4, House Vasa 2

13:00-13:30 **Welcome Address:** Francis Lee & Per Lundin
Room Vasa B, entrance floor, House Vasa 2

13:30-14:45 Short break

13:45-15:15 **Session A**
1) *Forskningens och den högre utbildningens politiska ekonomi*
Korsvägen, floor 4, House Vasa 2
2) *Digitalization and classification*
Götaplatsen, floor 4, House Vasa 2

15:15-15:45 **Coffee** at Veras Gräsmatta

15:45-17:15 **Session B**
1) *Revisiting the politics of STS*
Götaplatsen, floor 4, House Vasa 2
2) *Visualization*
Korsvägen, floor 4, House Vasa 2

17:15-17:30 Short break

17:30-18:30 **Keynote: Naomi Oreskes**
Discussants: Martin Hultman, Göran Sundqvist
Room Vasa B, entrance floor, House Vasa 2

19:00 **Mingle and dinner** at Skansen Kronan

Day 2, Thursday 5 May

9:00-10:30 **Session C**
1) *Capitalism and circular economy*
Götaplatsen, floor 4, House Vasa 2
2) *Knowledge, participation and representation*
Slottsskogen, floor 3, House Vasa 2
3) *Actors and evidence*
Järntorget, floor 3, House Vasa 2

10:30-11:00 **Coffee** at Veras Gräsmatta

11:00-12:30 **Session D**
1) *Care and labour*
Götaplatsen, floor 4, House Vasa 2
2) *Digital platforms*
Slottsskogen, floor 3, House Vasa 2
3) *Climate change and energy politics*
Järntorget, floor 3, House Vasa 2

12:30-14:00 **Lunch** at Hyllan

14:00-15:00 **STS Futures**
Room Vasa A, entrance floor, House Vasa 2

Practical information

Free Wi-Fi access

You can access free Wi-Fi by receiving username and password at the information desk at Veras Gräsmatta. The Network name for guest access is NOMAD. After connecting to this network, login page should appear automatically (Otherwise, you can go to <https://login.nomad.chalmers.se>). Next, you enter the username and password you received from information desk at Veras Gräsmatta. After that, you should have access to Internet.

Conference dinner, 4 May at 19.00

After the first day of the conference, on 4 May at 19.00, we'll meet for a mingle over a glass of champagne and dinner at the historically significant Skansen Kronan (Leijonsparrés Väg 10, www.skansenkronan.se). The dinner is free of charge for conference participants. Skansen Kronan is scenically located, with a fantastic view of the city.

Contacts

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Session A: 1) Forskningens och den högre utbildningens politiska ekonomi

Att följa pengarna: En analys av forskningsfinansieringen i efterkrigstidens Sverige

Per Lundin & Johan Gribbe, STS, Chalmers tekniska högskola

I den här studien undersöker vi den ekonomiska omfattningen av forskningen i efterkrigstidens Sverige genom att beskriva och analysera hur forskningen finansierats.

Det finns flera anledningar till att undersöka den svenska forskningens ekonomi under efterkrigstiden. För det första har det inte gjorts tidigare. Det innebär att det saknas kunskap om hur stor den svenska forskningens finansiering var och hur den relaterade till andra mått som statsutgifterna och bruttonationalprodukten. Det saknas också kunskap om vilka de ekonomiskt sett viktigaste forskningsutförande sektorerna och organisationerna var och därmed vad för slags forskning som monetärt sett var den dominerande. Vi menar att det är viktigt att fylla dessa empiriska luckor eftersom det var under efterkrigstiden som det svenska forskningssystemet etablerades och konsoliderades. Det var då som forskningens finansiering och organisation fick sina former, forskningens villkor och inriktning slogs fast och forskningens politik började debatteras.

För det andra finns det, trots denna kunskapsbrist, en ganska stark uppfattning inom den tidigare historieskrivningen om hur det svenska forskningssystemet sett ut under efterkrigstiden. Den bild som målas upp domineras av följande drag. Etableringen av statliga forskningsråd under 1940-talet hade en avgörande inverkan på det svenska forskningssystemets utformning.

Forskningsresurserna koncentrerades till universitet och högskolor. Därmed akademiserades forskningen. Till skillnad från i andra länder förblev forskningsinstitut ett marginellt fenomen i Sverige. Den rådande forskningspolitiken dikterade att det var det fria kunskapsökandet som gällde. I den tidigare forskningen betraktas det svenska forskningssystemet vidare som en övervägande civil skapelse. Den militära forskningen uppmärksammas knappt, om över huvud taget. Inte heller den industriella forskningen ges någon större uppmärksamhet. Som belägg för sina påståenden har den tidigare forskningen framför allt åberopat retoriken kring forskningen och dess organisation så som den kommit till uttryck i bland annat beslutsunderlag och debattinlägg. Med vår undersökning kan vi pröva hur väl den tidigare forskningens bild av det svenska forskningssystemet svarar mot dess ekonomiska sammansättning.

Expansion som ekonomisk nedrustning. Statliga anslag till högre utbildning 1958–2018

Martin Gustavsson, Score, Stockholms universitet & **Andreas Melldahl**, Sociologi, Uppsala universitet

Den första stora expansionsvågen av högre utbildning i Sverige, som tog fart under 1960-talet och som bars upp av studenter från medelklasshem med studietradition, var finansierad av den så kallade "universitetsautomatiken" (1958–1976). Det var en finansieringsmodell som automatiskt räknade upp anslagen i samband med studenttillströmning. Fler studenter innebar automatiskt mer lärarkrafter. Om lärarkrafterna inte anpassades till den nya situationen med fler studenter skulle, skrev konstruktörerna bakom modellen, "undervisningens standard sänkas genom att antalet undervisningstimmar per student minskas".

Under den andra stora expansionsvågen av högre utbildning, som tog fart under 1990-talet och som breddade den sociala rekryteringen, hotades standarden på utbildningen att sänkas eftersom antalet undervisningstimmar per student just minskades. Principen att fler studenter borde innebära mer lärarresurser hade bytts i sin motsats: urholkade anslag kombinerades med fler studenter. I samband med de ekonomiska kriserna i mitten av 1970-talet och i början av 1990-talet infördes nämligen övergripande finansieringsmodeller som automatiskt årligen räknar ned statsanslagen med en viss procent, som ska motsvara produktivitetsutvecklingen inom privat tjänstesektor, den s.k. "två-procentaren" (1978–1992) och "produktivitetsavdraget" (1993–).

Mot bakgrund av ovannämnda snabbhistorik över finansieringsmodeller studerar bidraget den faktiska resurstilldelningen till högre utbildning 1958–2018 på övergripande nivå (samtliga universitet och högskolor) och på lärosätetsnivå (Uppsala universitet som exempel). Centralt i vår undersökningsdesign är att även inkludera perioden innan 1993 års marknadsorienterade universitetsreform. Likställs den reformen med år noll, alltings jämförelsepunkt, vilket är fallet i de få studier som finns på området, missas epoken med generösare tilldelningssystem 1958–1976, varför urholkningen av resurser till högre utbildning underskattas. 1970-talets strukturkris och högskolereformen 1977 utgör centrala brytpunkter i vår analys, som är inspirerad av makroekonomisk regleringsteori (om skiftet mellan den fordistiska epoken med välfärdsreformer och den post-fordistiska eran med marknadsreformer). Studien baseras på tryckt material från Statsliggaren och otryckt material från Uppsala universitetsarkiv.

