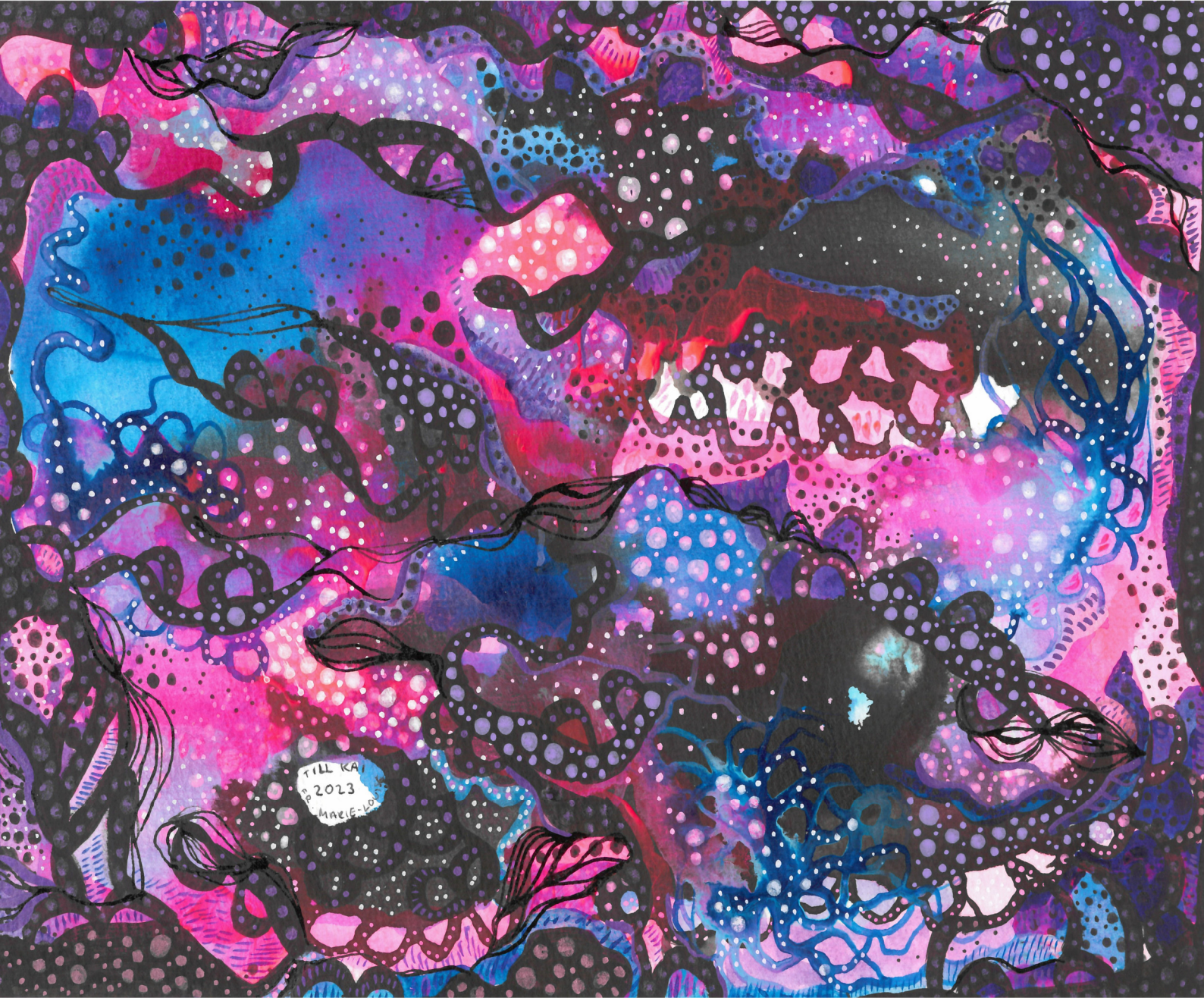

THESIS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Engineering Gender Equality

KAI LO ANDERSSON

Department of Technology, Management and Economics

CHALMERS
UNIVERSITY OF TECHNOLOGY

Gothenburg, Sweden 2025

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Abstract

This thesis studies gender equality work for faculty in technical universities. The first objective is to investigate what changes and what work are considered legible in the context of gender equality in a STEM institution. The second objective is to explore the subtle inclusion and exclusion methods that hinder gender equality work in this context. These objectives are explored through a case study of a gender equality project in a Swedish technical university and interviews with gender equality and diversity workers in Scandinavia. Following the processes of such a project contributes both practical and theoretical insights into how gender equality work is performed.

The methodological approach mixes participant observation, following, interviews, and studying texts produced by the project and other technical universities. The entry point is how this group of natural scientists and engineers attempt to implement change but the research goes on to further explore how academic organizations approach gender equality and cultural work. This approach engages science and technology studies, gender studies, and organizational studies.

This thesis is a compilation thesis made up of four articles and a comprehensive summary. A key finding in the first article is how culture and professional identity interact with cultural change work and which measures are legible for academic engineers and natural scientists. The mismatched goals of the project versus the organization for implementing change emerge in the second article, which focuses on gender equality officers, troubling trust in the organization's commitment to gender equality. The third article explores methodological and ethical challenges when conducting critical social sciences research, studying up, studying your own organization, and being funded by your informants. The fourth and final article investigates how gender equality and diversity workers in technical universities in Scandinavia experience their roles. The comprehensive summary provides an overview of the background of the gender equality project and elaborates on theoretical and methodological questions and findings from the research project.

Sammanfattning

Ojämställdhet i akademin har länge varit ett hett debatterat ämne och något Sverige, med andra länder, satsat mycket resurser på att motverka. Trots ökningar av kvinnliga studenter är manliga forskare inom naturvetenskap och teknik överrepresenterade.

Avhandlingen *Engineering Gender Equality* utforskar ett jämställdhetsprojekt på en svensk teknisk högskola med en stor budget och större mål: ett tekniskt universitet utan kulturella hinder för kvinnor och en fördubbling av kvinnliga professorer. Genom fyra artiklar analyseras hur just kulturella hinder kan vara oerhört komplexa och svåra att förändra gällande jämställdhet och mångfald. Hur ingenjörer och tekniska universitet gör jämställdhetsarbete är centralt i avhandlingen, vad som ses som möjligt och metoderna dit avslöjar underliggande idéer om jämställdhet, kön och kultur.

Jämställdhetsarbetet på det studerade universitetet påverkades av kulturella och organisatoriska strukturer. Organisatoriskt så placerades jämställdhetsprojektet utanför det vanliga jämställdhetsarbetet med jämställdhetsintegrering. Målen för projektet, och universitetet i stort, följdes inte upp med konsekvenser vid bristande framsteg trots att både projektdeltagare och jämställdhetsombud ville hålla chefer och ledare ansvariga. Kulturellt så påverkas jämställdhetsarbete av normer, framför allt gällande kön, men även hur just kultur förstås. I avhandlingen argumenterar jag att lokala kulturer behöver analyseras för att förstå strukturer för ojämställdhet.

LIST OF PUBLICATIONS

This thesis is based on the work contained in the following articles, referred to by Roman numerals in the text:

I. Andersson, K. L., & Landström, C. (2023). The Sole Engineering Genius: A Professional Identity Not Fit for the Purpose of Gender Equality Projects. *Engineering Studies*, *15*(3), 201-220. https://doi.org/10.1080/19378629.2023.2266416

II. Andersson, K. L (2025). Doubting commitment— Uncovering Window dressing in a Technical university.

III. Andersson, K. L. (2025). Weapons of Ethical Destruction: Feminist Research Ethics When Studying Up.

IV. Andersson, K. L. (2025) From Gender Equality to Inclusive Diversity? Discourses among Equality Workers in Scandinavia.

Related output

Public report: Andersson, K. L. (2024). How to improve Diversity, Equity and Inclusion – Key learnings from a tour of Technical Universities in Europe and the US. Chalmers STS Working Papers: 24-01. Div. Science, Technology and Society. https://doi.org/10.5281/zenodo.10599636

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Tack till kamraterna jag träffat under åren, att hitta mening och kamp tillsammans med andra ger mig hopp. Ingen är fri förrän alla är fria.

Gothenburg, April 2025

> We may safely say that mutual aid is as much a law of animal life as mutual struggle; but that as a factor of evolution, it most probably has a far greater importance, inasmuch as it favors the development of such habits and characters as insure the maintenance and further development of the species, together with the greatest amount of welfare and enjoyment of life for the individual, with the least waste of energy.

Peter Kropotkin, "Mutual Aid as a Factor in Evolution" as quoted in *The Cry for Justice: An Anthology of the Literature of Social Protest* (1915) by Upton Sinclair

1. Introduction

This thesis is an in-depth study of a gender equality initiative at a Swedish technical university: the Genie project, short for Gender Initiative for Excellence, at Chalmers University of Technology. The Genie project is an engineer and natural science led project aiming to increase the number of women faculty and change gendered cultures at the university. This thesis begins by studying the Genie project and then moving outward to look at the university organization, and how Scandinavian technical universities work with Diversity, Equity, and Inclusion. It began with a simple question for me: How do engineers do gender equality work? As somewhat of an outsider to the technical university, barring visits to D6 parties in my youth and a brief membership in Chalmers Aerospace Club, [1] I studied the university intranet and took every opportunity I could to understand the context I was entering during my first weeks in September 2019. I was curious what the specifics were for the formation of a ten-year project for gender equality and to what extent it could produce change in the five years following it through my PhD. In this thesis, those specifics are framed as contextual factors that limit or hinder the aim of a gender-equal university. While this thesis and its articles focus on particularities of this context, there are similarities with other efforts and examples from previous research. The Genie project takes place within the Swedish political landscape of gender mainstreaming academia,[2] running parallel to the gender mainstreaming effort and operationalizing the numerical goals for increasing women among promoted or recruited professors.[3]

One of my first realizations was that I was often the only social scientist in the room during meetings. Early in the project, I frequently reflected on the role of social science, gender studies to be specific. Why are there no gender scholars besides me, a PhD student, in the core group of the project? Gender scholars could be seen as *experts* on the topic, mapping what practices hinder gender equality on a local and organizational level. Why not bring in

[1] D6 is the party organization, sexmästeri [Party masters], for Chalmers computer science students.
[2] Regleringsbrev för budgetåret 2016 avseende universitet och högskolor (2015). https://www.esv.se/statsliggaren/regleringsbrev/?rbid=17189 [Appropriation letter for the fiscal year 2016 concerning higher education]
[3] Swedish publicly funded universities have had university specific goals since 1997. For more on this see the Swedish Higher Education agency's report from 2024 on the targets and how universities implement the policy. https://www.uka.se/download/18.52d65a4c1900c4ad8ef99/1718351021327/M%C3%A5l%20f%C3%B6r%20nyrekryterade%20professorer%20och%20bitr%C3%A4dande%20lektorer%202025-2028.pdf

the experts? One of the answers I have gathered is that it should be by engineers for engineers, bottom-up, and that it should provide an insider's perspective. These are important factors for integrating the project into the university organization and building legitimacy, and they should not be denounced easily. However, technical universities have been resistant to change when it comes to gender equality and representation; there have been many efforts but very slow progress compared to non-Science, Technology, and Math (STEM) disciplines and looking at more subtle contextual reasons for women's continuous underrepresentation could help find obstacles to change (Faulkner, 2009; Ní Laoire et al., 2021). Finding those subtle obstacles is difficult for insiders as they often take the norms underpinning them for granted. An outsider's view, together with insiders, could pinpoint such issues and try to find ways of counteracting detrimental norms and practices. My role has partly been being an outsider, looking in and asking questions, and providing advice and research for the project. An outsider by discipline and, at the beginning of the research project, to Chalmers. From my perspective, I have found a couple of limiting factors for achieving the project goals of increasing women faculty to 40 % on all levels and 'Eliminating structural and cultural barriers that hamper women's careers'.[4] Both goals are grand, even for a ten-year project, with a starting point of 17 % women professors in 2018. Apart from the limits to the numerical goal, doubling the number of women professors in ten years while not increasing the number of professorships, the barriers to achieving these goals are found in the organizational structure of the university as it relates to integrating this goal into every strategic decision and giving a mandate to gender equality workers and the project to act. The goals are bold, and the project was often described in communication material and project presentations as a catalyst for change, but a crucial aspect was what knowledges were taken up to realize these bold goals. In this thesis, these epistemologies and ontologies are examined through the lens of a Gender and Science and Technology scholar hoping to share the contextual particularities that can help practitioners and organizations work toward more equitable organizations.

As this thesis project has worked outwards from one university project to the same university's gender mainstreaming work and to Danish and Norwegian technical universities, it has contrasted different entry points to gender equality work in STEM institutions. The driving question is how that work is experienced by staff and scholars in these universities.

[4] As stated on Genie's page on Chalmers.se https://www.chalmers.se/en/about-chalmers/organisation-and-governance/equality/genie-gender-initiative-for-excellence/

My attention has been drawn to find the absences of work or the silences, that have been shared by some informants. In this thesis I aim to attend to those silences, which have been central to the research methodology and in the theory construction throughout the thesis process (Hall, 1992b). This thesis has, through studying gender equality and diversity work as cultural phenomena, found that the non-actions, or 'nonevents' (Husu, 2021) greatly affect progress of gender equality and diversity work. Nonevents can be *not* hiring more personnel to work with these issues, *not* expanding the remit of initiatives or *not* exploring suggested actions. These are less overt inequality regimes (Acker, 2006), inequality regimes that are not only located to those assumed to be in power as feminist science and technology scholar Wendy Faulkner (2009, p. 187) and the findings of *Article I* suggest. This thesis follows groups, organizations and individual workers as they work towards increased equality and diversity. The notion of work is central in this thesis as the task of dismantling inequality regimes or attempting to increase diversity or equity demands work.

Aims: Following Processes

This thesis, and the included articles, follow an abductive research process. In this section, I will describe how a broader interest in studying a change process led me to find the research questions that guided the articles. The broader interest that was with me from the beginning of my research was two-fold: How does a gender equality initiative at a technical university led by engineering faculty work? What is the change process like? I approached these questions through a method partly already set out for me in formulating the PhD position: follow research. How that following would be performed was up to me. I chose to approach it as a participant observer, the insider's perspective provides granular attention to details of the processes ongoing in the project and its relations to other parts of the university. I sat in at all meetings I could be invited to, presentations, had access to project documents and performed interviews. This research project aims at understanding organizational change through these processes, encouraged by the government in this case,[5] through the subtle tendencies that complicate gender equality work (Faulkner, 2009). Through the microlevel of this ethnographic study of a particular gender equality project those subtleties emerge. The close nature of this ethnographic study complements previous research on gender equality and

[5] As a private university Chalmers was not demanded to gender mainstream its organization as the state-funded universities were.

diversity efforts in academia of a more quantitative nature (e.g. Dobbin & Kalev, 2017; Drange et al., 2023; Kalev et al., 2006; Silander, 2023; Silander et al., 2022; Silander et al., 2024; Skewes et al., 2019, 2021) and contributes in a similar vein to qualitative studies (e.g. Ahmed, 2007; Beddoes, 2019; Ní Laoire et al., 2021; Ottemo, 2015; Salminen-Karlsson, 1999; Snickare & Wahl, 2024; Wahl et al., 2001). This thesis's findings speak not only to the local context but to previous research in the European and US context. There are still considerable issues in implementing gender equality and mainstreaming in academia and in technical universities especially.

After the first period of following in the fall of 2019, I was interested in how the people in the project leadership group understood the problems of sexism and gender inequity in their professions. These questions, combined with my observations, guided my interviews and subsequent analyses. This became *Article I*, where one specific obstacle to gender equality in engineering academia is explored: how engineers, through their professional identities, make sense of gender inequality and how they believe it can be remedied. The article looks at how professional identity can be a limiting factor if certain norms and discourses are not addressed in work aiming to create equality and equity. During and after writing *Article I*, I kept those norms with me in subsequent articles and research questions.

In 2020, when financial hardships occurred at the university, I (and others in the project) saw this as a risk factor. This took the form of voluntary and involuntary lay-offs, resulting in a person central to the gender mainstreaming work outside the Genie project leaving the organization. I had not interacted with the university's departmental gender equality officers up until this, but during 2021, I kept hearing about them not having a central coordinating officer. This made me reach out to gender equality officers in late 2021 to ask them if they wanted to be interviewed about their roles and current situation. The questions guiding me in this series of interviews were understanding their role in the university, their interactions with the Genie project, and how being without a central coordinator impacted their work. In doing this, I remained attuned to their professional identity and the norms I saw in *Article I*. This interview study led to *Article II*.

When *Article I* was in the journal submission process, informants in the project expressed their concern about the article's analysis and the ethics of my research. This led to *Article III*, where I explored how this conflict arose and how hierarchies between the researcher and the

researched can be expressed. In *Article III*, I analyze this through the lens of hierarchies and the different ontologies between social scientists and academic engineers.

The beginnings of *Article IV* were part of my institutional duties to the project, first collecting and analyzing how top technical universities outside of Sweden describe their gender equality work. I then visited and interviewed gender equality or Diversity, Equity, and Inclusion workers in 12 universities in Northwestern Europe and the US during 2023. The research questions guiding this study included how DEI work is structured and what the perceived obstacles are to equality and equity in technical universities or academic engineering.[6] In *Article IV*, this study is narrowed down to Scandinavian universities that had a comparatively low number of employees dedicated to DEI work. What was present, especially in Europe, was the struggle to attend to other forms of diversity than binary gender, guiding me to look at how Diversity, Equity, and Inclusion approaches operates in Scandinavian technical universities.

Throughout this iterative process of finding phenomena of interest to investigate, a number of events have been in focus in all my articles, including: a change process led by engineers; the relationship between the Genie project's aims of a gender-equal university; the norms and identities of academic engineering. The surprises along the way, such as my 'detour' to the gender equality officers and the events in *Article III*, were made possible through the research method already set out for me: following. There are unique aspects to this research project in that regard. The following is something that will continue in the structure of this thesis, which might come across as unorthodox, but this is me letting you in to the process of how this thesis work was carried out and mirroring it in my presentation.

Thesis outline

The thesis structure follows abductive logic. Abduction in this case refers to the method and mode of analysis where the empirical material guides the theory construction inductively rather than proving, disproving or adding to pre-existing hypotheses or theories from the outset (Timmermans & Tavory, 2012). This research project has utilized the abductive

[6] The first outcome of this was the report Andersson (2024).

approach. After gathering data through observation, document analysis and so forth, theoretical concepts are created or expounded upon, or generalizations are drawn based on that data. The process could be called ‘data driven’, since a wide array of data was collected using certain methods (in this case following and participant observation). When data is analyzed for themes and patterns, it becomes possible for the researcher to develop theoretical standpoints. Such theoretical developments might include adding new cases, providing similar findings in a different context, creating a new theory or contesting old ones.

Following that logic in the coming sections I will lead you, the reader, through the research and empirical context (background and previous research). Then, I will guide you through the methods and methodology used in this research project along with the ethical considerations. After that, I discuss the theoretical concepts used in the research. Then, I provide summaries of the articles included in this thesis project. Finally, I lead to a concluding discussion, discussing the results and contributions of this thesis.

Previous research and background

Gender and gender equality work in Science, Technology, Engineering, and Math fields (STEM) have been studied for a long time through multiple different methods. In this thesis, the most relevant literature to engage with is gender in engineering fields and gender equality work in academia as they capture the two key themes of the thesis.

Gender in engineering fields

In previous research, engineering cultures have been characterized as individualistic and competitive (Secules, 2019), valuing a specific kind of meritocracy (Blair-Loy & Cech, 2022), striving towards de-politicization and rejecting structural explanations (Cech, 2012, 2013; Myers et al., 2019) and gender inequality has been addressed as a question of individual choices (Casad et al., 2021; Schiebinger, 2010). Together these tendencies create a very difficult starting point for addressing gender inequality, diversity and systematic changes of engineering organizations. The construction of masculinities in programming and engineering has been studied through the historical masculinization (Abbate, 2012; Hicks,

2017), the maintenance of male overrepresentation and homosociality (Berner, 2000) and cultures of programming and engineering (Ensmenger, 2010, 2015; Secules, 2019).

Delving deeper into the *doing* of gender Faulkner (2009) analyzes how engineering workplaces exclude women through subtle means. Faulkner calls for in-depth cultural analysis to study the attempts at culture change, increased diversity, equity and inclusion, in engineering workplaces to understand localized expressions of exclusion and inclusion. One value that can be understood as an explanation for exclusion is meritocracy. Meritocracy is the belief that people can progress in their career in accordance with their individual skill or performance. Meritocracy can be utilized as both an explanatory model and a way of denying exclusion because of gender, race, ethnicity and so on as the meritocratic practice would prevent discrimination since meritocracy is 'objective'. Sociologist Erin Cech (2012, 2013) describes how meritocracy holds particular strength in engineering fields, more so than in other academic fields. This belief in meritocratic values in engineering also makes social justice work 'political' which is seen as going against the 'objective' meritocracy. This view on meritocracy can serve as a way of justifying ones own success, Erin Cech and Mary Blair-Loy (2010) suggest that women are just as invested in this particular interpretation of meritocracy as men and that gender equality or diversity efforts are seen as threatening to this 'objective' system that the individual themselves have been successful in. This is perspective is also found among students and early career engineers in the US by Myers et al., (2019) and Doerr et al., (2021) where exclusionary practices (only getting certain tasks or even overt sexism) is not seen as structural and young women can adopt a exceptionalist attitude regarding their own success meaning that they are successful because they are better or different than other women outside of engineering.

Gender equality work in academia

Gender equality work and projects in academia have also been studied extensively. The lack of accountability in gender equality work among academic managers has been suggested as one aspect of lacking progress (Roos et al., 2020), the lack of contextual adaptations of university policies has been critiqued (Ní Laoire et al., 2021), the prevalence of ineffective symbolic acts (Dobbin & Kalev, 2017), the tension between academic values and gender equality practices such as gender mainstreaming has been highlighted (Callerstig, 2022), as

has inequality being framed as an individualized problem of women who are to blame (Snickare & Wahl, 2024) and exceptionalism as a counter narrative to inequality or sexism (Martinsson et al., 2016a; Skewes et al., 2019, 2021).

In the Nordic countries gender equality and policy measures at universities have ranged in focus. Drange et al., (2023) have studied measures in Finland, Norway and Sweden from 1995–2018 and found that special funds for underrepresented groups and diversity offices or full-time positions focusing on gender equality positively impact gender equality at universities, something they describe as structure oriented methods, aiming to change the organization. Looking at proportional changes of women professors in STEM in the Nordic countries between 2000–2018, Silander et al., (2022) found that having a multitude of measures and preferential treatment and targeted measures increased the number of women professors in STEM fields. In a later paper Silander et al., (2024) problematizes the role of legal requirements for active measures for gender equality as a solution to gender inequality in academia.

Analyzing Swedish gender equality policy and implementation in higher education Kerstin Alnebratt and Birgitta Jordansson (2011) find that through strong gendered norms and essentialist beliefs gender equality efforts are argued to create a complementary relationship between men and women and their presumed innate different skillsets that will create better research (Alnebratt & Jordansson, 2011, p. 21). Alnebratt and Jordansson also discuss the precarious situation of gender studies in the research policy field where gender equality work is intermingled with gender studies; gender scholars are tasked with conducting research on gender inequality or gender equality in academia, which they note can be understood as an infringement of free research, and the political demand for gender equality can also be seen as anti-meritocratic. This is described as creating a 'triangle-drama where gender scholars, the state and academia play leading roles' (Alnebratt & Jordansson, 2011, pp. 24-25).[7]

On a similar note, political scientist Malin Rönnblom (2011) discusses the neoliberal governmentality of gender equality work, especially gender mainstreaming, in Swedish higher education. Governmentality being the rationales and ways of governing (Foucault, 2011). The governmentality that runs throughout the Swedish public sector center administrative routines and measurability. Rönnblom sees this as a way of de-politicizing the highly political question of gender equality, inequality and finds that structural explanations

[7] Author's translation.

are decentered, making the road to ‘equal’ power and representation abstract yet tangible through evaluation systems and administrative routines. This creates a supposedly liberatory project without conflicts (Rönnblom, 2011, pp. 49-51). Not addressing the inherent conflicts in shifting power makes such changes difficult, to say the least. In this thesis, I find traces of Rönnblom’s governmentality in the studied project and among Scandinavian DEI workers, but there are tensions between de-politization, meritocratic values and a bolder approach to gender equality work heralding innovation over administrative routines.

2. The Research Context

As the main part of this research project focuses on one technical university, introductions are in order. Chalmers University of Technology is a private technical university in Gothenburg on the Swedish west coast. The university was founded in 1829 after a director of the Swedish East India Company, William Chalmers, endowed his inheritance to create a free trade school for poor children.[8] In 1994 the university became a foundation university after 57 years as a state university. The board of the Chalmers Foundation is the 'supreme decision-making body' of the university and other subsidiary companies.[9] The project studied, the Genie project, is one of the foundation's strategic efforts funded through foundation money.

Students, students, students

In previous research on gender at Chalmers, the main focus has been on numbers of female students, gendered recruitment work, and gender patterns (Nordvall, 2023; Ottemo, 2008, 2015; Salminen-Karlsson, 1999). There have been several gender equality initiatives, and most of them have focused on girls/women as a problem that needs to be solved. 'Fixing' the low number of female students has been a focus for Chalmers for quite some time, often with the assumption that people have the wrong idea about engineering, as Andreas Ottemo (2008) describes, or that the programs have to be adapted pedagogically for female students, as in the projects in the 1990s Minna Salminen-Karlsson (1999) studied.[10] The low number of female students has served as an explanation for why there are so few women in Chalmers faculty.

Malin Nordvall's (2023) thesis detailed that different equality efforts have gone in waves at Chalmers since the late 1970s. Primarily focusing on recruiting female students, from the old coding cottages of the 1980s (Nordvall, 2023, p. 104),[11] to Camp Vera for girls and non-

[8] See https://www.chalmers.se/en/about-chalmers/traditions-and-celebrations/a-brief-history-of-chalmers/ for more information.
[9] See https://www.chalmers.se/en/about-chalmers/organisation-and-governance/foundation/ for more information.
[10] One at Chalmers, the D++ project.
[11] Datastugor in Swedish.

binary people in the 2010s and 2020s,[12] both providing separatist spaces for gender minorities in engineering education. Nordvall describes how gender equality work in the 1980s into the 1990s was dominated by a 'recruitment logic', meaning that issues could be solved by recruiting more female students, which later turned into a 'reform logic' focusing on integrating gender analysis in the engineering curriculum and pedagogical methods (Nordvall, 2023, p. 156). This movement between 'reform logic' and 'recruitment logic' is non-linear vacillating between the perspectives or using both simultaneously, many of the underpinnings of recruitment logic still appear in current equality efforts. Despite that researchers (e.g. Salminen-Karlsson, 1999) had identified the 1990s that cultural factors in engineering may play in to gendered dynamics, the National Higher Education Board continued to focus on funding projects that focused solely on recruitment logics. In a 2008 report, Ottemo discusses what could be understood as recruitment logic and attempting to 'fix the girls' faulty choices (Nordvall, 2023; Schiebinger, 2010) in not pursuing an engineering or STEM degree. Ottemo also critiques the lack of self-criticism in engineering institutions when it comes to problems recruiting broadly. Ottemo critiques an attitude that dismisses cultural problems as 'Everything is actually fine, it is just the others who don't get it' (Ottemo, 2008, p. 3).[13] In this context, the others can be women or whatever group is currently sought after to attract dismissing what repulses certain groups from pursuing an engineering degree.[14] Ottemo's report shows that the framing from the 1980s and 1990s stuck around in student recruitment until the 2010s. In 2024, 34 % of students and 23 % of professors are women at Chalmers.[15]

The student focus persists to some extent at Chalmers. However, as governmental efforts to gender mainstream Swedish authorities, agencies, and institutions, universities were also tasked with increasing the number of women faculty and professors. This aligns with the recruitment logic, but also, through gender mainstreaming, touches on reforming the institutions to consider gender equality in all decisions.

[12] https://www.chalmers.se/utbildning/studera-hos-oss/mot-oss/camp-vera/ Named after Sweden's the first woman engineer Vera Sandberg. I use their language of 'girls' here, which is accurate as the camp caters to 17–18-year-olds.
[13] Author's translation.
[14] This attraction is not necessarily benevolent; rather, it is meant to fill university spots or industries that need qualified labor.
[15] Per the 2024 annual report https://www.chalmers.se/api/media/?url=https://cms.www.chalmers.se/Media/okvnfvik/chalmers-ar-2024.pdf? p.102.

Regarding gender equality in undergraduate education at Chalmers there have been substantial shifts in how that work is carried out since 2021.[16] After Chalmers failed an assessment of their gender equality work in undergraduate education in 2019 the university invested more resources in to gender equality and diversity work,[17] including a new goal to include gender perspectives in programs and courses.[18] Most recently in 2023, researchers from the STS division at the Department of Technology, Management and Economics were tasked with continuing support for gender equality, equal treatment and diversity in education, specifically focusing on education, tailoring feedback for syllabi, establishing a helpdesk for teachers and workshops with educators on different levels (such as program directors). This work will also include an evaluation of the work being done on the topic. The goal is that all master's programs should have an obligatory course on gender equality, equal treatment and diversity.[19] This effort reflects incorporating gender equality and diversity into education, not only as a separate course or issue but as a subject on its own that is integrated into engineering education and made relevant for students' future working lives. This shift could be seen as the reform logic as described by Nordvall (2023) and Schiebinger (2010), starting to address cultural aspects of underrepresentation.

Swedish Gender mainstreaming and Feminist policy

This section begins in the middle of political decrees that led to the implementation of gender mainstreaming in most Swedish universities and institutions for higher education. It sets the scene for the project and the time right before.

Gender Mainstreaming in Academia (GMA) began in 2016 with a government appropriation letter announcing that all publicly funded higher education institutions were to present a plan for gender mainstreaming their institutions to reach national gender equality goals (Appropriation letter for the fiscal year 2016). This was based on national gender equality

[16] Bachelor and master's programs.
[17] See the decision in Chalmers internal document
C 2018-1615 Universitetskanslersämbetets (UKÄ) granskningar av lärosätenas kvalitetssäkringsarbete 2019 [Swedish Higher Education Authority's investigation of quality assurance at institutions of higher education].
[18] See Chalmers internal document C 2022-1996 Uppdragsbeskrivning/Uppdrag till STS avseende JLM perioden 20230101-240321 [Mission statement/Brief for STS regarding DEI between 230101-240331] and Chalmers internal document C 2021-1895 Strategi för integrering av jämställdhet, likabehandling och mångfald i Chalmers grundutbildning [Strategy for integrating gender equality, equal treatment and diversity in Chalmers undergraduate education].
[19] See Chalmers internal documents C 2022-1996 and TME 2024 0111-1.

objectives that aim for distributional justice beyond freedom of gender discrimination. In her case study of GMA implementation at a Swedish university, gender scholar and political scientist Anne-Charlotte Callerstig (2022) finds that the distributional justice goal of the national gender equality objectives is incompatible with academic 'excellence' culture and meritocratic values, making policy implementation difficult (Callerstig, 2022, p. 37). Gender mainstreaming in higher education was informed by previous research, which emphasized the combination of numerical equality goals and cultural and structural issues (Swedish Gender Equality Agency, 2019; SOU, 2011, 2014).

As Gender Mainstreaming in Academia began in 2016, Chalmers voluntarily took part as a private institution. The initial period for GMA 2016–2019 focused on institutions creating action plans to prevent and ameliorate gender inequalities systematically, which were to be integrated into regular operational plans (Swedish Gender Equality Agency, 2019, pp. 9-10). At Chalmers, the gender mainstreaming effort was split between two structures. Human Resources employed a gender equality coordinator who oversaw all gender equality work at the university, meanwhile the university established a ten-year gender equality project, the Gender Initiative for Excellence (Genie). This dual model with the project was motivated in a report to the Swedish Gender Equality Agency as beneficial as a solid financial basis for gender equality work through the project, seen as a prerequisite for successful gender mainstreaming (Swedish Gender Equality Agency, 2019, p. 44).