Vetenskapsrådet: Brott eller kontinuitet

Carl Björvang, Ekonomisk-historiska institutionen, Uppsala universitet

År 2000 förändrades svensk forskningsfinansiering markant, genom att de fyra tidigare statliga forskningsråden Humanistisk-samhällsvetenskapliga forskningsrådet (HSFR), Medicinska forskningsrådet (MFR), Naturvetenskapliga forskningsrådet (NFR) och Teknikvetenskapliga forskningsrådet (TFR), samt Forskningsrådsnämnden (FRN), slogs samman till Vetenskapsrådet (VR). Medan denna omvandling ledde till substantiella organisatoriska förändringar så är det en öppen fråga huruvida den ledde till förändringar i den faktiska forskningsfinansieringen. Målet med det tilltänkta forskningsprojektet "Vetenskapsrådet – Brott eller kontinuitet" är att studera just detta.

Tidigare studier, så som Björvang (2022), har indikerat att forskningsfinansieringen förändrades drastiskt mellan 1980-talet och det tidiga 2000-talet. Det har dock inte studerats hur mycket av denna förändring som skedde just i och med skapande av VR och hur mycket som var en längre förändringsprocess. Denna studie ämnar utnyttja material från riksarkivet rörande HSFR (1977- 2000), MFR (1945-2000), NFR (1977-2000) och TFR (1990-2000) för att studera mönstren i forskningsfinansiering från dessa råd innan sammanslagningen. Detta för att kunna jämföra dessa med mönstrena i VRs forskningsfinansiering.

Således ämnar denna studie att ge både det långa perspektiven, från flerrådstiden till idag, samt ett speciellt fokus på förändringsriden runt 2000. I och med detta tillförs ett viktigt empiriskt bidrag till studierna av statlig svenska forskningsfinansiering över tid. Samtidigt ger det även svar på frågan vad som hände, eller inte hände, när VR skapades.

Fackhögskolorna och kunskapsmaktordningen Om relationen mellan praktisk och högre utbildning

Henrik Björck, Idé- och lärdoms historia, Göteborgs universitet

I detta konferensbidrag ska jag diskutera ett sätt att begripliggöra relationen mellan högre respektive praktisk utbildning i det svenska högskolesystemet. När jag studerat utvecklingen av detta system historiskt har jag noterat ett återkommande mönster, vilket jag vill att börja med vill sätta ord på med hjälp av begreppet kunskapsmaktordning. Till mitt utbildningshistoriska perspektiv transponerar jag helt enkelt begreppet könsmaktordning. Kärnan i det är föreningen av två samverkande processer, separering och hierarkisering, på så sätt att kvinnligt och manligt hålls isär och att det manliga görs överordnat.

Jag tycker mig alltså ha iakttagit likartade processer i relationerna mellan olika institutioner och aktörer i det högre utbildningssystemets historia. I fokus för mig står de så kallade fackhögskolorna, uppbyggda kring vad vi i dag skulle kalla professionsutbildningar, och deras relationer till varandra och till universitetsinstitutionen. Högre och lägre hölls isär, särskilt av företrädare för den högre utbildningen, vilken också gjordes överordnad.

Men i min STS-inspirerade historieskrivning återkommer en komplicerande dimension i det gränsdragningsarbete som gav vissa institutioner en överhöghet. Komplikationen kom sig av fackhögskolornas legitimitetsgivande uppdrag att utbilda för specifika praktiska verksamheter. Denna karakteristiska spänning vill jag i sin tur pröva att förstå i termer av en kiasm, alltså en retorisk figur med två led, vilkas respektive element förhåller sig korsvis till varandra. I mitt fall:

Högre utbildning förhåller sig till lägre,
X
som praktisk utbildning till opraktisk.

Fyra exempel får illustrera tolkningsmöjligheter: den uppdelning av farmaceututbildningen på 1930-talet som resulterade i att den lägre blev kvinnodominerad och den högre mansdominerad; det unga Karolinska institutets kamp med universiteten om akademisk medicin och hantverksmässig kirurgi; det etablerade KI:s kamp mot det Veterinärinstitut som sökte högskolestatus; kampen om den rätta inriktningen på teknisk utbildning vid Teknologiska institutet 1834–44 mellan föreståndare Schwartz och professor Berzelius.

Session A: 2) Digitalization and classification

Artificial Expertise: The impact of artificial intelligence on medical classificatory power

Charlotte Högberg, Teknik och samhälle, Lunds universitet

By classifying we make claims about what something is, and what it is not. These are everyday ontological actions of power, ranging from low-stakes definitions to high-stakes decisions. When a classification becomes formalized and standardized, it could have vast large-scale impacts (Bowker and Star 1999). Within medicine and health care, there are agreed upon definitions of what constitutes a specific disease. Health professionals are enacting these principles, as well as continuously modifying and developing them. The practice of seeing, valuing, selecting, and making knowledge claims about what is healthy or not, as well as what the cause, form and cure of an illness is, is termed by Foucault (2003) as the medical gaze. Classificatory artificial intelligence, AI, is increasingly making medical diagnoses, prognoses and predictions, by full automation or as decision support. This development is fueled by an increasing datafication of patients and the expansion of the data gaze (Beer 2019). Detachment of data and patient could be understood as contributing to making data “bloodless”, disguising its origins and ends (Crawford 2021). On the contrary, AI-supported personalization of medicine could arguably also pump blood into classification, making the patient more present than ever. But is it possible for us to understand AI’s classificatory power, when systems are lacking transparency and explainability, blurring our view of their gaze? This paper is a theoretical exploration into what happens with medical classificatory expertise when AI enters the scene as an epistemic actor. Is it at odds with traditional knowledge production, if the medical gaze is no longer performed by a human? Or is this development nothing exceptional, but within a continuum of socio-material relations between humans and technology in medicine?

How Order is Made in Datasets for Computer Vision: A Machine Gaze with Habaneros, please!

Isak Engdahl, Sociologi, Lunds universitet

Egocentric 4D Perception (Ego4D) is a new massive-scale dataset and benchmark package for computer vision (CV) that will be made public. CV is a branch of computer science that deals with making computers acquire visual capacities for various artificial intelligence (AI) systems. The dataset contains recordings of daily life from first-person viewpoints, which differs from the standard observational standpoint seen in CV. The performance of data-centric machine learning (ML) systems that define the current field of AI is highly dependent on such datasets. Datasets shape opportunity structures by directly determining the substance of sought-after algorithms that may later be made mobile. In this contribution, I draw on STS sensibilities to unpack the construction of this dataset as a scientific object by examining the scales, classifications, benchmarks and expectations ascribed to it. In order to achieve machine-readable translations of the footage, descriptive data labeling enacts distinct realities. I show how the humanly ordered machine gaze has been curated in accordance with specific assumptions that bring practical implications to bear on the sensing modalities. The dataset, in particular, indexes an ever-changing world in an object-centered rather than relational, and action-centered rather than hermeneutic style. Finally, I discuss the politics of machine gazes that emerge when imposing visibility, difference, and similarity in performative datasets for AI systems. The numerous politics inherent in doing science and technology are elicited as actors are shaping the agenda—the annotation of datasets, the style of benchmarks, and the encoded logic of the machine gaze.

Conceptualizing Life Through Artificial Intelligence. Which Lives? Whose Intelligence?

Alicja Ostrowska, STS, Chalmers University of Technology

Space research, with its aim to explain our place in the universe, has the potential to be used as ratifying certain political orders as more natural than others. Conceptualizing what life is, in natural science, can legitimize which entities are perceived as worthy of legal protection and which can be sacrificed for the sake of others. While the Copernican revolution had the potential to decentralize Earth in relation to the universe, the Darwinian evolution had the potential to decentralize humans in relation to other organisms. Yet, space research and the study of life on Earth and in outer space are prevailed by geocentric and anthropocentric assumptions. I argue that based on ethnography of the conceptualization of life in natural sciences - with focus on astrobiology, the field studying life and its origins on Earth and habitability in outer space - the political context it derives from and the consequences it leads to. Such order is reproduced and maintained by the practice of what I refer to as cleaning, in both material and metaphorical sense. The practice of cleaning by purifying scientific data is intensified through automated technologies, such as artificial intelligence (AI). AI as a tool can facilitate space research and simultaneously reinforce current assumptions, inherent in the calibration of the tools. This poses a problem in the increasing acquisition of AI-technologies and the need for detection of anomalies - life as we do not know it.

Anomaly: The Practices and Politics of Othering in the Algorithmic Society

Francis Lee, STS, Chalmers University of Technology

This paper takes an interest in the handling of anomalous things in today's datafied and algorithmic society. The broad aim is to start exploring the practices and politics of Othering, exclusion, and normalization through the anomalous in algorithmic, machine learning, and data practices. The paper asks how the things that are outside the scope of the "normal" or "expected" variation of reality is handled, understood, and treated. How are things that are outliers outside of the expected range or classification system understood and treated?

Theoretically, the paper diffracts classic theoretical discussions about the normal and the pathological (Canguilhem 1989), the abnormal (Foucault 2003), and classification (Bowker and Star 1999) using the algorithmic and datafied production of the anomalous (cf. Matteo Pasquinelli 2015). Of specific interest is the use of the normal to define the abnormal, what could be called normal anomalies. But more importantly how the scale between normal--abnormal excludes certain things that are not even treated as real data or events – what could be called anomalous anomalies (cf. Law 2004).

Empirically, the paper explores how anomalous things are handled and understood using computational methods and machine learning systems. Drawing on interviews with experts in AI, machine learning, and data analysis the paper starts to sketch the practices and politics of normal anomalies and abnormal anomalies. The paper thus aims to highlight the shifting character of the anomaly in algorithmic and datafied practices, and thus to emphasize the politics of anomaly in a digitalized technoscientific future.

Session B: 1) Revisiting the politics of STS

"Experiments" and "interventions" in STS: Towards a practical politics of research in environmental conservation

Camilo Castillo, Thematic Studies, Linköping University

Contemporary debates in STS have developed a series of reflections interrogating conventional distinctions between "research" and "objects" of study, "academics" and "communities", or between "representing" a social world and "intervening" in it. Rather than engaging with aprioristic and normative political positions in research, these discussions have brought to the forefront the importance of how the very act of researching conflates the negotiation, theorization and caring of the relationships that make possible a particular research project. Discussions around "intervention" and "experiments" have been particularly useful in opening and expanding practical notions of politics interested in how normativities are negotiated in the field while our own assumptions are also questioned.

In this paper I use the case of my own intervention researching the conservation of a fragile ecosystem in Colombia. I explore how my STS research practice made possible the engagement and collaboration with people involved in the research problem. With this I aim at making explicit the kind of politics that STS can enable for researchers interested in intervening and experimenting with STS and research methods. In other words, this paper follows the call to combine the act of engagement with that of knowledge production which I propose to name "practical politics of research".

Representing, intervening or mediating?

Kristofer Hansson & Andrea Wiszmeg, Social Work, Malmö university

The rapid development in biomedicine creates knowledge-intensive policy fields on national and international arenas. In our ongoing project "Biomodifying technologies in change" we study presumably game-changing technologies such as CRISPR-cas9, iPS cells, xenotransplantation and 3D bioprinting. The project could be categorized as part of an "engaged program", using Sismondo's terminology (2008), in that we do not separate the epistemological dimensions from the political aspects of the science practices we study. Rather, we understand language and material processes in research as already in themselves always normative. Hence, the strife to make transparent and democratize scientific and technological processes, is somehow built into the research scope itself - even if not a directly activist agenda.

One of the aims of the project is to understand how "responsible researchers" are fostered. We look into how ethical reflexivity is expressed, practiced and understood in the day-to-day of biomedical research environments. But what happens to our knowledge production when we make biomedical researchers engage in this bird's-eye view on their research and its socio-cultural circumstances? How can neither taking a distanced position, nor engaging in direct activism - but rather pushing toward areas we consider possible hotbeds for public debate be further theoretically conceptualized? What does such an endeavor imply for our role as STS scholars? And how does that connect to the tendency to engage humanities and social science scholars as interpreters and mediators in cross-disciplinary projects in knowledge-intensive policy fields, such as ours? In what way is the symmetry principle (Bloor, 1976) affected, when value-laden initiatives as ethical reflexivity and public engagement is treated as an inherent good or as "truths" to be pursued?

Putting the dynamics of symmetry and normativity to work: Reflections from a case of making and doing STS and evidence-basing in social care practice

Isabella Pistone, Philosophy, Linguistics, Theory of Science, University of Gothenburg

The tension of symmetrical descriptions vs social and political engagement in STS has been actualized and reinforced by novel forms of research collaboration with an increasing interest among STS researchers to intervene at the studied sites. Two strands of scholarship within STS have been especially interested in highlighting this tension: making and doing STS and Care in STS. Instead of putting focus on the tension between descriptive accounts and normative projects in the field of STS, these movements have emphasized that this tension is present within research projects, thereby altering the image of a split between descriptive and normative STS-research.

In this paper it is argued that actively putting the dynamics of symmetry and normativity to work within research projects could transform the split in STS into a "research engine" benefitting both practitioners and STS scholars. In the paper we describe the results of such an engine within a research project which aimed to experiment with evidence-basing in a social care practice. We describe how we translated findings from descriptive traditions of STS into normative suggestions in support of practitioners by: 1. traditional ethnographic observations, 2. 'situated theorizing' together with the practitioners, and 3. analytical workshops held within the research group. In this case, we argue that the tension between symmetry and normativity was necessary and generative as it contributed to multiple-way learning, i.e., generated insights for both the specific social care practice, the field of evidence-basing and the field of STS. As a conclusion, we propose that putting these tensions to work within research projects could a) increase the understanding of our own attachments as researchers, b) enable an engine of symmetrical and normative dynamics and c) contribute to interesting developments among actors in the studied field and colleagues in STS.

Conflict at one level, continuity at another: Symmetry and the normative turn

Ingemar Bohlin, Philosophy, Linguistics, Theory of Science, University of Gothenburg

Though the genre of controversy studies is mainly associated with SSK, STS analyses of controversies have also been based on conceptual frameworks very different from SSK. A prominent example is the work of Dorothy Nelkin. Focusing on the impact of scientific and technological developments, Nelkin's approach was part of an agenda of critique of science which was well-established even before SSK was launched. With the 'practice turn', focus shifted from the impact of science to its inner workings, symmetry being the central methodological principle. The divide between a symmetrical and an interventionist agenda has been present in STS ever since.

While symmetrical studies have typically addressed esoteric science, the last couple of decades have witnessed a considerable expansion of STS literature engaging with science-based initiatives directly affecting ordinary citizens. Rather than aiming at understanding scientific practice, this literature again focuses on impacts, on what does and does not benefit wider social groups. Often of an overtly partisan character, it has been referred to as representing a 'normative turn'.