Chalmers gender equality work 2007–2019

In 2007, Chalmers installed a new policy for employees, moving away from targeted methods introduced in the 1990s, a tendency noticed by Drange et al., (2023) in their review of Nordic university's gender equality policy and work from 1995–2018. The policy was as follows:

> All equality work at Chalmers rests on three basic assumptions:
>
> • that there are no differences between women and men regarding talent in natural and technical sciences,
>
> • that minorities are often exposed to negative stereotyping which negatively affects their performance and

> • that targeted interventions for stereotyped minorities can contribute to reinforcing stereotyping.
>
> Equality work at Chalmers should not consist of targeted initiatives for various minority groups but rather broad initiatives that benefit everyone, including minorities, without particularly singling out or problematizing these. Every equality measure at Chalmers must be specially reviewed before it is decided on so that it does not contribute to continued stereotyping.[20]

This was preceded by a report by the university's Faculty Senate, where a working group established that gender equality work was slow-moving and that new research on stereotyping showed that targeted measures negatively affected minority groups. The policy implementation went so far that when a union invited researchers to participate in leadership seminars for women, it was declined, referencing the policy (directly quoting it) and a decision from the then university President, stating that the event was incompatible with the policy.[21]

[20] Author's translation. From Chalmers decision C 2007/888 Fastställande av ny policy för inriktning på jämställdhetsarbetet på Chalmers [Establishing a new policy for reorienting gender equality work at Chalmers].
[21] Chalmers internal document C2009/899-2 Chalmers avböjer att delta då det ej är förenligt med vår jämställdhetspolicy [Chalmers declines the invitation as it is against our gender equality policy]. The respondent representing Chalmers states that she has attended previous iterations of the event and appreciated it, but she politely declines to invite women from Chalmers because of the policy.

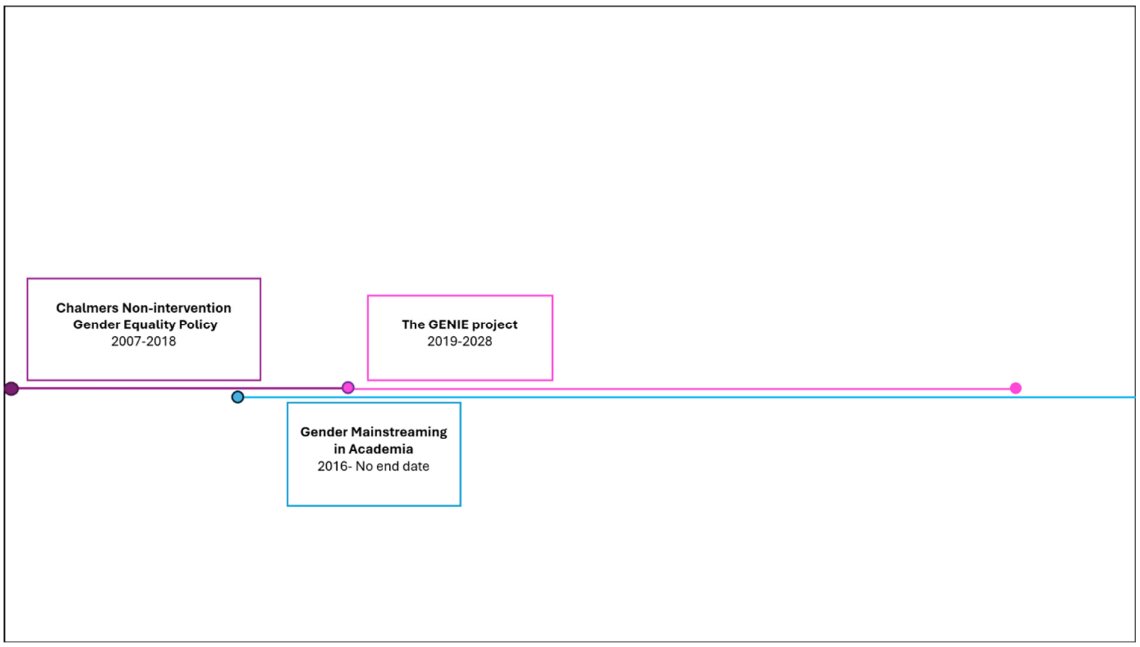

Figure 1 A timeline of the 2007–2018 Chalmers policy, Gender Mainstreaming in Academia from 2016 with no end date, and the Genie project from 2019–2028.

The figure above combines the timelines of Chalmers' own policy from 2007, the governmental decree of Gender Mainstreaming academia, which Chalmers started in 2016 voluntarily as a private university and then the foundation initiative the Genie project 2019–2028. As indicated, there is no end date set for GMA, which combines the organizational goal of integrating gender equality in all parts of the organization and numerical goals for newly appointed women professors.

This 'non-intervention' policy still lives on among employees as of 2021, when I interviewed gender equality officers for *Article II*. One of them mentioned the incongruence between the new direction of Chalmers policy with the Genie project. This officer was there for the shift before the 2007 policy. From the 1990s until 2007, teachers were encouraged to focus on women students, making sure women were not placed in groups alone with men. Then, in 2007, teachers were told not to focus on women through the policy, as that might negatively stereotype women. Then, in 2018, when the Genie project was announced, Chalmers went back to focusing on women through the Genie project for faculty and through Camp Vera for the students.

The Genie Project

In this section, the creation of the Genie project is contextualized with both internal university processes, previous research and broader debates about gender equality and gender mainstreaming in academia.

The Genie project was initiated in 2018 and has since been described as a 'bottom-up' initiative by project leaders, bottom-up meaning that it is faculty led. After the Allbright report in 2019,[22] Chalmers University of Technology was ranked as having the lowest representation of women in higher faculty positions out of all Swedish universities (Allbright, 2019; Wittung-Stafshede & Bengtsson, 2019). The then President and CEO of Chalmers, Stefan Bengtsson, when presenting the project on the university's webpage, says:

> Different studies clearly show that the academy is not equal today – men and women are judged and treated differently. With this powerful investment, in addition to what we already do, we want to correct the imbalance and in addition become a stronger and more successful university. It's about making better use of the competence of the entire population. (Roos, 2018)[23]

The project, which spans over 10 years, is funded through the Chalmers Foundation.[24] This initial text published on the open website emphasizes 'ground-breaking changes' to culture and presents the two main goals of the project: identifying and eliminating structural obstacles for women and directly recruiting top female scientists (Roos, 2018).

The then President and CEO made this statement as a personal communication to me for *Article I* in 2021:

> The project was launched as a result of an internal process at the university aiming at identifying and launching a small number of long-term projects with the goal of strengthening the academic activities at the university. Ideas for projects were identified bottom-up in an open process where staff and students proposed ideas. Internal committees, including the faculty senate and the student union brought a selection of the ideas to the president and the president

[22] Stiftelsen Allbright [The Allbright foundation] is a non-profit foundation working towards equality and diversity in leadership positions, mainly in company boards. They publish two reports on representation a year. In 2019 the report focused on academia and women faculty.
[23] Roos, 2018 is a text from the university's webpage published by a communications employee.
[24] As mentioned earlier, the university's Chalmers Foundation funds strategic efforts regularly.

made a further selection resulting in a proposal to the university board to decide on a very limited number of projects.

This narrative has been contested as it does not elaborate on the events before the call for foundation projects. Specifically, its relation to #MeToo stories and sexual harassment in the university. In 2018, after Student Union #MeToo stories had been published, a two-year project called Chalmers against Sexism was launched by the student union and the Vice President of Education and Lifelong Learning to create a platform for reporting harassment and bullying for both students and staff, create processes for investigating harassment and create an obligatory course for students about equality, norms and intervening against harassment.[25] In a news article on SVT Nyheter December 5, 2017,[26] Chalmers stated that over 200 stories were reported by students at the time; they contained sexist, homophobic, and transphobic interactions, and physical and sexual assaults (Lövstad, 2017). The President's reaction to SVT Nyheter on the stories was: 'It's very shocking. We have worked on the laddish culture for a long time but that it would be this bad surprises me'(Lövstad, 2017).[27]

In a debate article in November 2017, Chalmers student Julia Jansson and Chalmers professor Sven Engström's call for Chalmers to 'handle harassment better'.[28] Jansson and Engström connect the university's reaction to #MeToo and the low representation of women faculty but also emphasize that they feel that the university has 'tried to hide the issues from the outside world' by removing stories of harassment from a Chalmers internal newspaper, [29] instead publishing these stories only on the employee intranet or the President's blog. They describe that 'few students trust Chalmers when it comes to sexual harassment'.[30] Jansson and Engström critique the current 2007 policy for its inefficiency, as it does not allow for targeted efforts for minority groups. They point to the discrepancy in reaching the governmental numerical goals that every third new professor should be a woman when 'the departments

[25] Chalmers internal document C 2018-1615-29 Sammanfattning Chalmers mot sexism [Summary Chalmers against Sexism].
[26] SVT is the Swedish national public broadcasting network, and SVT Nyheter is their text-based news site.
[27] Author's translation. Laddish culture is 'grabbig kultur' in the original Swedish.
[28] Sven Engström, a professor of Pharmaceutical Technology was working at the central hiring committee of the university at the time and is a former Vice President at Chalmers.
[29] Author's translation.
[30] Author's translation.

plan on promoting 25 men and four women in the coming two years' (Jansson & Engström, 2017).[31]

Parallel to the #MeToo stories at the university in the fall of 2017, Chalmers called for three strategic foundation efforts for different parts of the organization. The call begins:

> It is time to ask ourselves the question what we should invest in in the coming years to ensure a leading position for Chalmers in ten-years' time. What position do we want? What new important areas do we think will emerge during the next 10-year period? How do we best use the special investment funds that our foundation form provides? What prevents us from being world-class today?[32]

In January 2018, the faculty senate presented a proposal for a Gender Equality Initiative (GEI) that combined three gender equality proposals with nine signatories who had collaborated on the proposal. They motivate the need for the initiative by framing for gender equality as necessary to achieve research excellence, and point out that the university is far below the governmental demand that 32 % of newly appointed or promoted professors should be women. At the time, 23 % of Chalmers faculty and 14 % of professors were women.[33] In this document, they allude to 'recent events' that 'underlined the need to make Chalmers more attractive to all'.[34] Based on the timing, this could be related to the #MeToo stories published in the fall of 2017. They call for cultural changes in departments and divisions and say they will take at least ten years. The plan was as follows:

> The Gender Equality Initiative (GEI) is a 10-year project aimed at transforming Chalmers to achieve gender equality and scientific excellence. It has two main tracks: Gender Equality Work and Recruitment. The work will be led by a Project Manager experienced in active gender equality work, guided by a Task Force of local and international experts. A key factor will be the engagement of Chalmers staff in all aspects of the work: Task Force, Self-Assessment Committees, spreading of best practices, attracting female visitors and

[31] Author's translation.
[32] Translated Chalmers internal document: Satsningar för framtiden C 2017-1459-1 [Efforts for the future].
[33] Chalmers internal document: Fakultetsrådet Gender Equality Initiative C 2017-1459-2 [Faculty senate Gender Equality Initiative].
[34] Chalmers internal document: Fakultetsrådet Gender Equality Initiative C 2017-1459-2 [Faculty senate Gender Equality Initiative]. p.2.

> applicants, as well as the GEI-funded research, teaching and working environment development projects.[35]

The inspiration for this plan comes partly from the Athena Swan charter from the UK. The Athena Swan Charter started in 2005 in the UK as a gender equality effort to increase the number of women and support women in STEM academia (See AdvanceHE, 2024; Bhopal & Henderson, 2019; Tzanakou & Pearce, 2019). Similarly to Athena Swan, the GEI plan proposes departmental self-assessment committees to tailor actions to the local context. A central committee would govern this. The plan emphasizes broader efforts to improve the work environment in order to reduce stress and overwork as part of the project. The GEI plan ends with expected impact where they boldly state:

> GEI will transform Chalmers into a leading University in the promotion of gender equality and diversity in academia. The accreditation process and practices that we create will be spread to all Swedish Universities […] The scheme will be sustainable, as GEI recruits, and other top researchers who are drawn to a *renewed Chalmers* will be successful in attracting future research funding.[36]

In one of the earliest project documents from 2018, the name Genie had also been decided, Gender Initiative for Excellence and one of the future leaders describes how the Genie project would work.[37] In this document, the 'two-pronged approach' is already present, specifying that it will focus on 'systemic/cultural issues' of gender inequality and increasing female faculty at the university. It again cites the Athena Swan charter as an inspiration. However, it uses the word certification instead of accreditation because: 'We prefer the term certification, and hope to emphasize positive change rather than a bureaucratic process'. Elaborating on the goals they write:

> The proposed certification work will in a systematic and long-lasting way address gender issues at Chalmers; the emphasis will be on improving the working environment and career progression for all, both men and women. In parallel, to promote and increase the number of women faculty in the system

[35] Chalmers internal document: Fakultetsrådet Gender Equality Initiative C 2017-1459-2 [Faculty senate Gender Equality Initiative]. p .3.
[36] Chalmers internal document: Fakultetsrådet Gender Equality Initiative C 2017-1459-2 [Faculty senate Gender Equality Initiative]. p.4. Italics and capitalizations in original.
[37] In Swedish: Jämställdhet för excellens.

> immediately, we will direct-recruit faculty (strategic hires of top-notch scientists), fund internal research projects with a gender perspective, invite female visiting professors to spend time at Chalmers, as well as recruit adjunct female professors and lecturers from the industry.
>
> A strong academic leadership of GENIE (both in central and local committees) is absolutely essential. Certification work will be made locally and each department will appoint a local team leader who should be linked to the department's leadership group. This person will both oversee work at the home department and take part in a central self-assessment team that will evaluate the departments' action plans. It is important to stress that the certification work is not merely administration but is aimed to promote fundamental changes of ingrained academic structures and this task may be both difficult and time consuming.[38]

Despite the following debates on quotas and focus on the phrase 'top-notch scientists', in this plan and to some extent in subsequent plans, the proposal suggests a nuanced approach emphasizing work environment and systematic change. The phrases that replace this in later descriptions of the project are: 'Remove structural and cultural obstacles that hamper women's careers' and 'Create a working environment that is diverse and inclusive, and supportive of excellence in research and teaching'. These project objectives are more instrumental and lack the systematic, nuanced approach.[39] In the original proposal, they emphasize the need for local Genie team leaders in department leadership groups and having a self-assessment team to evaluate progress. However, what can also be gleaned from that first proposal is the distancing from 'bureaucratic' processes, which is understood to be something inherently negative; this creates a dissonance with the need to create systematic change culturally and numerically. This resistance and distance are explored in *Article I* (Andersson & Landström, 2023).

[38] Internal document: GENIE.beslut.start.2018 p. 2.
[39] Internal document from 2020-03-30: Operational plan GENIE: Gender Initiative for Excellence C 2020-0621.

The media debates and the culture war

Several debates unfolded in the mass media a few months into the Genie project. The project and other gender equality efforts in academia were critiqued for using women's quotas and shattering meritocracy. The project was singled out as an illustration of misguided equality projects at Swedish universities.