In this paper two key points will be made. First, I will argue that those who suggest that much recent work in STS combines sophisticated symmetrical analyses with a normative, interventionist agenda, thus bridging the long-standing divide (e.g., Sismondo 2008), underestimate the conflict. As pointed out by Lynch (2017), there is much to suggest that symmetry has effectively been abandoned in this literature. The concrete methodological choices remain as stark as ever. Secondly, however, the evaluative dimension of symmetrical studies is too often overlooked. Well-documented symmetrical studies of issues that may appear esoteric, such as concepts of objectivity or definitions of robust scientific evidence, may indeed carry implications far beyond the scientific community. At a level more basic than the methodological one, then, there is indeed continuity across this long-standing divide.

Making our research influence actors is not necessarily a decision to intervene

Jakob Lundgren, Philosophy, Linguistics, Theory of Science, University of Gothenburg

Vikkelsø (2007) has argued that the distinction between description and intervention in STS is not as clear-cut as it seems. Even symmetrical descriptions can be used by actors to pursue their strategic interests, functioning as a kind of 'intervention'. However, this is dependent on actors partaking of our research, particularly through executive summaries or other bespoke forms of communication. Thus, making our research accessible to actors could be construed as a decision to intervene. However, I argue that there are independent ethical and methodological concerns that should move us towards giving access to our research.

Both participant observation and interviews involve human subjects. If we are to conduct such research ethically, informants need to be informed of and consent to the research. Crucially, they need to understand what our research entails to be properly informed. The procedures and purpose of our research should thus be made accessible to informants. At the same time, our STS peers are not necessarily familiar with the circumstances of our cases. Peer review by STS scholars is therefore not a way of ensuring the validity of our empirical descriptions. Our informants and other actors in the field, however, are familiar with our case. Thus, allowing informants the opportunity to assent or dissent to our empirical descriptions provides a check on their validity that may be more valuable than that of our peers.

Our decision to make our research accessible to actors therefore need not necessarily be based on the idea of intervention. Instead, the 'interventionist' potential of descriptive research already follows from ethical and methodological principles. However, there is potential to make an interesting distinction between research that is 'passively' interventionist in this way and research that is grounded in an active, meaningful decision to intervene.

Session B: 2) Visualization

På ostadig grund – Prediktiva modeller och svensk pandemihantering

Tobias Olofsson, Sociologi, Lunds universitet

COVID-19-pandemins första våg präglades av stor osäkerhet kring den nya sjukdomen och experter världen mobiliserade för att kartlägga den nya sjukdomen, hastigheten i dess spridning och dess dödlighet. På grund av dessa osäkerheter blev epidemiologiska modeller en viktig resurs i arbetet med att bemöta och hantera pandemin. Genom att modellera dess troliga förlopp och påverkan skapade epidemiologer, matematiker och andra experter bilder av framtider som politiker, myndigheter och allmänhet sedan kunde orientera sig mot.

Detta papper analyserar Folkhälsomyndighetens arbete med att utveckla modeller för att beräkna smittspridningen i Sverige och hur dessa modeller – och de framtidsbilder de gav upphov till - påverkade den svenska pandemihanteringen. Genom analyser av intervjuer med inblandade aktörer, transkriptioner från pressträffar samt arkivmaterial ger pappret en detaljerad redogörelse för hur viktiga antaganden om COVID-19s likheter och skillnader mot andra sjukdomar påverkade modellernas utfall och, i längden, svenska myndigheters hantering av COVID-19-epidemin i Sverige.

Digitala kartor som en konfliktyta i relationen mellan stat och medborgare, kunskap, politik och praktik

Katarina Winter, Kriminologi, Stockholms universitet

Sedan nittioalet pågår en debatt om den svenska välfärdsstatens nedmontering samtidigt som tilltro till investeringar i digitalisering och framtida tekniska lösningar ökat inom en rad områden: polis, hälso- och sjukvård, skola och socialtjänst. Parallellt med detta har begreppet "trygghet" riktats från att främst ha handlat om traditionella välfärdsfrågor till att numera handla om brott och utsatthet. (O)trygghet och utsatthet är återkommande teman som ska avhjälpas med digitala trygghetsvandringar, trygghetsappar och liknande. Bland dessa digitala initiativ och satsningar återfinns också så kallade digitala trygghets- respektive brottsprediktionskartor avsedda att minska otrygghet och brott i samhället, tjänster som kan köpas in av kommuner och stadsdelsförvaltningar som ett steg i arbetet med att skapa trygga samhällen och öka medborgardialog.

Vid sidan av ambitionen att öka den av medborgare upplevda tryggheten spås initiativen också lösa flera andra problem: att minska antalet brott, minska kostnader för dessa samt att öka förutsättningarna för ökad kunskap och samverkan mellan myndigheter och andra relevanta aktörer. Samtidigt medför sådana initiativ nya former av samarbeten och prioriteringar som utmanar den traditionella tillitsrelationen mellan stat och medborgare. Dels eftersom det är initiativ i vilka medborgare tillskrivs, uppmanas till eller krävs på direkt och indirekt deltagande i innehåll, utveckling och praktik, och dels eftersom det kräver samarbete med nya typer av aktörer, arenor och objekt (experter, konsulter, digitala verktyg, användare).

Syftet med projektet är att undersöka digitala kartor som en konfliktyta i relationen mellan stat och medborgare, kunskap, politik och praktik. Tre frågor är centrala:

1. Vilka prioriteringar och anpassningar görs och krävs i det samarbete med nya aktörer, arenor och objekt som digitala kartor medför?
2. Hur artikuleras (o)trygghet i kommunikation om och praktiserande av kartorna?
3. Hur spelar materialitet (t.ex. digitala förutsättningar) roll i dessa processer av kommunikation och praktik?

Just sharpen the sharpest stones and rounden the roundest ones: Veracity, verisimilitude, and the arts of attention

Alison Gerber, Sociology, Lund University

Scientific representations like maps, brain scans, and botanical illustrations are central to the practice of science, and forty years of research in science and technology studies have helped us to understand the social processes behind the production of scientific evidence. But today, widely accessible technologies can create lifelike algorithmically generated images – photo-like pictures made not with lenses but through the manipulation of digital data. These new kinds of images have allowed us to see the unseeable, but have also introduced distinctive challenges to our ability to trust the things we can see with our own eyes. With data drawn from a multisited ethnographic study focused on sensor-based photographish visualizations as evidence between science and the law, this paper focuses on the everyday production of both veracity and verisimilitude, and the problems faced by those who hope to balance both truthfulness and its appearance in new kinds of images.

Session C: 1) Capitalism and circular economy

*Abstract and practical knowledge in the co-construction of the Circular Economy:
An analysis of inspiration meetings*

Malte Rödl, Hanna Bergeå, Lars Hallgren, Therese Åhlvik, SLU

The multiple and complex sustainability crises of the present require not only a concerted effort but also imaginaries that allow to maintain some direction and hope. One such imaginary is the Circular Economy (CE), which has gained traction in the past decade in global business and policy discourses. Because of its multiple and often conflicting definitions that emerged within this hype, CE is often considered an ambiguous concept, which was found to forge shared identities but is often considered to limit the implementability. We consider inspiration meetings as one space in which new practitioners are recruited to working towards the imaginary of CE, and where this ambiguity can be fruitfully analysed.

Drawing on ethnographic and participant observation of CE inspiration meetings held in 2020 in Sweden, we analyse how a CE imaginary is verbally and non-verbally constructed by meeting organisers, invited speakers, and participants. We interrogate how the multiple and conflicting uses of the terms 'circular' and 'circularity', provided evidence, examples, charts, numbers, and illustrations render the CE as an 'anything goes' imaginary. We suggest that the ambiguity of CE imaginaries emerges from a muddling of abstract and practical knowledge: On the one hand, there is abstract expert and concept knowledge that describes a supposedly quantifiable vision, on the other hand there is practical knowledge that emerges from gradual processes made and linked to CE by personal efforts and reflections. We conclude that in light of the different discursive roles of, and knowledge bases connected with CE, unifying definitions are neither desirable nor useful.

What sewage sludge is and conflicts in Swedish circular economy policymaking

Linus Ekman Burgman, Linköping University

Recycling nutrients from renewable sources, like sewage sludge, has been promoted as a step towards a circular economy by decreasing extraction and dependency on inorganic fertilizers. Implementation, however, is often controversial. In 2018, a Swedish governmental inquiry was commissioned to propose a complete ban on land application of sewage sludge to reduce soil pollution and increase phosphorus recovery. In 2020, the inquiry suggested two pathways, one to ban all land application, and one where agricultural land use should continuously be allowed. This paper is based on interviews with experts tied to the inquiry where they reference to sewage sludge, related objects, and future management. The inquiry's inability to propose a coherent suggestion is analysed inspired by the concept of multiple ontology. Several ontological versions of sewage sludge emerge that unveil tensions between concepts of danger and cleanliness, pollution and naturalness, often captured in previous studies of waste. Some versions of sewage sludge conflict, which can explain the difficulty to establish an ontologically singular knowledge base for a transformation of sewage sludge from waste to resource. Though most of the experts agree that circular economy and nutrient recycling are good things, policymaking is caught in an ontological conundrum.

From Euro-vision to Scandinavian failure. The history of the 'Nordic triangle', 1985-2005

Andreas Mørkved Hellenes, STS, Chalmers University of Technology

Visions of a "Nordic triangle" linking together Stockholm, Oslo and Copenhagen with high-speed rail became a theme of Scandinavian transport policies in the 1990s. This was one of a series of visions of an integrated Europe connected with alternative transports to polluting cars and airlines. The aim of the paper is to analyse how, in the wake of Scandinavian Europeanisation, this vision was created and implemented before ultimately failing in the early 2000s. The purpose is to use the rise and fall of the Nordic triangle to examine the failure of sustainable border-crossing integration in Scandinavia. I propose to do so by studying three connected sequences, starting with an exploration of the first European business visions of the Nordic triangle and their publicly and politically contested reception in Scandinavia. Secondly, I examine how policy networks embedded the Nordic triangle in Scandinavian and European transport policies and market strategies. Thirdly, I analyse the making and unmaking of a Scandinavian high-speed rail market through the case of the Swedish-Norwegian train company Linx (2000-2004). The results will contribute to three fields of research – studies of transport and infrastructural projects, histories of Nordic and European integration, and the internationalization of incumbent railway operators, together providing valuable knowledge about the failure of sustainable integration in Northern Europe.

Capitalist eschatology: Immediacy, investment, ideology

Anna Åberg, Karl Palmås, Kristoffer Ekberg, STS, Chalmers University of Technology

This paper presents some preliminary ideas on how to study the place of eschatology in the contemporary economy, focusing specifically on space-colonizing ambitions of US entrepreneurs such as Elon Musk. Such a study may focus on three problematics, relating to immediacy, investment, and ideology. The study of what one may call "capitalist eschatology" involves interrogating the making of alternative futures, by situating imaginaries of humanity becoming a multiplanetary species in the present realities of political economy. The authors combine STS and ethnographic method with a history of technology perspective, in order to study both the present and the long roots of the sociotechnical and economic practices and imaginaries that make up such a "eschatology".

Session C: 2) Knowledge, participation and representation

Digitalization of public participation – A case study of two urban digital platforms in Tehran

Parissa Mokhtabad Amrei, STS, Chalmers University of Technology

Digital platforms are being used by policy-makers as tools for more efficient policy-making and citizen relationship management. Like many other cities, Tehran is one of the places where these platforms are becoming popular as a major way of communication between municipality and inhabitants. In this research, I investigate the mechanism of two digital public participation platforms by addressing how urban authorities see these platforms and how inhabitants needs and inquiries are being processed. For pursuing my aim and questions, I use a mixed methodology. Firstly, I analyze the open data of these platforms (2017-2020). In the data which has become open within this period, all public inquiries, their processing time, the answers from municipality regarding each inquiry and whether each inquiry has accepted and carried out are documented. Secondly, I use public meetings notes and interviews with experts which are done between 2017-2020. My hypothesis is that channelizing social participation into digital format embodies a certain kind of politics which contributes to tokenism, social atomization of collective issues and black-boxing of expert decision makings.

Science and Democracy

Linda Soneryd and Göran Sundqvist, Sociology and Work Science, University of Gothenburg

Our presentation summarises the main argument of a forthcoming book *Science and Democracy* (Bristol University Press). In fact, it is a condensation of the first and last chapters. The major thesis of the book is that science and democracy share an important characteristic; they are both about representation. Science represents nature, and democracy represents the will of the people. However, these representations need to be argued for. Proposed representations – whatever qualities these are about, such as nature, people or interests – need legitimation in order to become authoritative. This implies to explicitly acknowledge the possibility of alternative representations. This basic similarity is important in order to understand the strengths and weaknesses of science as well as democracy, and not least the interplay between them.

We argue that the interplay between science and democracy has most often been understood by focusing on differences, e.g. truth (univocal representation) vs. values (plurality). This means that the interplay is about understanding a gap. By focusing on co-production STS scholars (e.g. Jasanoff and Latour) propose an alternative, which put an emphasis on dependencies and connections in contrast to differences and separations.

However, our special take is to show how STS scholars can contribute with substantial knowledge of how a relational model of representation works in practice. STS research has in detail described how social conditions results in (different) representations of nature, but when it comes to its specific contributions to an understanding of the interplay between science and democracy, through the notion of co-production, much more need to be done.

Finally, we argue that in a time when fundamental scientific and democratic values are threatened by sceptics and populist arguments, an understanding of the relation between science and democracy is much needed.

“Optimizing for pearls”: configuring ideal users as individual and collective epistemic subjects on a large-scale Q&A platform

Alena Seredko, Education, Communication and Learning, University of Gothenburg

Question-and-answer (Q&A) platforms are increasingly employed to share, access and co- create knowledge. Previous research explored factors associated with users' motivation to contribute and kinds of user participation afforded by platform design. This paper contributes by focusing on how platform mechanics construct ideal users and proper use in ways that may be in tension with stated aims for participation. To address this, we examine the official blog posts of Stack Overflow, a Q&A platform for computer programmers, and investigate a scoring system that rewards participation with reputation points earned through votes. The material is interpretatively analyzed, and the results are discussed by drawing on Knorr Cetina's (1999) notions of individual and collective epistemic subjects.

Our analysis reveals a rich point centered around a change in platform mechanics marked by a blog post titled “Optimizing For Pearls, Not Sand” (2011). This post marks a change to the reputation algorithm, rewarding users with fewer points for upvotes on questions than on answers. Answers are metaphorically discussed as “pearls”

containing valuable knowledge, while questions are “sand” lacking an independent value. Answerers are positioned as individual epistemic subjects looking for “interesting” questions, while questions are products of a collective epistemic subject, i.e. a community voting on question quality.

Despite slight changes in platform rhetoric in later blog posts where question askers are recognized as valued knowledge producers important for increasing the amount and breadth of knowledge offered in resulting answers, platform mechanics still primarily configure ideal users as answerers. Question asking is only weakly rewarded by platform mechanics suggesting a tension in a knowledge producing system that relies on answers and rewards them as the product of individual epistemic subjects but reduces questions to the products of collective epistemic subjects with little knowledge producing value.