Before the project started, conservative columnist Ivar Arpi ran a series of six articles about how 'gender ideology' was taking over Swedish universities in one of Sweden's largest newspapers from 2017–2018 (Arpi, 2017; Martinsson, 2020). Arpi has been an influential voice in Swedish media debates about gender equality and gender mainstreaming. The main argument Arpi launched against gender mainstreaming in Swedish universities was that it is rooted in gender studies, which he deems a non-scientific field and often compares to religion in a derogatory sense (Martinsson, 2020, pp. 295-296). This series of articles developed into a book called *The Gender Doctrine* where Arpi and Anna-Karin Wyndhamn examine how the 'doctrine' affects researchers and Swedish universities.[40] Anna-Karin Wyndhamn has a PhD in Pedagogy and is a university lecturer, focusing her research and writings in the media on gender equality and equal treatment. In the book, they compare the field of gender studies to creationists:

> While the Christian creationists are a vanishingly small group in Sweden, gender-scientific constructivism is rather something that can be compared to a state religion. A state feminism that through directives, laws, certifications, equality integration and mandates permeate more and more parts of society.(Arpi & Wyndhamn, 2020, p. 175)[41]

Martinsson aptly describes Arpi's and Wyndhamn's arguments against gender mainstreaming and the framing of gender studies as a dominant religion as a way to appeal to Swedish secularism and ideals of academic freedom and meritocracy (Martinsson, 2020, pp. 295-296). This framing from anti-gender actors stands out in the global context, where such actors are often aligned with religion or religious organizations. However, as Agnieszka Graff and Elzbieta Korolczuk describe the 'atheist' arguments can come from 'a neoliberal rhetoric of productivity' and 'objective science' stance (Graff & Korolczuk, 2022, p. 72). In the quote

[40] Original title: Genusdoktinen. Author's translation.
[41] Author's translation.

from *The Gender Doctrine*, Swedish state feminism is mentioned. This allows for a framing that 'gender ideology' or gender mainstreaming is a command from political and academic elites. In the quote below, Arpi and Wyndhamn lean into this more conspiratorial view:

> More women in positions of power is only a first step. If we are to achieve true equality, society as it is needs to be dismantled. Being in favor of numerical equality is only one step on the way. Like a ladder, you throw away when you have reached your commanding heights.[42] Power is needed, but power is not enough. Power must crush the existing. And like a phoenix, the new order will rise from the ashes of men.(Arpi & Wyndhamn, 2020, p. 307)[43]

With this view on Swedish state feminism and framing gender studies as 'less of a scientific discipline and more a kind of academic feminism' (Arpi, 2017) the situation at Swedish universities sounds dire for those who value academic freedom and objectivity.[44]

Inger Enkvist, professor emerita and debater,[45] on April 11 wrote the debate article "Political goals are prioritized over science" in Svenska Dagbladet and continued the debate started by Arpi.[46] Enkvist criticizes gender mainstreaming in academia saying that women are already more than half of university students, enumerating the programs dominated by women and questioning the focus on women: 'If it is really equality we seek, then why not start by increasing the number of men in those programs'? (Enkvist, 2019).[47] Enkvist then describes how Chalmers, with the Genie project, 'goes further than the government demands' both through the project funding of SEK 300 million and the numerical goal being 40 % women professors rather than the 32 % specified by the government.[48] Enkvist questions direct recruitment and that direct recruitment used by the project will result in less skilled researchers, finishing her article by stating: 'If you did not think that more men than women would get the positions in an open call, you wouldn't have started a project, right?'. Enkvist's central thesis mirrors her title: scientific quality will suffer if universities use quotas and direct recruitment to increase the number of women professors.

[42] The Swedish word kommandohöjd is from the military concept of commanding heights.
[43] Author's translation.
[44] Author's translation.
[45] Professorship in the Spanish langauge. Mostly debates pedagogy, educational policy and gender equality.
[46] Original title:"Politiska mål sätts före vetenskapen". Author's translation.
[47] Author's translation.
[48] Author's translation.

Two days after Enkvist's article on April 13, the leader of the Genie project Pernilla Wittung-Stafshede and the university President Stefan Bengtsson responded to Enkvist in their debate article, "We will no longer be the worst at gender equality".[49] They list the numerical disparities on both the faculty and student level and say that the progress has been too slow, 'waiting is not good enough'(Wittung-Stafshede & Bengtsson, 2019).[50] They refer to research on how to make a long-term change. Everyone in the organization needs to be on board, and it is vital to get influential people in the departments to 'realize that a more gender equal environment breeds success'.[51] To counter Enkvist, they state: 'It is important to point out that Genie *is not about quotas* but about meritocracy and excellence',[52] emphasizing that all recruitment procedures are strictly meritocratic based on scientific quality. They end by calling to end gender disparities in academia 'once and for all' and that to solve future challenges: 'we need the entire populations' competence'(cf. Nordvall, 2023).[53]

Two days after Wittung-Stafshede and Bengtsson's rebuttal, Alexander Bard, Erik J Olsson, and Magnus Zetterholm (2019) replied with their article titled "The feminization of Chalmers is good for China". [54] They begin by stating that men dominate only in professorships and that academic staff are closing in on a 50/50 gender split. They think this is good, caveating that women who have 'gotten their positions on their own merits' contribute invaluable research in their fields.[55] The authors critique of the Genie project and gender mainstreaming in academia is rooted in Geert Hofstede's theory of 'feminine' and 'masculine' culture, stating:

> A society is masculine if the gender roles are distinct: men should be dominant, tough, and focused on material success, while women should be more modest, soft, and primarily caring about quality of life. Achievement and support for the strong foregrounded and missteps are corrected and punished. In a feminine society, gender roles overlap, and both men and women should be modest, soft and strive for quality of life.[56]

[49] Original title: "Vi ska inte längre vara sämst på jämställdhet". Author's translation.
[50] Author's translation.
[51] Author's translation.
[52] Author's translation, italics in original.
[53] Author's translation.
[54] Original title: "Feminiseringen av Chalmers är bra för Kina". Author's translation.
[55] Author's translation.
[56] Author's translation.

According to Bard et al., (2019) cited research, which includes a book by one of the article authors, Sweden is one of the most 'feminine' countries in the 'developed' world. They claim this leads to a neglect of excellence, competition, and expertise, and 'weak' or 'average' students will be rewarded in universities because of this feminization. They also state that aiming for culture change or gender mainstreaming focuses too much on outcome and neglects 'facts of gendered differences in aptitude and interests'.[57] Bard et al., (2019) end by warning that a continued feminization of Swedish academia will make Swedish research less impactful internationally and give China a competitive edge.

In response to the debate articles, the President of Chalmers, Stefan Bengtsson, wrote a blog post, "Genie is about excellence, merit and opportunities",[58] he reiterates the description of the Genie project and renounces the claim that it is a quota project.

> Genie is not about quotas, it is about scientific excellence, about merit and about opportunities. One of the goals is absolutely to increase the percentage of women in the faculty, but the women we want to recruit are researchers at the highest level. Today, there is a risk that we lose the opportunity for these recruitments, among other things, due to underlying cultural mechanisms in our business that we are not always aware of.[59]

Bengtsson addresses both Enkvist (2019) and Bard et al., (2019) stating that Enkvist wholly misinterprets the project's goal and dismisses Bard and the co-author's claim that China will benefit from a gender-balanced faculty.

> In fact, it is the opposite. By attracting the best women and men, we are building the strength required for Sweden to continue to be a successful scientific nation […] It is my strong belief that an increased balance between the sexes and a strong focus on recruiting employees and students will further strengthen our excellence.[60]

The title of the blog post and the President's take-home message that the project will increase the university's excellence are core themes in the project's messaging, which goes back to the

[57] Author's translation.
[58] Original title: Genie handlar om excellens, meriter och möjligheter. Author's translation. Blogpost by Stefan Bengtsson April 16, 2019, on a now defunct intranet, I have a saved pdf-copy.
[59] Author's translation.
[60] Author's translation.

first draft presented by the faculty senate group, where excellence was already a part of the name.

The varied arguments against gender mainstreaming and the Genie project are connected in their stance on meritocracy and its importance for success. The arguments against the project are also reflected in the Chalmers 2019 Employee survey free text answers, where arguments similar to Arpi's articles on 'gender ideology' appear and calling the project 'politically correct' derogatorily or too political.

In this chapter, the creation of the Genie project has been contextualized with both previous research on the research context, Chalmers university of Technology, the media debates spurred by the Genie project's announcement and the Gender Mainstreaming in Academia project have been explored. The project proposals for what became the Genie project reveals a shift from an aspiration for an organizational change with local task forces leading the work with a project manager with gender equality work experience to a mixture between top-down and bottom-up framing through the leadership structure of the project and engineer led. The project through the media debate solidified the words excellence and meritocracy as guiding principles for the work. This contextualization gets to the aims of this thesis, studying the change processes within and related to the Genie project to better understand gender equality work in academic engineering.

3. Methods and methodology

This chapter covers the methods that I used for data collection. First, the relationships in the following research. Second, a summary of the qualitative data. And finally, my ethical considerations in relation to the Swedish research ethical landscape. Following both the abductive research logic and the methods that were used in this research project, this section will begin by using a personal perspective and then expand on literature about the employed methods. In the methods employed, following research, participant observation, and interviews, the researcher is the tool for gathering data; as such, the subjective experience is always present. My academic background as a social anthropologist certainly plays a part in that, and even more so, my previous research interests.[61] In the following section, I invite you to read about my experience meeting the people in the project and the choices I made in my research.

Following research

When my position was suggested to the Genie project,[62] the idea of reciprocity and following research was already there. There was no definition of what the following research would entail so the how was up to me. When I applied for the job and during interviews, this was clear. It did not feel particularly alien to me as it resembles the participant observation I had learned in my undergraduate education, focusing on social anthropology. What was new was the setting, being employed in the same organization as those I would follow, and because of that, a stronger power differential than I had experienced interviewing faculty for my master thesis. Not only did we have the PhD student versus full professor hierarchy but also the organizational hierarchy. The question of the PhD position being funded by the same project I was studying was also a relevant hierarchy. This was brought to the fore during the conflict covered in *Article III*, where I, for a short while, feared that funding would cease and, with it, my research.

[61] I studied anti-black racism in Swedish academia for my master's thesis, looking at the intersection of gender and race for Black women as students and faculty.
[62] It was suggested by two people, Anna Åberg and Martin Hultman, in my division, Science, Technology, and Society. The approval of the position is archived under C 2019-0484 Beslut fattat av GENIES styrgrupp [Decision by GENIES steering committee].

While my position began in September 2019, the project had begun in earnest in January of that year. My first meeting with a person from the project was a casual meeting with the project coordinator two weeks into my position. The week after, I attended my first meeting with the project group: the project leadership group,[63] the coordinator, an HR liaison, a communications officer, and a financial officer. In my first meeting I was included in the discussion and asked for my opinion on a program for reimbursing researchers for conferences and the UK Athena Swan charter. This inclusion continued during my following research. I never felt uncomfortable raising my hand and providing an opinion or suggestion. However, the suggestions mostly did not affect their decisions.[64] While following the full professors and the project group, I also met, observed, and interacted with university leadership. What was clear, however, was that I did not study the people of the project group as individuals but rather as a group on an analytical level. I do not know much about their research or personal lives as I have not inquired further than what has come up in discussions outside of meetings or casual conversations because it is not and has not become relevant to my research or research questions. For three years, 2019–2021, I participated in most project meetings and presentations by the project to university employees and wrote notes. [65] I could access and read the internal documents uploaded to the university cloud service and intranet. I interviewed two people in the project.[66] I read newspaper articles with or about the project. This is how I followed the project through as many arenas as possible; this garnered a large amount of varied qualitative data. Through this process, I learned that I needed to focus on what data could be used to answer my research questions and what was less relevant to me.[67] For *Articles II and IV*, I interviewed seven gender equality officers from Chalmers and 22 scholars and DEI workers from technical universities in Europe and the US.

Follower, Shadower, or Anthropologist?

In trying to understand my role, I explored my past role as an anthropologist in relation to following and shadowing as concepts to describe what I was doing. I was doing participant

[63] At the time three people, two full professors as leader and vice-leader and one head of department.
[64] An example of this: During the project's open call in 2019, I suggested two applications on the accepted list be removed or heavily modified as they were either unrealistic to garner the desired result (an interview study carried out by untrained engineers) or were underpinned by preconceived notions about women's underrepresentation (a project to make women students' grades higher in a math course). I was added as a 'reviewer' for these projects, but they were accepted without changes.
[65] In the first year, they were weekly, with steering group meetings around four times a year and an annual meeting with the advisory board.
[66] Those who agreed to be interviewed after asking everyone in the leadership group.
[67] For more information on what I chose to exclude, see the section about ethical considerations.

observation of a group of people, shadowing and following a project through other arenas. It was also in the context of 'studying up'; my informants were both the funders of my position and had senior academic positions. This position can be difficult but has led to specific findings that would not have been as apparent if I had not been studying up.[68]

> If anthropology were reinvented to study up we would sooner or later need to study down as well. We aren't dealing with an either/or proposition; we need simply to realize when it is useful or crucial in terms of the problem to extend the domain of study up, down, or sideways.(Nader, 1972, p. 8)

Laura Nader calls for anthropology to study power in all directions, not only studying those with a 'lower' status or less access to power than the anthropologist themself, who historically often came from the colonial core to the colonial periphery. Yanow (2009) describes the colonial beginnings of anthropology, and she interpretates that anthropology is derived from an administrative practice of empire, which shows the troublesome and organizational lineage of the field. Yanow describes the varied fields of interest in organizational ethnography as organizational change processes, ethnographies of organizational/corporate environments, and organizational conflicts (Yanow, 2009, pp. 188-189). These iterations of organizational ethnography can be tumultuous and demand a particular practice when you are not an ethnographer 'just' doing research. However, you can also be a consultant hired to study and report your findings to your employer. Because of this, organizational ethnography comes with its own quirks. In a guide to ethnography in the private sector, Sam Ladner (2016) describes how to make yourself understandable to the organizational structure of a company by assuming the role of 'interpretivist project manager': 'An interpretivist project manager does not mindlessly adopt positivist project-management techniques, but instead reflects on their cultural purpose and employs them critically. Her job is to understand the positivist standpoint, empathize with it, and make her standpoint more intelligible to her clients' (Ladner, 2016, p. 44). The last sentence highlights the role of establishing a mode of communication where your work is understood within the management regime. Ladner later describes that when private sector ethnography is 'done right', it can introduce self-reflexivity and open up for cultural change work. However, it also risks threatening the company's identity if the findings question its self-image (Ladner, 2016,

[68] Explored in *Article III*.

pp. 72-73). This is the crux of management research and anthropological organizational studies. The translation work done in anthropology has a different dynamic than being employed as a consultant or PhD student by your participants or their manager.

Shadowing also comes with its quirks; it does not actually take time away from your participants in general as an interview would, but it, like participant observation, demands negotiation for a long-term agreement on what and when you can shadow (McDonald, 2005, p. 458). As organizational scholar Barbara Czarniawska (2014, p. 92) discusses, shadowing is following people in their jobs or personal lives but also objects or 'quasi-objects' like a project. This does not discount the fact that there were people in the project I followed and that being attuned to those relationships was important to both respect them and gather data for my research. Often, I felt like a shadow until someone acknowledged my existence by asking me a question or offering me fika.[69] As the title of this section suggests, despite doing following research, there was a great deal of participant observation as well. I separate these practices between participant observation, shadowing, and following by their levels of interaction or being active in conversations with informants, where participant observation is the most interactive and shadowing is the least interactive. Following can also be done at a distance or by following objects and documentation. I followed in cloud storage folders and email conversations, a more passive kind of observation that was not acknowledged despite being invited.

The approach that expands this project beyond anthropological inquiry is the advisory role, where, throughout the participant observation, discussions of analysis with informants occur in a more formalized way. Rather than saving discussion for a monograph and, the advice given in discussion might be used to change the informants' perspectives. Many aspects of the anthropology remain a long-term project where I attempt to understand the insiders' point of view and cultures, as well as an outsider who becomes a participant in the day-to-day work. The effort combines identifying problems critically, intervening in some ways, and suggesting actions for change. This deviates from a purely anthropological case; my role is to enrich the project and, in a way, help it towards success. The way my role has been understood is similar to organizational consultants like Ladner (2016); this has been especially clear when we have met with organizational consultants hired by a department at

[69] Coffee and cake break.

the university, as some informants expressed that we do the same things. On the surface, this interpretation makes sense in this context; we observe, write about our observations, and provide a 'diagnosis' of the problems we were hired to find solutions for. However, my effort deviated epistemologically from the consultant despite the advisory role. I aimed to create social scientific knowledge that is not only about the single 'case' but abstract that knowledge to ongoing social scientific discourses.

To answer this section's title, I employed a combination of shadowing (Czarniawska, 2014; McDonald, 2005; McDonald & Simpson, 2014), participant observation and giving feedback, which are all under the umbrella of following research. I shadowed the project, participated in meetings somewhat actively, and followed the documents about and by the project. Moving between different levels of distance to the project and its members depending on the circumstance.

Relationships in follow research

Relationships between researchers and research participants can be troubled, often because of power differentials where the researcher holds power over the researched. Anthropologist David Mosse's (2006) experience of conflict with his interlocutors is emblematic of a conflict where informants strongly disagreed with his research findings after reading it. Anthropologist Jennifer Patico (2018) and gender scholar Iris Segers et al., (2023) describe conflicts where the values of the researcher and researched diverge or the researched even oppose the research at face value. The types of conflicts between researcher and researched are numerous, especially in follow research and participant observation, where there is usually trust built through the research process, which can lead to the situation described by Mosse (2006) where there is a sense of betrayal when participants reads the researchers texts.