The production of smart city spaces: Sensor boxes as boundary objects

Desirée Enlund, Katherine Harrison, Rasmus Ringdahl, Ahmet Börütecene, Jonas Löwgren, Vangelis Angelakis, Thematic Studies & Science and Technology, Linköping University

Smart cities build on the idea of collecting data about the city in order for city administration to be operated more efficiently. Within a research project gathering an interdisciplinary team of researchers – engineers, designers, gender scholars and human geographers – we have been working together using participatory design approaches to explore how paying attention to the diversity of human needs has the benefit of making urban spaces comfortable and safe for more people. The project team has deployed sensors collecting data on air quality, sound, and mobility on a smart city testbed in Norrköping, Sweden. While these sensors are meant to capture an accurate ‘map’ of the street and what is going on along it, our interdisciplinary conversations around the sensor boxes reveal the heterogeneity both of smart city planning and spatial formulations of the city. These discussions have given rise to questions regarding the work that goes into constructing the sensor box itself, as well as the work of deploying it, and how these influence the ‘map’ that the sensors produce. Approaching the sensor box as a boundary object (Star and Griesemer, 1989) we draw on Lefebvre (1991) to explore how the box itself produces space. This paper analyses how the box both depends on perceived space to function (requiring electricity and physical structures to which it can be attached), and simultaneously it produces conceptualizations of space that are influenced by the materiality of the box itself (humidity and sound sensors potentially being affected by heat and noise generated from the electricity). Further, we explore how the (in)visibility of sensor technology influence lived space.

Session C: 3) Actors and evidence

Whose knowledge counts? The politics of evidence in international aid

Julia Hartelius, RMIT University, Melbourne Australia, School of Global Studies, University of Gothenburg

Increasingly, the concept of 'Evidence-Based Practice' (EBP) features in discussions around international aid. EBP can be described as the process of integrating best available research evidence, with practitioner expertise, and targeted community preferences, accounting for context. With a promise to generate evidence on 'what works', EBP is the latest product of the international aid effectiveness and accountability discourse. Yet it is based on dominant epistemological values and understandings of what constitutes valid knowledge that may displace local agency and be politically instrumentalised by the Global North to govern the behaviour of the Global South.

This paper contributes to the EBP discussion by critically examining how EBP impacts local agency, including what emerges in the dialectical process of power and knowledge, who is able to define how evidence is collected and applied, and who ultimately decides 'what works'. The study utilises a qualitative research design comprising interviews but also ethnographic approaches, including auto- and meeting/event ethnography, drawing on the experience of the researcher as a development and humanitarian practitioner. Engagement with a range of experts - including academics/researchers, aid practitioners at the local, national and international level as well as funders - will provide the data to analyse how they understand and apply concepts such as 'evidence', 'knowledge', 'EBP' and 'expertise' in their work. This will include the political use of evidence and problematic interpretations of who is an expert, and the difference between knowledge and 'local knowledge'.

Guided by critical, postcolonial and governmentality theory to examine processes of power and knowledge, the paper will pay particular attention to exploring acts of resistance as productive in challenging epistemological narratives and the construction of expertise. The paper will argue the need for a democratisation of Evidence-Based Practice, including a stronger attention to the epistemic violence that has shaped knowledge production within aid. Digital platforms are being used by policy-makers as tools for more efficient policy-making and citizen relationship.

Beyond Covid? Using Patient Knowledge to Improve the Care and Management of Long Covid Sufferers

Jesper Petersson, Lisa Lindén, Doris Lydahl, Sociology and Work Science & Philosophy, Linguistics and Theory of Science, University of Gothenburg

Aligning with the conference theme on the proliferation of knowledge and expertise, we will present a recently FORTE-funded project focused on Long Covid and patient knowledge. The project examines how Long Covid sufferers assemble, produce and mobilize knowledge about their emergent condition, and to what extent this knowledge is accepted by the medical community and its wider circle of actors. The project will focus on three identified arenas of sufferers' knowledge production and dissemination: among individual sufferers, in online support groups and collective patient mobilization. The following research questions guide the project:

- 1) What knowledge about Long Covid do sufferers generate from their embodied and lived experience, and how do they use it?
- 2) What knowledge do sufferers accumulate about Long Covid through the sharing of experiences with other affected, and how do they do so?
- 3) What knowledge do Long Covid sufferers mobilise to improve the care and management of Long Covid, and how do they do so?
- 4) What are the implications of 1-3 for the improvement of Long Covid care and management?

To answer these questions, we will interview individual sufferers, participants in online support groups and board members of the Swedish Covid Association; attend the association's meetings and events; and analyse its opinion pieces, reports, missives, etc., as well as individuals' postings in online groups. Building on our findings, we will arrange dialogue workshops with patient representatives, researchers and health professionals. Through the project's focus on both sufferers' individual and collective knowledge processes, we want to contribute to the existing body of research on patient participation and organizing.

Medicinsk åldersbedömning ifrågasätts, försvaras och förändras: Om när tillämpad vetenskap granskas i media

My Hyltegren, Sociology and Work Science, University of Gothenburg

Under 2015 till 2019 pågick en livlig debatt i Sverige om medicinsk åldersbedömning av asylsökande. Debatten fokuserade på hur det ska avgöras om någon är ett barn eller ej och (o)säkerheterna kring den medicinska teknologin för åldersbedömning som implementerades i Sverige under våren 2017. I centrum för den här presentationen står en empirisk analys inom ett avhandlingsprojekt om åldersbedömningar i det svenska asylsystemet under perioden 2015 till 2019. I projektet studeras etableringen av problem som den nya teknologin ämnar lösa samt hur problem förflyttas, omformas och stängs ner via dokument för politisk styrning, juridiskt beslutsfattande och medial granskning. I projektet används bland annat begreppen litterära inskrivningar, gränsdragningsarbete och modifieringsarbete för att förstå relationer mellan media, politik, experter och forskning samt konstruktionen av sociala problem och dess möjliga lösningar.

I den aktuella presentationen kommer jag att belysa och undersöka relationen mellan den mediala granskningen respektive den politiska styrningen av den nya medicinska teknologin för åldersbedömning. Den empiriska analysen guidas av frågor om hur teknologin ifrågasattes, försvarades och förändrades genom mediala dokument och politiska styrdokument mellan 2015 och 2019. Efter att teknologin hade implementerats följde en kritisk debatt som framför allt handlade om den valda metodens tillförlitlighet, eller eventuella brist på sådan och granskningen av metoden ledde till att tidigare myndighetsrapporter makulerades och teknologins konstruktion ändrades.

Assessing precarity – medicolegal regulation of rights and responsibilities

Lena Eriksson, Philosophy, Linguistics, Theory of Science, University of Gothenburg

Results from two research projects are combined to investigate how expert knowledge is funneled in medicolegal decision-making that regulates relationship and responsibilities between state and citizen. Two processes where medicine and law meet are compared, examining the role and mandate of the (medical) expert and how objectivity is construed. The increasingly standardized process to determine the right to sick-leave benefits is contrasted with the roles and practices of professional actors that are involved in decisions regarding committing and maintaining a person in involuntary care.