In this thesis project, *Article I* led to a conflict explored in detail in *Article III*. At the heart of the conflict was a similar situation to Mosse (2006); upon reading one of my articles, the informants realized my role as a critical social scientist. The nature of participant observation made me 'naturalized' in the space and my purpose of being there was not forgotten but obscured. I understand this shock and the jarring feeling of reading a text where you appear in a new way as a research participant. We were both confronted with our different

ontologies. Part of this conflict is the relationship between social science and STEM disciplines on two levels. The informants were unfamiliar with the freedom of a social science PhD, where I could determine my research questions, methodology, research interests, and the iterative nature of qualitative research, where adaptation is natural. Second, as science and technology scholar Ana Viseu (2015) describes, integrating social science into projects headed by natural scientists or engineers can be asymmetrical and unproductive. The representation of social scientists is often low comparatively, and they often do not have the power to shape the project. These conditions create an asymmetry and hinder the integration of social science knowledge. It can also lean towards social science being of service to STEM 'being allowed to observe what they do but not disturb it'(Viseu, 2015, p. 291). As Viseu describes, the inbuilt asymmetry of one sole social scientist in a larger group of STEM researchers can impact and influence the interaction between the disciplines. Knowledge production and what 'valid social-science activity' is can be key factors in these kind of conflicts (Viseu, 2015, p. 291). It can also create productive friction (Tsing, 2004) where these differences can be negotiated and become learning experiences.

The messiness of ethnography, using yourself as a research tool, creates partial knowledges (Haraway, 1988). My positionality in and related to the project affected my methods and results, and there were different approximations of my role (which shifted and varied based on the people in and around the project). This affects the kind of materials I collected, what I saw, and what I experienced. I cannot describe what was held back around me because of the informants' ideas of who I am, but who I am has affected my experiences. There are some similarities to gender scholar Lena Martinsson's (2006) experience doing participant observation in a company, where I was granted some freedoms as I was 'doing research', and they felt free to talk about most topics with me, even being critical of the work that is being done or expressing frustrations. Most people in the room have gone through a PhD and can relate somewhat to that position. However, as mentioned earlier, that is troubled by different ontologies from STEM and social sciences.

Other positionalities besides academic hierarchies have not been central to my research. I am middle-class, coming from a working-class/working-poor background. I am a Black Swedish queer transperson who mostly passes for cisgender. My previous work has been related to those identities, but these aspects have not been discussed in the field with the project group. There was a single instance where I discussed these things because a person related to the project said something about non-binary identities and transpeople, and I came out to

educate. They also 'had not noticed' I was Black.[70] This is, of course, intriguing, but compared to academic hierarchies and other factors, it is not that prominent. However, my identities open up perspectives on how inclusivity, marginalization, and othered identities are discussed. The tacit knowledge of 'subjugated standpoints' (Haraway, 1988, p. 584) does afford a hunch and gut feeling, which were of course written down for further analysis. Writing to collect those feelings, hunches, or discussions to see patterns and themes. I was, through my positionality and academic interests, attuned to discussions of gender identity, intersectionality, and race/racism, but these topics were rarely discussed during my following of the project.

The topics of race, ethnicity, nationality, and LGBTQIA+ identities were topics of discussion with informants for *Article IV* as it centered on Diversity, Equity, and Inclusion work. The informants and I often shared some aspects of minoritization,[71] which made some feel more comfortable discussing those issues or their own experiences with me. This led to, in my view, more earnest discussions where they did not feel they needed to educate me on those topics or fear pushback on their experiences.

While some relationships in parts of this research project were affected by power differentials regarding academic rank and disciplines, the conflicts that arose were productive and led to further analysis of the conflict itself. I see this as a strength of the research methodology where there is space for renegotiation and analyzing mistakes in the communication of the research.[72]

Data about data

In this section, I discuss my process for analyzing actor-generated documents, my own meeting notes with observations, and briefly the interviews conducted. The methods for analyzing and collecting interviews are expounded upon in their respective articles (*Articles I, II,* and *IV*). This section concludes with a discussion of research ethics.

[70] Not noticing was seen as a good thing by this person, rooted in a color-blind antiracism.
[71] Minoritization is the process of treating certain groups as minorities 'in a way that is harmful or unfair', see https://dictionary.cambridge.org/dictionary/english/minoritize. The actual status of being a minority in the group, society or the world at large does not always correlate with this minoritization.
[72] On my part.

Analysis: Manual and Digital

During the three years I actively participated in meetings, I produced 45 documents, including meeting notes and reflections. These notes, in addition to interviews, were analyzed using NVivo. NVivo is a computer-assisted qualitative data analysis software that can help organize qualitative data in different ways through linking parts of text or pictures via nodes or codes to create a searchable library of research data. I will discuss my coding structure below, but here, I want to describe what role computer-aided data analysis played in my analysis. For me, it was a way of organizing large amounts of data while allowing for weekly or bi-weekly analysis of my notes; during the first years, I had a day set aside for analyzing my own and the project's documents. It was a digital and manual practice of revisiting discussions, remembering, comparing, and (re)listening to interviews. Combining digital and traditional methods for analysis, the manual role of re-reading or listening played the most significant role in the analytic process (Maher et al., 2018). With the digital tools, I could employ different levels of analysis or concepts on the material; the actor generated concepts from an emic perspective,[73] my own concepts, pure descriptors, and theoretical concepts. For *Articles I, II* and *IV*, the interview transcripts were analyzed in NVivo. I transcribed the interviews myself as it helped in my analytical process to listen to the entire interview. After listening to all interviews in the same study, I returned to them to transcribe contrasting themes, answers to interview questions, and meta-themes to import into NVivo. As such, most interviews were not transcribed in their entirety, but they all have keywords and timestamps of what was discussed and when.

[73] Emic means an insider's perspective of how a person or group understands the world, events, and what concepts mean to them.

Kultur	13	25	2020-01-17 14:57	KA	2020-05-11 12:15	KA
Ideologi	9	18	2020-01-17 14:53	KA	2020-04-20 09:18	KA
Industri	4	4	2020-01-17 15:01	KA	2020-01-17 15:36	KA
Intern dynamik	10	27	2020-01-17 14:45	KA	2020-04-20 09:25	KA
Kunskapssyn	12	28	2020-01-17 14:41	KA	2020-04-20 09:19	KA
Intersektionalitet	2	2	2019-10-30 15:07	KA	2020-01-17 14:48	KA
Reaktioner på Genies ledning	8	15	2019-10-30 16:01	KA	2020-02-07 15:54	KA
Sole Engineering Genius	0	0	2020-03-24 16:25	KA	2020-03-27 12:25	KA
Verksamhetsstöd.Akademi	10	16	2020-01-17 14:32	KA	2020-04-20 09:25	KA
Könskonstruktioner	10	16	2019-10-30 15:06	KA	2020-04-20 09:23	KA
Kvinnobeskrivningar	12	22	2019-10-30 15:06	KA	2020-03-27 12:17	KA
Mansbeskrivningar	8	16	2019-10-30 15:09	KA	2020-01-30 15:53	KA
Media	1	1	2020-01-17 15:15	KA	2020-01-17 15:15	KA
Min roll	7	11	2020-01-17 14:46	KA	2020-05-11 12:14	KA
Regelverk och strukturer	18	50	2019-10-30 15:34	KA	2020-04-20 09:24	KA
Konsulter i vid bemärkelse	5	9	2020-02-07 13:23	KA	2020-04-20 09:10	KA
Rektorn	10	23	2019-10-30 14:53	KA	2020-04-20 09:23	KA
Studenter	4	4	2020-01-17 14:33	KA	2020-04-20 09:10	KA
Varumärket Chalmers	1	2	2020-01-24 17:31	KA	2020-02-07 13:27	KA
Risker	12	38	2019-10-30 15:40	KA	2020-04-20 09:25	KA
COVID-19	3	6	2020-04-20 09:11	KA	2020-04-20 09:25	KA
EIB	4	9	2020-03-27 12:14	KA	2020-05-11 12:13	KA

Figure 2 A screenshot from one of the NVivo projects in 2019–2020. The categories on the left are nodes, in this picture the 'children' of nodes are expanded. The number furthest to the left shows how many files the node occurs in, and the number left of that how often the node occurs in total. The nodes are in Swedish.[74]

In total, I created 29 NVivo codes to analyze the Genie project meeting notes and their documents. Most references in the different NVivo projects are on Culture (53 refs in 18 files) and Ontology (55 refs in 19 files), which is reflected in the figure above from the project's first year, 2019–2020. Culture is an example of a nuanced code; I used it both for my interpretation of when the participants were invoking norms or discourses and when they explicitly talked about what they saw as culture, usually in the university or as a problem. In the theory section and concluding discussion, I will elaborate on these differing notions of culture. These methods of analysis and theorizing align with an abductive analysis, maintaining a curiosity for surprises or something that goes against what the researcher would expect based on previous research or experiences. Merlijn Van Hulst and Lianne Visser describe this as constructing a research puzzle to create a theoretically coherent story (van Hulst & Visser, 2024, pp. 2-3). This 'puzzling' was most evident while working on and writing *Article I*. I found a surprising phenomenon and tried to make sense of it by using my prior theoretical knowledge and find other research that contributed to the puzzle. This led to

[74] Translation from top to bottom: Culture: Ideology, Industry, Internal dynamics. Ontology: Intersectionality. Reactions to Genie's leadership. Sole Engineering Genius. Operational support-Academia. Gender construction: Descriptions of women, Descriptions of men. Media. My role. Regulations and structures: Consultants broadly speaking, the President, Students, The brand of Chalmers. Risks: COVID-19, Economy in Balance (The project that aimed to solve financial hardships at the university in 2020 onwards).

a theoretical figure based on my observations and the extensive previous research on engineering professions and gender.

Document analysis

Computer-aided analysis was used to analyze actor-generated documents, interview transcriptions, and field notes since the second month of the thesis work. From 2019 to 2021, I analyzed meeting notes and actor-generated documents weekly through NVivo projects. The software aided in both analysis and theory building. Also, making the informants' own words visible to me was beneficial for comparing and contrasting the overlap or friction. As an anthropologist doing participant observation, it also allowed me to follow up on hunches, moods, and ideas I got through observation and find the documentation supporting or contesting them. Computer-aided analysis was an aid that helps organize and visualize documents and data. As for the coding frames, the nodes and parent nodes used to organize range from data-driven (a person such as the university President or actor concepts) to theory-based (ideology, gender constructions, and culture). They utilize insiders' perspectives (and words) and theoretical meta-categories (Schreier, 2012). Coding was done by identifying central themes and concepts, which were then defined and developed into categories (Strauss & Corbin, 1990). Schreier points out that this is done to build a framework for using the data, not to generate predictions and explanatory models for phenomena (Schreier, 2012, pp. 111-112). This method was used for all the articles, sometimes building on pre-existing nodes or meta-concepts from preceding articles.

Table 1. Descriptive statistics of interview data

Interviews
9 interviews at Chalmers
22 interviews at other technical universities in the US and Europe
30 hours and 46 minutes of interviews
Min. duration 24 minutes
Max. duration 101 minutes
Mean 59.5 minutes
Total 31 interviews

Ethical considerations

The ethical considerations of shadowing data have been present throughout the PhD process. I made several choices of what to include or not to include in articles or even analysis before writing the articles. One such example that was brought up in the conflict in *Article III*, was when I participated in meetings with project 'outsiders' who did not know I was there doing research either in the room or digitally via Zoom. Statements from staff during project visits to departments have not been included in my research as often they did not know my role or that I was there and could not provide informed consent. In situations when a larger group did know my role, I have quoted them anonymously, like project members.

The anonymity in the articles is to protect my interviewees, as is customary in my academic field. Anonymization of the participants prevents tracing who said what in an interview. I have, however, chosen to not anonymize the university in this thesis, in all articles the university is given a pseudonym or not named.[75] Finding out that it is Chalmers is not difficult given the uniqueness of the project, my project funding, and the university's funding structure, which enables the project. My role has not been a secret at the university. At the beginning of the project, my role was introduced to staff in the project's presentations. The choice of naming the studied university is founded upon the idea that to analyze the project properly in this comprehensive summary, the specifics of Chalmers, its history, and the debates about the project are essential to provide readers with a deep understanding of the research context. There was an awareness early on of my role in the extended project management team where a person in university leadership likened my role to 'having a journalist in the room', like what Doubleday and Viseu describe as people being warned of their research:

> The talk was well received by the audience, so I was surprised when a few days later during the weekly staff meeting my colleagues (and I) were publicly warned that everyone had to be careful about what they said around me. This indicated that my ethnographic study of the CNF, until then largely ignored, was understood as a sort of antagonistic activity. This view of the social sciences as adversaries rather than partners is not uncommon and may be fuelled by the fact that it is

[75] Anonymity of the university was not discussed when the research began. The university was pseudonymized in the first article and after anonymity was discussed I chose to keep the pseudonym for subsequent articles.

> imposed upon scientists by the funding agencies, but in practice it made it difficult for me to continue my ethnographic research.
> (Doubleday & Viseu, 2010, pp. 69-70)

The comment I received was somewhat in jest, but it shows an awareness of my role and warns others of the possibility of being quoted 'unfavorably' in my research.

The Swedish research ethical landscape

When the PhD project started in September 2019, the current Swedish Ethical Review Authority had been operational since January 2019. The system of ethical reviews for social sciences has been in flux since 2019 and throughout the duration of the PhD project. The implication for social science shifted the ethical landscape somewhat as the new Authority's interpretation of personal sensitive data. This interpretation was enacted by Swedish parliament, based on EU statutes and GDPR. This review is not done at the university level but centrally on a national level. The Swedish Ethical Review Authority states their remit based on several Swedish statutes:

> Under the statutory rules, research ethics review by the Authority is a mandatory precondition for commencement of all research and clinical trials planned in Sweden that
>
> - involves physical intervention, on living and deceased persons alike
> - is carried out with a method that aims to affect the research participant physically or mentally, or involves an obvious risk of harm to them in body or mind
> - are performed on biological material from a living or deceased human being and can be traced back to that person
> - involves processing of sensitive personal data or of personal data relating to criminal offences.[76] (Etikprövningsmyndigheten, N.D)

[76] Etikprövningsmyndigheten. (N.D). *About the Authority*. Retrieved July 3 from https://etikprovningsmyndigheten.se/en/about-the-authority/

A review by the Swedish Ethical Review Authority is required if sensitive personal data as specified by the Swedish law on ethics approval is collected, [77] Article. 9 of GDPR[78] and the conditions mentioned above. In Article. 9 GDPR, the following is said about special categories of personal data:

> Processing of personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation shall be prohibited.[79]

In *Article III*, the possible implications of being accused of being 'unethical' are discussed briefly. Since 2019, several researchers have been indicted for possibly breaching the law and the maximum sentence was increased from six months to 2 years in prison. In the trade union newspaper Universitetsläraren the increase in indictments is presented: 71 supervisory decisions, 17 of which led to indictments, in the first two years of the new system.[80] The Ethics Review Appeals Board is responsible for reviewing appeals and applications for ethical approval, supervising the Ethics Review Act, and indicting suspected breaches. Under the previous system, there had been one report between 2004 and 2018 (Skarsgård, 2022).

My supervisor and other researchers did not see the need to apply for ethical approval for my research as I was studying people in their professional roles with informed consent and not handling special categories of personal data. This assessment was due to two reasons: first, the national system for ethical review was in flux and therefore unclear in how it would apply to this type of social science research, and second is that Chalmers did not have an internal system for ethics approval until 2024.[81] The issue of ethical approval was brought up in the conflict at the center of *Article III*, but as I argue in that article, an approved ethics board application would not have resolved the conflict. Instead, we, the studied group and I, agreed

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[77] Lag Om Etikprövning Av Forskning Som Avser Människor [Law Regarding Ethical Approval for Research on Human Subjects]. https://svenskforfattningssamling.se/sites/default/files/sfs/2018-12/SFS2018-1999.pdf
[78] "Regulation (Eu) 2016/679 of the European Parliament and of the Council of April 27 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/Ec (General Data Protection Regulation) (Text with EEA Relevance)." 1-88, 2016/05/04 2016. http://data.europa.eu/eli/reg/2016/679/oj
[79] https://gdpr-info.eu/art-9-gdpr/
[80] Direct translation 'University teacher', a newspaper about higher education in Sweden for university teachers and researchers.
[81] There is now an Institutional Ethical Advisory Board that helps researchers in determining if they need to undergo an ethical review by the Swedish Ethical Review Authority. Chalmers internal website: https://intranet.chalmers.se/en/about-chalmers/organisation/research/institutional-ethical-advisory-board/

that I would maintain a data management plan, stay informed and follow the university's data management and ethical procedures.[82] Before and after this I contacted the university's office for digital infrastructure to discuss the data management plan and future archiving of material. This mostly pertained to my following of the project, and every subsequent interviewee was informed of the purpose of the research, the publishing of the anonymized interview data, and granted consent. As all interviewees were interviewed in their professional roles as researchers, gender equality workers, or project members, no sensitive personal data was collected. Interviewees from the project and gender equality officers helped to edit quotes for anonymity reasons as they are a small group where individuals could be identified internally. This was done for confidentiality reasons and their comfort in participating.

[82] Such as reporting that I'm handling personal data, like names and such in raw data.

4. Theory

This chapter expounds on the theoretical frameworks and contributions in the included articles. Theory in abductive research comes from interpretations of qualitative material. As van Hulst and Visser describe it: 'In abductive analysis, qualitative researchers work iteratively from surprises and tensions toward theoretical insight'(van Hulst & Visser, 2024, p. 2). The themes and theoretical concepts derived from the observational data or interviews were not predetermined before the observations or interviews.[83] There was no hypothesis set beforehand. After the process of analyzing themes and contradictions, the interpreted material was compared to theories in similar research contexts or more general theories (Timmermans & Tavory, 2012). That means that there is usually no holistic theory to explain the material in its entirety. This section discusses the larger concepts of culture and gender and how they are theorized in this thesis as processes.

Unpacking discourses on Cultures and Gender

The concept of culture was ever present when I began my fieldwork, and it was inscribed into the project's goals, *changing culture*, specifically naming gendered cultures. My background in social anthropology also means that culture and how people discuss it are something I am attuned to. These different discourses intrigued me, as did how my informants discussed what they thought culture was. Apart from the grand goal of changing culture, culture was often discussed as a static object inherent to the university and limited to the university. In a way, it was cut off from the outside world's influences; at other times, changes to the culture at Chalmers would initiate changes in other universities.[84] These tensions between how culture was discussed and what culture was understood as led me to look at culture as a discourses. The discourses of culture affect how gender inequality, gender and change are understood. These understandings shape what can be done. Discourses can be powerful in shaping how we understand the world or concepts, but they can also be contradictory, a person or group can believe in discourses that contradict one another. Narrowing in on discourses of culture

[83] Interview themes and question guides were used, but the interviews were semi-structured and open to the interviewees' ideas and tangents.
[84] As described in the original GEI proposal. This has also been expressed in interviews and casual conversation.

allows me to engage with social science discourses of culture. In this section, I explore culture and gender through discourses, unpacking my theoretical entry points.

Characterizing and understanding cultures

As an anthropologist I understand cultures as flowing and non-linear. They are ways of creating meaning and understanding. This perspective on culture, not creating a holistic portrayal, is inspired by anthropologist Lila Abu-Lughod; I resist trying to create a 'coherent' culture separate from an assumed us (Abu-Lughod, 2000, p. 262). This means resisting the idea of discreet static cultures; cultures contain multiplicity, cultures change and have contestations. The will to conserve and make them static is a way of simplifying these processes, making them more controllable. Carol Bacchi and Malin Rönnblom, while discussing Michel Foucault and Uma Narayan (2000), emphasize the need for messy complexity:

> Narayan's work well illustrates our argument that it is important for researchers to consider the political implications of their theoretical commitments. Her analysis highlights the ways in which adopting fixed categories, such as "tradition" or "culture", denies the effects of past political contestation, leaving what is as what must be. Similar dangers, we suggest, accompany the reification of "nation-states", "institutions", and other categories […] By contrast a Foucauldian poststructural approach, which insists on the complex and unstable relationships that constitute "the real", offers feminists a more critical analysis of the processes involved in contemporary forms of governance.(Bacchi & Rönnblom, 2014, pp. 180-181)

As Bacchi and Rönnblom state, this also means being attentive to the political implications of theories and deciding what we study and how. One such implication during this research was the appeal of the single story or 'culture' that sometimes invaded my analysis, because that is a comfortable and easy way to make a 'story' work. However, this 'story' is marred with complexities, and the studied project follows a group of people grappling with that complexity and trying to find 'solutions'. As both researcher and contributor to the project, I had been tasked with finding solutions, often offering up more complexity or problematization because of my investment in critical analysis and defining practices and knowledges. Inspired by feminist anthropology and post-structural studies, the practices,

doing, and enactment are my way of understanding cultures and organizations: 'The intent is to ensure that attention is directed to how things come to be, rather than assuming that what is constitutes what must be'(Bacchi & Rönnblom, 2014, p. 179). This also includes how identity is formed and reformed through interactions, practices, and structures. Identity is not a static object that mechanically responds to stimuli. Cultural theorist Stuart Hall addresses the politics of theory and, similarly to Bacchi and Rönnblom, describes theory as 'as a set of contested, localized conjunctural knowledges' that need to 'be debated in a dialogical way' (Hall, 1992a, p. 287).

From my perspective it is important to study local subtle variations of exclusion and inclusion to understand how they can change (Faulkner, 2009; Ní Laoire et al., 2021).While discussing media representation and constructions of race, Hall emphasizes the need to have methodologies to 'attend to' silences and absences (Hall, 1992b, pp. 14-15). What is not being discussed or addressed in what contexts? This approach coupled with Faulkner's description of what exclusionary practices are taken for granted in engineering spaces[85] speaks to the subtleties of studying and analyzing cultures (Faulkner, 2009, p. 187). Silences, absences and the invisible, these all vary across groups. However, assumptions of a shared culture can reveal those subtleties when met with differing assumptions. In my analysis I cover a limited set of discourses regarding culture, gender equality and diversity work in technical universities. I understand these discourses as speech acts, literally how those concepts are described by informants in conversation. These speech acts affect practices and what is done. While speech acts are centered, the unspoken is also important and can hide complexities. In my research resistance shows up as the lack of actions, the lack of mandate and the discussions that do not continue. The absences and silences mark the unmarked most often.

I have been studying and following processes, a way of following that is attentive to discourses or norms that re-occur. Foucault's definition of discourse is salient to how I understand what I have been studying. I have been studying a set of discourses on gender, gender equality work, and technical universities. In this, I interpret Foucault's discourse as what is spoken of, forms of speech and resistance. Discourse allows us to open up the tension between what is done and said or not done or said explicitly (Foucault, 1971). I have attempted to characterize these discourses on the meso-level and the relationships between

[85] Faulker specifically mentions that what exclusionary practices are taken for granted is shared among those who care about gender equality too.

them on the micro-level. The meso-level is the relationship between the project and other parts of the university. The micro-level is limited to the project group of 5-7 people. I have also seen transformations within the discourses, mostly on the micro-level (Foucault & Nazzaro, 1972, pp. 230-233). What language and rhetoric are deemed legible? How they discuss culture is a discourse that affects their way of reasoning, their actions, and strategies. This speaks to the micro-level of the project and how they interpret the rest of the organization. As a project that is enacting cultural change, how do they imagine 'extant' culture(s) shapes all actions? What practices make up this effort to change gendered dynamics at technical universities? I have characterized the practices and norms within the project in relation to the university through their interactions with departments and university leadership. This is an emic perspective from the project, with me most often being part of the group and privy to their interactions with outsiders. The discussions between project group members on the micro-level and them relating to discourses, like culture, to the broader university and its imagined ideas and norms of culture, in turn create the meso-level of analysis. They are in conversation with the 'outside' even in their intra-group discussions. This conversation affects their chosen measures and framing of the project and its goals, as we argue in *Article I*, and as I briefly discuss in *Article III*. The imagined outsider to the group has considerable sway in carefully crafting an appealing hook to engage people in the project's goals. The imagined outsider is a peer who has studied engineering, someone that they know and can relate to.

The characterization of the group is based on my observations and interviews with project members, of course, through my analysis and some hindsight, but also in comparison with other research and descriptions of gender equality projects in similar contexts.[86] In *Article II*, through interviewing gender equality officers, I met with organizational insiders who were also outsiders to the project, seeing their micro-level interpretations of what was happening in the organization. The micro-level of the project, without assuming it is a static entity, is in relation to the university organization and other gender equality efforts. On the meso-level and the macro-level in this thesis is the context of gender equality efforts and gender mainstreaming in Swedish academia.[87] Out of the articles that make up this thesis, *Articles I, II*, and *IV* speak directly to how different efforts have interpreted the brief of increased gender

[86] Mostly Northwestern Europe.
[87] With some Danish and Norwegian perspectives.

equality and representation in STEM academia. These levels do not create a holistic static *culture* ripe for analysis, as the project is only one part of the organization and is still an ongoing change process as of writing this thesis.

Doing Gender

The discourses, that is the speech, norms and practices about and around gender equality and cultures, bring us to how gender is done and, specifically, how I understand gender in this thesis. Through gender equality work, gender is being done. There is an active categorization of genders and there are different scripts and roles that can be performed or even ascribed to you by others. These roles, scripts and performances make gender legible and legitimate categories. Gender equality work can only be understood if gender is seen as a legible concept. To study gender equality work for me then means following discourses on gender and how it is being performed. One aspect of doing gender is stabilizing it to make it a metric or naturalizing it as inherent qualities (Butler, 1990). Following gender then becomes central to analyzing gender equality discourses. Discourses of gender are in the background of most of my articles; in this section and the concluding discussion, gender is brought to the foreground. Similarly to culture, gender is often imagined as a static entity, often linked to which sex doctors assign to you at birth or your legal gender. Those are some ways of doing gender, but gender is also a process of interactions and can be fluid. It is a process of culture-making and identity-making. This does not take away the material and structural aspects of gender oppression. Making and maintaining boundaries of gender or gendered difference is part of that ongoing process.

I subscribe to the idea that gender is ‘a product of social doings of some sort’ as Candace West and Don Zimmerman phrase it (West & Zimmerman, 1987, p. 129). This means that the doing occurs in interaction with others and how we make sense of or choose to portray ourselves. It is a performance, as Butler (1990, 1993) discusses, and a co-creation between humans, where we are making ourselves legible or illegible to others. This includes violent experiences of misgendering where others do not see or denounce your gender as ‘untrue’ (Serano, 2016). Gender has also become a term rejected as ‘ideology’ and a ‘political agenda’ by some, as discussed by Butler (2024, pp. 3-4). ‘Gender ideology’ is described in a multitude of ways as undoing the static nature of sex and gender roles. In gender equality

work that does not address more than two genders, two binary genders are cemented as stable and true categories. There is a tendency to associate gender equality with women, conflating equality work with work by and for women (Alnebratt & Jordansson, 2011; Rönnblom, 2011; Snickare & Wahl, 2024). This conflation and stabilization that links gender, and gender equality, to women leaves the category of men unmarked by political projects for gender equality.

There is a tension between my performative and expansive interpretation of what *doing* gender is and what the term gender equality affords. While the term 'gender' neutral in itself, its connotations are not because of the 'problem' it is meant to solve, most often the subordination of women and, on occasion, women and gender minorities.[88] In my thesis, the latter interpretation has not been relevant to the Chalmers context as it has not been discussed within the project.[89] This is exemplified by using legal gender markers as the measure of gender,[90] which is commonplace as the governmental decree for gender mainstreaming of Swedish academia, which does not mention gender in terms other than two binary genders.[91] The practice of making legal gender synonymous with gender is a stabilizing practice, maintaining a boundary of what counts and, in doing so, excluding others from the category.

This chapter on my understanding of culture and gender and how I approach characterizing informants aims to show how I have analyzed and understood my research. In this thesis, I have studied how a gender equality project at a technical university makes gender equality legible in the informants' context. I have done this through studying the norms and discourses the actors see as the dominant narratives they need to reference to make sense. *Article I* analyzes what professional identities are accepted in academic engineering and how those interact with gender equality work. The interviewees discussed their own experiences of gendered inclusion and exclusion, finally being accepted for who they are or rejected as not good enough because of biology. In *Article II*, in a similar context, I analyze how gender equality work was interrupted because of its seemingly low priority in the organization and a

[88] Trans, non-binary, and intersex people.
[89] This was, however, brought up and discussed in the 2024 Chalmers Pride event, Academic Pride, co-hosted with Gothenburg University.
[90] The legal gender marker in Sweden is linked to a personal identity number (personnummer) which allows for the sexes man and woman. Personal identity numbers are used in healthcare and employment systems and for statistics.
[91] Regleringsbrev för budgetåret 2016 avseende universitet och högskolor (2015). https://www.esv.se/statsliggaren/regleringsbrev/?rbid=17189 [Appropriation letter for the fiscal year 2016 concerning higher education]

lack of accountability. In *Article IV*, I investigate gender in relation to Diversity and gender equality workers in Scandinavia. The intersectional aspects of identity are touched upon, and the discussion of how concepts, like diversity and intersectionality, are understood is explored. All included articles engage with norms of academic engineering when working with gender equality in relation to national norms and frameworks of gender equality work. In these norms, I find discourses around meritocracy, excellence, gender, and, to a limited extent, diversity. In this, you could say I am also following discourses. Within these discourses are contestations and different understandings of what they mean; in the following chapters, through article summaries and the concluding discussion, I will tease out these discourses through theory and my empirical data.

5. Article Summaries

In this section, I present the findings of the included articles, reflecting on the theoretical concepts and research processes that led to them.

Article I.

Andersson, K. L., & Landström, C. (2023). The Sole Engineering Genius: A Professional Identity Not Fit for the Purpose of Gender Equality Projects. *Engineering Studies*, *15*(3), 201-220. https://doi.org/10.1080/19378629.2023.2266416

Article II.

Andersson, K. L (2025). Doubting commitment— Uncovering Window dressing in a Technical university. Under review.

Article III.

Andersson, K. L. (2025). Weapons of Ethical Destruction: Feminist Research Ethics When Studying Up. Under review.

Article IV.

Andersson, K. L. (2025) From Gender Equality to Inclusive Diversity? Discourses among Equality Workers in Scandinavia. Under review.

Distribution of work

Following the Contributor Roles Taxonomy (CRediT) framework for describing the roles of collaboration and authorship,[92] the roles of the contributors for *Article I* are as follows: **Kai Lo Andersson:** Conceptualization, Investigation, Methodology, Data Curation, Writing – Original Draft. **Catharina Landström** Conceptualization, Writing – Review & Editing, Supervision.

[92] https://www.elsevier.com/researcher/author/policies-and-guidelines/credit-author-statement?trial=true

Article I: Meritocracy, Excellence, and The Sole Engineering Genius

Andersson, K. L., & Landström, C. (2023). The Sole Engineering Genius: A Professional Identity Not Fit for the Purpose of Gender Equality Projects. *Engineering Studies*, *15*(3), 201-220. https://doi.org/10.1080/19378629.2023.2266416

Meritocracy runs through most of my findings and is most pertinent in *Article I*, where it relates to the professional identity of the Sole Engineering Genius. The concept of SEG concretizes cultural aspects of academic engineering that might hinder gender equality efforts. Meritocracy, individualism, the supremacy of engineering knowledge, and 'genius' are the underpinnings of this figure. Building on previous research on engineering culture (Faulkner, 2009, 2015; Secules, 2019; Traweek, 2009), the concepts are explicated through the case of the project.

There is some contention about the 'invention' of the term meritocracy, but it was seemingly published by several authors in 1958, mainly through a critical or even dystopian lens (Allen, 2011; Mulligan, 2023). Merton's norm of universalism can be included in the discourse of academic meritocracy, that scientific findings should not be evaluated on the 'personal or social attributes' of the scientist (Merton, 1973, p. 270). Merton sees how larger societal structures and norms, such as nationalism, work against universalism but states that it is foundational to democratic societies (Merton, 1973, p. 273). Castilla and Benard (2010) describe how many 'believe that meritocracy is not only the way the system *should* work but also the way the system *does* work'(Castilla & Benard, 2010, p. 543 Italics in original). Castilla and Benard posit a paradox of meritocracy where organizations using meritocracy and merit in managerial decisions showed more bias than in non-meritocratic conditions (Castilla & Benard, 2010, p. 567). These are the broader discourses on meritocracy and its role in different organizations or societies. Below, I will explore the specific form of meritocracy that is discussed concerning academic engineering.