Sick-leave assessments have been reshaped by the introduction of a medical decision-making support tool used to gauge patients' 'work capacity', with the professional jurisdiction over the sick-leave process shifting away from the medical profession. By contrast, the medical assessment and decision-making processes when treating somebody against their expressed will are not standardized. At present, there are no guidelines for how expert psychiatrists should go about their task, how they should proceed, what they should assess or what they must be able to provide in order to back up their assessments. Furthermore, notions of 'social circumstances' that tend to undercut patients' claims to medical legitimacy and right to sick benefits are routinely placed in the realm of the "medical" and used as grounds to prolong involuntary treatment. The paper discusses levels of access to the administrative forcefield that is "the medical" bracket, endowing the state with responsibilities and rights visavi its citizens.

Session D: 1) Care and labour

Untangling prostatitis

Ericka Johnson, Thematic Studies, Linköping University

In this paper I will use insights from STS and the medical humanities to discuss a controversial diagnosis applied to diffuse abdominal pain in bodies with prostates: prostatitis. Using analysis of men's lived experiences, their diagnostic trajectory, and the application of varying treatments, I will show how discursive connections to masculinities are made through prostatitis' relationship to sporting, drinking, paid labour, and sexual and emotional relations. By picking apart these entanglements, I also make visible other bodies affected by prostatitis; partners, drinking companions, fishing mates, colleagues... people who have, knowingly or unknowingly, been affected by (and probably have an effect on) the prostatitis. Through theoretical approaches which articulate relational aspects of prostatitis as well as the multiple ontologies it enacts, this analysis ends by asking what role the binary understanding of sexed bodies which frames specialist care in terms of urology and gynaecology plays in producing the disease prostatitis.

Care Labour as Energy Transition: Ethnographic Accounts

Angelica Wågström, STS, Chalmers University of Technology

Energy systems that are truly sustainable, both socially and environmentally, demand moving beyond the current focus on masculinist technocentric systems. In feminist political ecology, two insights are especially important in creating paths to just energy futures: 1) the labour of care and 2) the decentering of technology. As much research has shown, merely shifting energy supplies from fossil fuels to renewable energy is insufficient from both an environmental and a social perspective. Finding alternative paths to energy transition requires a transformation in how we understand what energy is. Based on ethnographic fieldwork at a preschool and ecovillage in Sweden, this presentation analyses energy transitions already in place, especially those energies involved in the labour of care – ranging from human energies of body motion and food intake, to bioenergy in firewood. In this talk, I discuss how slow temporalities of care provide paths to energy transition and yet clash with current capitalist temporalities, and how alternative and low-tech practices must be carefully thought and designed toward inclusive futures.

The Wizard as carer

Maria Arnelid, Thematic Studies, Linköping University

This paper zooms in on the use of the Wizard of Oz (WoZ) technique (Kelley 1983) - also referred to as 'Wizarding' - in testing robots for care for older adults. The WoZ technique is a common methodology in the field of human-robot interaction (HRI). It allows researchers to operate a robot from afar while it interacts with people, letting the so-called 'Wizard' (persons operating the robot) control things such as movement, speech and gestures (Riek 2012). I draw from ethnographic materials from taking part in the process of planning a study in which the social robot Furhat is to be tested in an elder care home. In taking part in this process, it became clear that the use of WoZ required the care practices of the elder care home to be reimagined to make room not only for the robot but also for the Wizard. I therefore want to present some early reflections on how the use of Wizarding affected the imagined care practices (Mol, Pols, and Moser 2010) of elder care homes. Wizarding has been discussed critically in the field of HRI, from several perspectives. It has been accused of deceiving people, creating an illusion of a robot far more competent than autonomously possible (Fraser and Gilbert 1991; Riek 2012). Scholars have also addressed the anxiety that the method risks inflicting on the Wizards, as a result of putting themselves and participants in deceptive and potentially stressful situations (Rea, Geiskkovitch, and Young 2017). I want to discuss what the use of this tricky, potentially deceptive, research setup does to the human-robot interactions that it is used to investigate. Departing from my ethnographic observations, I want to discuss how the WoZ method shaped the imagined "subjects and objects of care" (Lind'en and Lydahl 2021) in the elder care home. Further, I want to address how which types of expertise and tasks that were seen as required to achieve "good care" (Mol, Pols, and Moser 2010) was shaped by the practice of Wizarding.

Invisible Labour of Digital Innovations: Gendered and Classed experiences in the everyday work of digital start-ups

Zehra Sayed, Gothenburg Research Institute, University of Gothenburg

The present edifice of high-tech start-up culture is primarily premised and understood from the perspective of the “heroic founder”, thereby positing of digital innovation as an individual and often isolated activity (Hyrkäs, 2016; Dy et al., 2016; Chang, 2018). This undue focus on founder/founding team however obscures how other non-elite participants (salaried employees and other forms of on-demand workers) encounter the expectations built in startup culture. For instance, the development of digital products is a labor(human) intensive activity requiring continuous iterations of human judgement by highly qualified workers (Nambisan, 2017). Nonetheless, the digital innovation discourse is entirely focused on the contributions of venture founders and funders. This project studies the contributions of “invisible labor” – i.e. salaried employees and on-demand labor to high-tech, digital start-ups. By (i) investigating power differentials throughout the development and lifecycle of digital products and (ii) the material conditions for salaried employees who are expected to embody the ideals of entrepreneurship without receiving any of its rewards, the present study strives to contribute to the digital entrepreneurship/innovation discourse.

Session D: 2) Digital platforms

Designing Trust. Development of Mobile Platform Security as an architectural innovation 1995-2010

Saara Matala, STS, Chalmers University of Technology

The trust of companies, customers, and regulators in technology they cannot fully control or even understand is imperative for the modern digital economy. This paper explores the emergence of mobile platform security through the development and standardization of Trusted Executive Environment (TEE) – a secure area of the main processor that runs a parallel operating system in an isolated environment. The combination of hardware and software components enables secure information processing such as fingerprints and credit card numbers inside mobile phones. The paper analyses the industrial drivers and dynamics in developing the mobile platform security architecture from its emergence in the mid-1990s to its standardization in the 2010s. How does a profit-driven company develop an architectural innovation that requires systemic changes in manufacturing chains but no one wants to pay for?

While the history of mobile phones has widely recognized how market demand and technological breakthroughs have fuelled corporate R&D activities in the mobile business, the development of system architectures has attracted less attention. One reason is that architectural “skunkworks” was less visible from the top-level management perspective and less attractive from the customer perspective. This study is based on oral history interviews and published material in newspapers, professional magazines, professional conference proceedings. The analytical focus is on the individual engineering teams and industrial cooperation.

I define mobile platform security as architectural innovation, a novel combination of software and hardware components, that was introduced to protect sensitive data. I show how its development started as a relatively small internal project within a large Finnish IT company to address trivial problems in company-customer relations. It eventually became a critical business enabler for the mobile business outside the manufacturing. The development captures the transition in system security design principles from company secrets to transparency and international cooperation

Vilka allmänheter samskapas med nya digitala verktyg för deltagande?