This thesis focuses on gender equality work in STEM institutions, explicitly focusing on engineering, which has brought me to analyze and theorize engineering identity in relation to gender equality work. This is limited to Scandinavian, Western European, and US engineering identities as those have been the contexts I have visited physically or through literature. One of the critical concepts that became evident early on during my PhD in how the Genie project communicated was the use of excellence and meritocracy in texts and presentations. The final E in the acronym Genie stands for excellence, and in the Swedish

tagline, it is called ‘Equality for Excellence’. The excellence narrative is, in my view, intrinsically linked to meritocracy in this case, as it is the motivator for earning your keep in a meritocratic system.

In the context of the media debates, I first saw meritocracy as a defense mechanism to frame the project’s legitimacy. However, the concept of excellence was present before the media debates in the first project plan. Excellence was mobilized in the argument that diverse research environments produce better research or create better work environments, thus promoting better research, a business argument for equality. Meritocracy is more complex as the project management group used it to defend the project, wanted to change what we see as merit, and uphold meritocratic values. This dissonance between using meritocracy as a shield and simultaneously believing in it led me to *Article I*. I saw a double vision among the participants on this issue. They could see how ideas of (male) genius and meritocracy are used for gatekeeping engineering and slowing down gender equality work. However, they also engaged in the concepts as they understood them to be the only way to get through to resistant people. This leads to the idea that the engineer-led project is a factor for success, and meritocratic ideals and respect from other engineers would increase the impact. Blair-Loy, Reynders, and Cech’s (2023) characterization of cultural schemas in STEM disciplines speaks to this point. They describe meritocracy as especially prevalent in STEM disciplines and underpinned by two cultural schemas: first, ‘individual brilliance’ and ‘self-promotion’ as indicators of merit and second, ‘ [a] single-minded allegiance to the scientific vocation and delegitimates faculty with commitments to caregiving’ (Blair-Loy et al., 2023, p. 556). These schemas ‘mismeasure’ merit according to Blair-Loy, Reynders and Cech (2023). This mismeasurement of merit is seen as a neutral tool for the evaluation of scientific competence while neglecting cultural factors in who is perceived as excellent or brilliant, leading to individualized solutions for inequality rather than systematic ones (Blair-Loy & Cech, 2022; Cech & Blair-Loy, 2010). The dominant narratives that mismeasure merit and link identity to scientific excellence are perpetuated in minoritized groups, sometimes to the extent of being gender essentialist and exceptionalist to discuss themselves as having certain traits or why they are better than others of the same demographic as seen by Seron et al., (2018) and Myers et al., (2019).

Using meritocracy, or making merit work (Doerr et al., 2021), does not shift the dominant narratives that underpin meritocracy in STEM cultures: certain traits are only seen as

advantageous if you inhabit the correct identities to match them. Trying to placate these narratives does not disconnect masculinity or whiteness from excellence and cannot lead to a substantial cultural shift where minoritized people are evaluated fairly. Blair-Loy et al., (2023) also argue that unconscious bias training, which individualizes a cultural phenomenon, cannot compensate for the dominant culture. The values of meritocracy and excellence become a trap that maintains the status quo. The key finding in *Article I* is that the shared professional identity of the Sole Engineering Genius works against the goals of gender equality in STEM academia. A key part of SEG is the privileging of engineering knowledges, a specific way of using meritocracy. Meritocracy and excellence were used to distance oneself and the project from social science and others like Human Resources to gain legitimacy in the eyes of other imagined engineers. Working on *Article I* helped me find concepts that partially explained what I saw in the project. However, it also intrigued me how this was related to the rest of the organization and other gender equality efforts in STEM.

Article II: Unintended consequences, Window dressing, and Moral credentialing

Andersson, K. L (2025). Doubting commitment— Uncovering Window dressing in a Technical university. Under review.

After *Article I*, I did not have to wait that long before another part of the university organization started piquing my interest. In the lead-up to *Article II*, I noticed that despite the considerable financial investment in the Genie project, the gender equality officers and the gender mainstreaming of the organization were in limbo as there was no central overview of gender equality work at the university. During several meetings with the project steering committee, the university's HR manager noted that they had not been in contact with gender equality officers. I saw this uneven attention to gender equality work in the organization as a sign to reach out to gender equality officers to get their perspectives on what had unfolded. After those interviews, hearing how officers felt sidelined by the big project and were doubting the university's commitment to gender equality, a colleague led me to the concepts of unintended consequences and window dressing to explain what I found. Management and organizational scholar Lisa Leslie's (2019) typology of unintended consequences from diversity initiatives partly explained the situation. Leslie describes four unintended consequences:

> […] backfire (i.e., negative diversity goal progress), negative spillover (i.e., undesirable effects on outcomes other than diversity goal progress), positive spillover (i.e., desirable effects on outcomes other than diversity goal progress), and false progress (i.e., improved diversity metrics without true diversity goal progress). (Leslie, 2019, pp. 539-540)

This typology was helpful after the interviews and in trying to understand what had happened at Chalmers. In my analysis, I found that the focus on the Genie project led to a backfire where resources for other gender equality work were drastically reduced for a prolonged time. This can be further explained by moral credentialing on an organizational level. Moral credentialing is similar to feminist philosopher Sara Ahmed's idea of performative action, such as laws and policies enacting change by only being written (Ahmed, 2007). The 'goodwill' of creating a project or a policy makes the actors feel like they are doing something right, something morally just, but they might not go further than creating the policy and maybe not even enforcing it.

Window dressing and moral credentialing go hand in hand, as window dressing is similarly performative but with more awareness of the fruitless nature of the act. The large investment in the Genie project made the decision to withdraw resources from the organization's everyday gender equality work easier.[93] The perception that the university, through the project, is less biased and more robust on equality work led to a negative spillover affecting the gender equality officers and the central governance of gender equality work. This relates to window dressing as the symbolic act of funding this equality project, moving from being the 'worst' university to the biggest investor in gender equality (Dobbin & Kalev, 2017; Meyer & Rowan, 1977). It does not negate the positive effects of the project. However, it can explain university leadership's lack of investment in the other parts of gender equality work and, in the end, the continuation of the project. Organizational researcher Anna Grzelec (2022) suggests that gender (in)equality practices also play a role in this; the inequality practices unpacked in that study mirror the tendencies observed in Chalmers. Grzelec notes that counting women, ignoring previous research over their own 'data' (questionaries and statistics), a reliance on simple solutions like a policy that does not promote action and a complaints-based system for discrimination creates a cocktail of inequality practices embedded in 'equality' practices (Grzelec, 2022, pp. 13-14). Window dressing and moral

[93] Led by HR and departmental gender equality officers.

credentialing can be understood to be part of norms of how organizations are 'supposed to' address inequity: making something happen or creating practices to address these issues as isolated parts of the organization rather than societal and structural issues.

In *Article II*, the typology of unintended consequences and the concept of moral credentialing are used to explain both the outcome for gender equality officers and, on a grander scale, how the university came to these decisions. It reflects the organization's belief that separating gender equality and diversity efforts into projects would provide organizational change, running counter to the gender mainstreaming practice of integrating gender into every process and decision. The de-prioritization of these issues can speak to the meritocratic and excellence narratives that demand a single-minded focus on reaching research excellence within those confines, not involving the research and work environment issues that come with inequality.

Article III: Research Ethics, Studying up and Converging Hierarchies

Andersson, K. L. (2025). Weapons of Ethical Destruction: Feminist Research Ethics When Studying Up. Under review.

In *Article III*, I explore how conflict in research can be dealt with from the position of a junior researcher studying senior academics, studying up and across disciplines. Through the conflict and ethical dilemma, I found critical empathy (Patico, 2018) and experimenting with distance (Mosse, 2006) were helpful in coping emotionally and academically. The article follows the conflict and my process of understanding how research ethics can be operationalized and problematic when studying up. It explores how ethnographic methods often do not fit research ethical guidelines that often use a biomedical model and do not explore the relationships built in ethnographic work (Gaztambide-Fernández, 2015; Gusterson, 2021; Mosse, 2006; Souleles, 2021). While I was studying up, converging hierarchies emerged. In the article I detail the complexities of being a social science PhD student studying full professors in engineering; the different ontologies and research practices played a part in the conflict and not fully understanding each other. The assumptions placed on my position as a PhD student following this project reflect how STS researchers' positions can be troubled in STEM research projects (Doubleday & Viseu, 2010; Viseu, 2015).

In the article, I argue that current research ethical review systems often fail to account for the collective or groups, focusing on the individual's rights as a research subject. Feminist critical

scholars and anthropologists need to discuss what kind of research ethics we strive towards to protect our informants and ourselves and how to research power and powerful people.

Article IV: Diversity, Intersectionality and Sameness in Scandinavia

Andersson, K. L. (2025) From Gender Equality to Inclusive Diversity? Discourses among Equality Workers in Scandinavia. Under review.

Throughout this thesis work, the question of 'broader' equality and equity discussions was something I looked for but often only saw glimpses of in my material. In interviews for *Article II*, I asked gender equality officers about aspects of diversity other than gender, but those findings were few and far between. With this outlook when I embarked on my travels to other technical universities. Before my travels I had studied technical universities websites for discussions of gender equality and equity work, where I, unsurprisingly, found a bit more on diversity. Especially in the material not covered in *Article IV* from the United States, where the discussion of Diversity, Equity, and Inclusion was visible, as were the specific discussions on anti-Black racism.[94] One way into this was when I began interviewing in the US, asking specific questions about how their affirmative action plans and policies reflected on faculty representation. Those interviews were also spurred by my curiosity about what happens when such policies exist and why or why not the representation of binary gender is similar to European numbers of women despite different methods and institutionalization of more expansive diversity efforts.

In *Article IV*, I analyze discourses of diversity, gender equality and intersectionality among gender equality and diversity workers and scholars in Denmark, Norway and Sweden. Intersectional analysis and gender equality work center power and oppression, power is contextual, but inequality regimes or oppressions take structural form and impact groups and individuals (Acker, 2006; Crenshaw, 1995). Diversity on the other hand is more in line with neoliberal governance where representation is enough (Bilge, 2020; Rönnblom, 2011). Diversity discourse and practice can become focused on difference as a strength to achieve research excellence or business success. The interviewed workers and scholars operate in the

[94] Many of the studied universities had specific goals and policies regarding Black students and faculty, often referencing the murder of George Floyd and the Black Lives Matter protests of 2020.

landscape of diversity work, many of them with intersectional perspectives on power and identity. However, the Scandinavian context and its relationship to equality and especially to difference troubles their work. Anthropologist Marianne Gullestad (2002) described the Norwegian approach to equality as sameness as the basis for equality, this approach can be extended to the studied Scandinavian countries. Sameness for equality means that difference and focusing on difference as a strength becomes problematic. Addressing inequalities because of difference is further troubled. These troubles become especially visible in the discourses about race and ethnicity, where color-blindness can impede anti-racist work (Osanami Törngren, 2022; Wikström & Hübinette, 2021). The article focuses on how contextual understandings affect diversity, equity and inclusion work in the technical universities studied. Through critical analysis I describe how diversity practices and intersectional analysis can become muddied, often favoring diversity practices that focus on finding quantifiable goals and de-emphasizing structural power relations.

5. Concluding discussion

In this final chapter, I will present and discuss the thesis results, methodological contributions, my conclusions, and areas for future research. The results are discussed thematically around culture, gender equality work, and gender. In the discussion, I will briefly touch on what happened after I stopped following the project in 2022.

Culture within the Genie Project

Throughout the articles included in this thesis, the notion of culture and changing culture reappears in *Articles I, II,* and *IV*. The culture concept is multifaceted in my analysis as well as among the informants and interviewees. When I began studying the project, 'changing the culture' was already a goal of the Genie Project. Sexist and exclusionary practices were seen as part of *The Culture of Chalmers*. The culture at Chalmers is also described as the Spirit of Chalmers (Nordvall, 2023, p. 54) which is treasured among students, [95] alums, and faculty and has in recent years been reframed as a part of creating a more inclusive culture.[96] Local traditions are passed on by older students when new students arrive through student organizing in different societies and freshers' rituals.[97] However, this positive reframing of Chalmers culture is contrasted with the description of a 'destructive culture around gender' as stated by previous university President Stefan Bengtsson at an introduction day for new employees in 2020 I attended. In *Article I*, the seed of the Sole Engineering Genius was spurred by interviews where the culture was seen as accepting 'geniuses' misbehaving.

[95] Chalmersandan in Swedish.
[96] Former President Stefan Bengtsson framed the new Code of Conduct as part of the Spirit of Chalmers which he states rests on 'openness, inclusion, diversity, respect and quality'. This is echoed by a representative from the student union while discussing the university's participation in Gothenburg's Pride event. In the 2024 Student Union elections the Spirit of Chalmers is mentioned by one candidate and inclusion/inclusive is mentioned six times. Equality is mentioned four times. Chalmers internal website: https://intranet.chalmers.se/aktuellt/nyheter/genie-pa-vag-in-i-nasta-fas/ and https://intranet.chalmers.se/aktuellt/nyheter/tre-chalmersroster-om-west-pride/. Student Union election candidates with presentations: https://www.fumval.se/candidates.
[97] Hagman (1987) has described these rites of passage. Freshers translates into inspark or mottagning in Swedish.

Initially, project members discussed it as a singular culture across the university. However, this changed when they visited the different faculties and saw differences in how underrepresentation or forms of exclusion varied across departments and smaller units. The idea of a single, destructive culture at the university as the root of oppression seemingly makes changing it a solvable problem. In this imagined cultural vacuum, held separate from local or global contexts and structures, it is believed that cultural problems may be solved simply by offering courses, awareness raising, and adding more minoritized groups might do the trick.[98]

The discourse of changing the culture often excluded organizational theory and rather focused on innovation theory. In several discussions and even in the first project plan, the idea that Chalmers would lead the charge on gender equality and spread a 'solution' to other Swedish universities appeared, innovating gender equality work in universities, dominating and disrupting.[99] This is seen partly in *Article I* through the Sole Engineering Genius cultural figure and more prominently in *Article II*, where the tension between Gender Mainstreaming work, which is organizational work, and the project, which is presented as a catalyst for change, is discussed. The duality of these efforts has been presented as complementary in a report to the Swedish Agency for Gender Equality regarding Gender Mainstreaming in Academia (Jämställdhetsmyndigheten, 2020, pp. 42-44). During the project's first advisory board day in 2019, a positive example of gender equality work from a multinational company was presented. In the project's early days, industry, meaning engineering-heavy companies, was seen as a forerunner in gender equality. An industry that locally has a significant number of Chalmers alums, steeped in similar norms as the academics at the university during their education. This goes back to making gender equality a fixable problem. If there is an example from industry that has 'fixed' it, then it is possible for academia to fix it too. During the project's first three years, the lack of mandate created frustration that leadership was not doing enough and that the university structure hindered change, lacking the strong leaders of industry. This is where the concept of culture started to approach an organizational analysis among project members.[100] When the limited culture concept from the project's early days was expanded to cover plural cultures and organizational structures, culture was no longer a

[98] This is not to denigrate these practices, but without a structural approach to power, success might be limited.
[99] In contrast, during in internal presentations this phrase was however often repeated 'There is no silver-bullet', suggesting that there is no one single solution.
[100] Some in the project leadership team had more of an organizational analysis before this through their roles in line management.

solvable problem in the same sense. Solving the problem of culture demanded integrating local contexts, norms, and practices within the organization, politics, and society at large. The goal to 'remove cultural and structural hindrances for women' at the university suddenly becomes much more complex. This broader attitude of 'fixing' or being a catalyst for change can also be traced to the professional identities among project leadership. As discussed in *Article I*, academic engineers are seen as the right people to solve issues in their culture; they are experts and insiders. This belonging becomes shorthand for contextual knowledge while missing the localness of context and positionality. The broader societal context is also lost in a narrow view of problem-solving, decoupling what is happening at Chalmers from other Swedish universities, Swedish society, and gender equality politics.