Catharina Landström, STS, Chalmers University of Technology

Att utveckla digitala verktyg för allmänhetens deltagande står idag högt på agendan inom flera olika samhällsområden. Under de senaste 20 åren har det skapats en mängd sådana verktyg avsedda att både underlätta för de allmänheter som redan är engagerade och för att göra det möjligt för nya grupper att delta. Tre områden där det arbetas särskilt aktivt för att utveckla digitala verktyg för allmänhetens deltagande är miljö- och vattenförvaltning, samt smarta städer. Ett välkänt exempel inom miljöområdet är den digitala plattformen Artportalen som har gjort svensk medborgarforskning till en internationell förebild. På Artportalen kan alla registrerade användare ladda upp observationer av djur, växter, svampar mm, dessa observationer blir sedan till data som används av forskare och beslutsfattare. STS forskare har funnit att den allmänhet som deltar på Artportalen och liknande plattformar i andra länder till stor del utgörs av människor som redan var engagerade i miljövärd innan de registrerade sig och började bidra. I jämförelse har digitala plattformar för medborgarnas engagemang i smarta städer lockat betydligt färre deltagare, ofta inte ens i närheten av vad avsikterna varit. Dessa digitala verktyg har ofta skapats med förhoppning om att stadens invånare ska bli intresserade av att medverka på helt nya sätt när den tekniska möjligheten finns. Skillnaden mellan att skapa verktyg för de praktiker som redan är etablerade och för att initiera nya aktiviteter är uppenbar. Utifrån några exempel på digitala verktyg som har lyckats finna sina allmänheter och några som inte har varit framgångsrika reflekterar jag i denna presentation över hur deltagande allmänheter och digitala verktyg samskapas.

*Institutionalizing the Digital GLAM
Digital Research at the National Library of Sweden's KBLab, 2017-2021*

Mats Fridlund, Literature, History of Ideas and Religion, University of Gothenburg

This paper contributes to the recent history of digital and postdigital science and technology through a study of the establishment of the digital lab KBLab of the National Library of Sweden (KB). Through the establishment in 2021 of the KBLab as a permanent part of the KB it became among the first of such national digital library labs worldwide and thus a pioneer digital institution within the digitization of the GLAM sector and within digital history scholarship internationally. The presentation outlines its recent history of institutionalization 2017-2021.

In this process KB went from being a laggard to a forerunner in digital research support among GLAMS. The origin of the lab was the writing of a KB-report on similar labs internationally which led to the KBLab founded as an internal project at KB. At its founding it was decided to conduct an external two-year review of its activities which the paper's author conducted and presented to KB in June 2021. The evaluation discussed "the results and effects" of the KBLab and provided "recommendations for its future activities". The evaluation was based on literature studies and 35 semi-structured interviews among representatives of the KBLab's stake holders within academia, the KB, GLAMs and research councils. Partly based on its results and recommendations it was decided that KBLab was to be made into a permanent part of the KB organization in September 2021.

The paper provides a history of the formative period of the lab and its various activities within science and technology with a focus on KBLab's own development of pioneering digital technologies in the form of Swedish language models and in its support of research in humanities and social science.

Session D: 3) Climate change and energy politics

Expertise in conflict – Bert Bolin and Tor Ragnar Gerholm in the debate on energy and environment

Kristoffer Ekberg, STS, Chalmers University of Technology

Since the political breakthrough of modern environmental problems in the late 1960s, scientists have repeatedly engaged in the public debate on issues such as energy, economic growth, and climate change. Scientific findings have been invoked with the aim of getting politicians and society to act. At the same time, the presence in the public debate has highlighted conflicts over scientific results and societal change. Such conflicts have been studied in the US context to a great extent but far less is known about similar conflicts in other countries. Building on research where we have identified such debates in Sweden, this presentation sketches the outline of a proposed project tracing the conflicts over energy, environment, and climate change through the lens of two key actors. Tor Ragnar Gerholm and Bert Bolin both born in 1925 and died in 2007, came during their careers to become central voices in Swedish energy policy and in the debate about environmental threats, but acted in diametrically different ways. In the presentation I introduce some early findings on two actor's positions and the "technologies of legitimacy" they used to bring forth their scientific findings and political perspectives.

Siting controversies

Hannes Lagerlöf, Sociology and Work Science, University of Gothenburg

Research on nuclear waste management (NWM) and the siting of repositories often suggests that the dominance of key actors in siting processes should be counterbalanced by greater inclusion of less privileged local publics. Through processes where publics' interests are taken into greater account, repository siting is improved. Often, public consent is represented as the guarantee of environmental intervention 'fairness'. This article cautions against such assertions and aims to increase knowledge also about the more problematic aspects of how consent of local publics is pursued by powerful actors. By visiting the Swedish case of repository siting, I show how the project of securing consent has progressed. I invoke the empirical example of 18 years of industry's written material distributed to citizens in the repository candidate community of Östhammar, and show that Swedish municipalities' veto-right in siting inquiries and public opposition have resulted in a creative industry siting strategy which has abandoned more 'coercive' siting attempts in favor of 'softer' means. The strategy now aims to create consent by tending to local interests, and by appealing to local identity, and culture. Despite this increased sensitiveness to local publics' wants and wishes that some have called for, however, attempts to secure consent are not without problems. Informed by theory that understands the securing of consent as an exercise of power, I discuss the biases that arise with the Swedish siting strategy and argue that the achievement of consent does not remedy power asymmetry.

Expertise and contrarian graphs

Kjell Vowles, STS, Chalmers University of Technology

Climate change denial has become widespread in the Swedish far-right alternative media ecosystem. The online video-channel SwebbTV claims to correct what it sees as fake news in legacy media, especially when it comes to climate change, feminism, immigration and health. By doing this, it plays an important role in spreading climate disinformation. While SwebbTV pronounces a distrust in institutions such as the Intergovernmental Panel on Climate Change (IPCC) and legacy media, it does not claim to be anti-science. Instead, it says that it looks at the data, which according to SwebbTV shows that there is no climate crisis.

Focusing on the role of experts and the use of graphs to visualise climate science, this study analyses how denialist arguments were spread by SwebbTV in the years 2018-2019. During this period, the supposed scientific expertise used fifty-five graphs in connection with climate, and by tracing their origins, this paper highlights the visual arguments – often created within the US climate change countermovement – which are fed into the Swedish far-right media ecosystem. The study also discusses how the graphs are deceptive, and, following the argument of Theodore M. Porter, how trust in data also can mean distrust in institutions.

This paper is based on a chapter written for a coming anthology on far-right visual communication to be edited by Bernhard Forchtner and published by Manchester University Press.

“Googla gärna”: Suggestions to search as a discursive practice in Swedish climate denialism

Malte Rödl, Jutta Haider, Sofie Joesse, SLU

The world's largest search engine, Google, is omnipresent in everyday life—in 2021, 87% of searches in the WWW and 96% of searches in Sweden were conducted through Google—, yet usually hidden and unconsciously used. While Google is used as a tool for searching, it increasingly also provides the template for the production and distribution of information (and misinformation) in the first place. Google also has an increasingly central role in how people evaluate the credibility and trustworthiness of content they encounter. In this contribution, we turn to one particular instance of how Google is implicated in the creation of meaning and in fact ‘knowledge’ about the environment, namely the case of selected Swedish climate change deniers. We trace their strategic use of Google in attempts at shaping the public understanding of climate change through enigmatic phrases such as “googla gärna” [google it] or “sök på” [look for] that we understand as a performative, search-it-yourself alternative to hyperlinks.

This project interrogates how search engines are entangled with (Swedish) climate change scepticism and denial by focusing on (1) appeals to googling as an everyday information practice used to seed doubt and misinformation, and (2) the creation and exploitation of so-called data voids, somewhat secluded spaces on the WWW in which content flourishes and reproduces itself. In doing so, this project connects academic literatures on knowledge creation, data voids and strategic signalling/communication, search engine studies, research on mis/disinformation, and media and information literacy to explore and provide opportunities to challenge the search-related practices in the Swedish climate denialist space. We suggest that by explicitly mapping out the discursive practice of suggestions to search, including their discursive embedding, their topic-related search terms, and the data voids this creates or exploits, it is possible to understand and counteract misinformation and climate denial.