Gender equality work

In the Genie project's communication, especially in the debate articles, gender equality work and equality broadly are presented as rational arguments for meritocracy, diversity, and research excellence. This stance is deemed apolitical by the actors; the idea that most, if not everyone, agrees that gender equality is a good cause has popped up several times during my research. People need to be persuaded to articulate this truism and find their way of working towards equality. The normative stance that inequality is bad and, as an organization, we must work against it was rarely brought up as an argument. It was often couched in ideas of diversity's positive effect on research.[101] The political and ideological nature of gender equality work is never addressed, other than to dispute claims of it being a 'politically correct' or unfair quota project. This can be understood as a savvy choice to make it seem less political, but the ongoing repetition of the apolitical stance creates a practice that attempts to be apolitical.

Rönnblom (2011) argues that the governmentality of gender equality work in the Swedish state and governmental agencies is marred by a neoliberal rhetoric that depoliticizes gender equality work. Administration and routines are centered, and the political justice-oriented goals are de-emphasized in gender mainstreaming strategies. In the Chalmers case, policy and routines have not been centered but instead change has been approached through workshops and toolboxes, which assumes that lack of knowledge is the issue rather than a political resistance. Rönnblom posits that a neoliberal market logic that has been adopted in the

[101] Whether it positively affects research output, collaboration, or quality varies.

Swedish public sector makes gender equality and mainstreaming technical. A routine that is 'systematized, reported, evaluated and self-evaluated' in alignment with how the public sector is governed, and with that rendered technical and seen as apolitical (Rönnblom, 2011, p. 49).[102] As discussed in the culture section, I argue this takes a different form in the Genie project, which is focused more on innovation culture or 'catalyzing change', which both suggest technical or scientific fixes to social and structural issues. Adopting a similar method of gender mainstreaming to the technical university created two separate structures at Chalmers; one focused on gender mainstreaming through administrative routines mainly by HR and one led by engineering faculty focusing on innovation and getting 'results'. The disconnection of these processes and methods has been discussed as legitimization, separating the government-mandated gender equality work from the catalyzing well-funded project with bold goals. This strategy contradicts the idea that 'everyone' believes in gender equality; some have to be 'sold' on the idea by an engineering peer, but to me, it goes back to the narrative of needing more education or knowledge about gender disparities to understand the necessity of action.

The shift in the project from the GEI proposal to what became the Genie project also had implications for what methods could be used, and as I see it, a step away from the more organizational approach. Without access to departmental leadership groups, as the proposal suggests, critical self-assessment becomes uneven and dependent on passionate heads of departments or other influential faculty members. As the project had little to no influence on heads of departments and line management, the systematic aspect was lost. The project could not force heads or line management to act since it was formed to provide resources for change: carrots. The university and top leadership could have provided the consequences for failing to meet goals on line management: the stick. Without such consequences for slow progress or regressing there was little the project could do regarding departments not systematically investigating the reason for women's underrepresentation and not hiring women with (or without) funding from the Genie project. There were many carrots but few sticks for heads of department and local line management.[103] This change in trajectory from the original GEI plan to the Genie project limited access to a more significant organizational change. The original plan, inspired by Athena Swan, required buy-in from heads of

[102] Author's translation.
[103] Some departments stayed numerically the same or lost women during the project's first four years, see Chalmers internal document C 2023-1694-1 Genie report to CLG 2022 p.7.

department and their leadership groups working with a local committee. The case of the committees illustrates the shift in resources and building infrastructure: The departmental committee of several employees became the Genie ambassadors, one person per department working 10-20 % of their full-time position on this, sometimes it was the gender equality officer, and sometimes there was one officer and one ambassador.[104]

This is further troubled by who is targeted by educational efforts. At the same time, the project wanted to reach a broader audience, and they quickly felt they had reached those who were already positive or wanted to work towards gender equality. This mirrors Rönnblom's (2011) description of gender equality in regional politics as becoming an issue with women, and women are tasked with 'solving' the issue. Rönnblom points to the shift that happens from describing the issue as unequal power between men and women to then trying to solve it by making it 'a lack of knowledge, lack of quality and lacking women' (Rönnblom, 2011, p. 44).[105] Casad et al. (2021) also argue that the narrative of fixing individual women rather than focusing on organizational changes hinders gender equality work. This is similar to Nordvall (2023) and Schiebinger's (2010) theorization of fixes to solve women's underrepresentation in STEM: fixing women's faulty choices, fixing the low representation by recruitment, and fixing the curriculum/knowledge/organization. Nordvall (2023) describes how passionate individual women were the drivers of early gender equality work at Chalmers, mostly non-academics in HR and operations support. The Genie project was headed by two women engineering professors, both passionate about change, but in the end, they did not feel that university leadership was interested in achieving that change by enabling large-scale organizational change.[106] While they were the figureheads of this change initiative, they largely did not play into the 'women are lacking' narrative; they stressed that faulty administrative processes put women at a disadvantage. However, when it came to practice, outside of direct recruitment, the audience largely became women from faculty or operations support. This self-selection speaks more to how employees understood the project rather than targeted efforts by the project. It became a women's project because others thought it was a women's project for women. A similar logic to Rönnblom's characterization, the men in the project leadership group were invisibilized, and the women leaders emerged as fixers of 'their' own problems of inequality.

[104] A few departments have a gender equality group of more people voluntarily.
[105] Author's translation.
[106] See Wittung-Stafshede, P. (2023, August 23). Varför jag klev av jämställdhetssatsningen. *Tidningen Curie*. https://www.tidningencurie.se/debatt/varfor-jag-klev-av-jamstalldhetssatsningen for more.

The Swedish governmentality of gender equality work also engages with the narratives of Swedish exceptionalism regarding gender equality. The nation-building aspect of the idea of being the most gender-equal country in the world, which can defang feminism into instrumental gender equality and bolster racialized narratives (Landén & Olofsdotter, 2016; Martinsson et al., 2016b; Reyes, 2016). The legislation of equality, as discussed by Ahmed, becomes a performative practice; the creation of a policy or law is expected by its very existence to create positive change (Ahmed, 2012, pp. 10-11). These performances also contribute to national projects, such as Sweden being the most gender-equal country in the world. Exceptionalism can become an excuse for non-action and resistance to gender equality, as that would be taking it too far (e.g. Skewes et al., 2021).

In the context of the Genie project and Chalmers, the bold announcement of the project and the stated effort of not being 'the worst in the country' at gender equality can be read as both an earnest goal and an emboldening practice to enact change by the very existence of the effort (Sjödén, 2019; Wittung-Stafshede & Bengtsson, 2019). The anti-gender push-back in the media, as I discuss in the research context chapter, was a bit of a shock, but it did not, as far as I experienced, lead to a toned-down rhetoric or change of plans in the project group. The project was not merely an administrative routine to implement. It would catalyze change from the vantage point of project members.

Gender

In one of the first meetings with a project member, I asked how they define women and measure representation. We discussed the issues with legal gender and the fact that statistics using only that metric are flawed. However, the discussions of gender within the project, both in its construction and in meetings, were simple: legal gender is the measure of gender. Norms of gender were also often inscribed, with men as resisters of gender equality or uninterested, and they needed to be won over as allies. Meanwhile, women are framed as bringers of diversity and a fix to make better or excellent research through their presence. Even in the full name of the project Gender Initiative for Excellence, gender is conflated with women. The prevailing discourses uphold gender binarism and leave no room for contributions from other minoritized genders, like trans and non-binary people.

In the discussions of what is gained by working towards gender equality, research excellence, and work environment were presented from the first project plan and in the subsequent visits to departments. This was done by referencing academic studies presenting findings about the benefits of gender equality. While I do not doubt those studies and their results,[107] the use of this argument sometimes contributes to a complementary view on (binary) gender between men and women, where women would, because of their gender, contribute something different. Alnebratt and Jordansson describe it as 'adding a "womanly perspective"' and thereby changing and improving 'traditional', read male, research (Alnebratt & Jordansson, 2011, p. 21).[108] This view further cements gender essentialism, that men and women inherently inhabit different skills and capabilities. This essentialism can be rooted in both a belief in biological and social explanations. This sentiment of essentialism has never been stated explicitly to me in any form during my fieldwork. However, the re-occurring use of the complementary narrative in both public speeches and in practice does open up for those ideas. By practice, I mean the expectations of change due to increased representation; a substantial part of the project's budget was for funding recruitment and was used for precisely that successfully. Without substantial efforts in figuring out retention issues and the local context in departments with few women, it can become a numbers game.[109] As one interviewee in *Article IV* said, it creates 'a swing-door effect' where there is an influx of an underrepresented group, but the work environment and other factors make them leave.

So, we have a legal definition of gender, a conflation of gender and women, and a complementary view of gender that leans on gender essentialism. This is how gender, mostly pertaining to the category of women, was made into a stable, legible category in the project. Without my prodding into how gender was defined in recruitment, this probably would not have been a conversation; legal gender was a naturalized category for both measurement and recruitment and would have gone on uninterrupted without my discussion. My questions did not, however, elicit change or further discussions of how the university measures representation, how to deal with women with the 'wrong' legal gender marker, or misrepresenting non-binary people as binary genders in statistics.[110] In this instance of legal

[107] In a December 2, 2019, PowerPoint presentation for staff during an open lunch meeting Freeman & Huang (2014) and Nielsen et al., (2017) are cited as key references about both gender diversity and other diversity aspects leading to better science.
[108] Author's translation.
[109] This responsibility mostly falls on the departments, which all received funds from the project to investigate their local context and perform gender equality work locally.
[110] There are two legal genders in Sweden with no alternative for non-binary trans people.

gender, the discussion aligns with the Swedish legal system. This practice of gender reinforces the conflation between gender and legal gender and is not localized to the project or university alone.

The Genie Project 2022 onwards

The radical approach to gender equality work, financing projects, and faculty positions rather than creating administrative routines, stands out in the governmentality of gender equality work in Sweden. There was a sense that things needed to change fast but that the university organization was slow-moving. In October 2022, Genie shared their report to the Central leadership committee on their email list.[111] In it, the Genie leadership group called for a real plan for integrating the project into the organization, especially in university leadership decisions and critiques of their role in funding gender equality outside the project's scope. They stated: 'As it is today, Genie feels (and is likely considered by others) responsible for everything around gender equality at Chalmers, but we have no mandate to demand the action we see needed; and we have no insights into 'the line's' [sic!] affairs.'[112] They describe being put in a reactive role, only getting to comment on finalized decisions and call for more resources through paid positions working for gender equality work in the organization and education for university management. Two months later, the leader left her position, and the vice-leader did not renew her position. Since then, the project has not had a faculty leader. The former leader, Pernilla Wittung-Stafshede, has commented on her leaving as a protest against not getting support from leadership in enforcing active work from departments and line management, along with the role that Genie took after cutbacks to HR (Wittung-Stafshede, 2023).[113] The project is still ongoing, with financial support for recruitment, guest researchers, Genie ambassadors, ambassadors for PhD students (Dr. Genie), educational efforts and updates about gender representation in the organization.

As of 2025, Chalmers has a newly inaugurated Diversity, Equality, and Inclusion office and a Deputy President for Leadership and Equality. Taking some steps to integrate gender equality and diversity into the university organization and gathering the different actors who work on

[111] Centrala ledningsgruppen (CLG).
[112] From Chalmers internal document C 2023-1694-1 Genie report to CLG 2022 p. 4.
[113] A quote from the article, author's translation: 'Genie stepped in and paid staff to keep basic (legal) functions afloat. Genie still does that, which feels wrong.'

these issues. The work in undergraduate education with DEI is ongoing with training for staff and educational leaders.[114]

The possibilities for change

> The visibility of inequality to those in positions of power does not seem to have changed. However, the legitimacy of inequality in the eyes of those with money and power does seem to have changed: Inequality is more legitimate. In a culture that glorifies individual material success and applauds extreme competitive behavior in pursuit of success, inequality becomes a sign of success for those who win. (Acker, 2006, p. 459)

Feminist sociologist Joan Acker's words from 19 years ago seem pertinent to the present day, however without being too cynical I would argue that the acceptance of inequality is both cyclical and unevenly distributed. That is to say that attempting to change inequality is a continued effort to notice the current inequalities and work against them not as novel problems but as a continuation of previous expressions of inequalities.

This thesis, through an in-depth case study of a gender equality initiative in a Swedish technical university, has investigated what form of change work is legible in that context. Several aspects of subtle exclusion and inclusion methods have affected the project's success (Faulkner, 2009). The included articles and previous research show the importance of considering contextual factors when embarking on an organizational change (Ní Laoire et al., 2021). This context is not only the local university context but also the political landscape, the previous methods of achieving gender equality in other sectors and in universities (Alnebratt & Jordansson, 2011; Rönnblom, 2011; Snickare & Wahl, 2024). In this case, there are several similarities to previous research: the notion of men and women having complementary skills (Alnebratt & Jordansson, 2011), the neoliberal governmentality of gender equality work moving to depoliticize gender equity (Rönnblom, 2011), and that the partial rejection of gender theory and structures as modes of oppression, individualizing and internalizing oppression (Myers et al., 2019; Snickare & Wahl, 2024). One aspect that is not covered as much in previous literature is the attempt at a radical change model rather than an

[114] The E here stands for equality rather than equity.

incremental, administrative, and routine driven approach. The radical change model would be a catalyst, starting a chain reaction of change throughout the organization and possibly the world. This idea of being a role model for other universities appears in the first proposal of what became the Genie project.[115] But what possibilities are there for change through an initiative like the Genie project?

I argue in this thesis that several contextual factors hampered the success of this project. The first factor is the project format, which, despite the long duration, was placed outside of the university organization's strategies and decoupled it from the departments and local work. The project plan from the GEI initiative had a more organizational approach, with departments having a larger group of employees working on gender equality headed by a central group. This group became the Genie ambassadors, with one volunteer from each department, mirroring the gender equality officer position.[116] The second factor is the lack of mandate inherent in the project formation, and there being no real consequences for departments that did not work actively towards the goal of 40 % women faculty. It was not deemed crucial for mission success to achieve this goal despite the project offering funding for research positions. Change was, in the words of the former President Stefan Bengtsson, 'everyone's responsibility'.[117] However, with little to no consequences for not taking that responsibility, change becomes no one's responsibility, apart from the Genie project members who in their own words often repeated in presentations and stated in interviews 'We can't force anyone'.

One final contextual factor is the effect of professional identity on what knowledges, approaches, and norms are deemed trustworthy and appropriate for engineering faculty as brought up in *Article I* and *II*. In *Article I*, I analyzed this within the project group and in *Article II* through the events that led to a period of a dismantled gender mainstreaming work. Certain knowledges and resources were not seen as central to achieving the organization's overall goals in times of financial hardship. These are key factors in why, despite successes in increasing the number of women in certain faculty positions, the project did not begin to achieve its goals regarding changing the university culture. The possibility of changing those norms and organizational practices is not in the scope of even a ten-year project in this

[115] Chalmers internal document Fakultetsrådet Gender Equality Initiative C 2017-1459-2 [Faculty senate Gender Equality Initiative].
[116] And on occasion being the same person.
[117] Chalmers intranet article Genie på väg in i ny fas [Genie is entering a new phase] 10 September 2021. https://intranet.chalmers.se/aktuellt/nyheter/genie-pa-vag-in-i-nasta-fas/

context. Those norms can be understood through Acker's inequality regimes, the maintenance of inequality regimes and resistance to change is mobilized even when the changes would not negatively affect the non-target demographic. Acker gives the example of men resisting pay equity that would not affect their salaries (Acker, 2006, p. 455). Discussing why diversity programs might not affect change, Acker describes that a lack of goals, proactive measures and timetables makes them more attractive to management and that programs with those features are more acceptable as they will not affect meaningful change (Acker, 2006, p. 457). The goal of changing culture in the Genie project, an admirable goal, without clear ways of changing the organization and a mandate to do so hampered success together with what was deemed legitimate knowledge. Catalyzing change is not enough, it must be maintained through continuous work on knowledge production and organizational practices. The narrative of catalyzation presupposes an incoming change, in this case a change for the better, catalyzation can be imagined to be an abrupt change or increasing the speed of transformation. While revolutionary change is not impossible it might be at odds with changing a structure like a university organization without it allowing for grand changes of how it operates internally and within the larger field of higher education. Catalyzation also speaks to an understanding of change as positive and linear, new knowledge and techniques being implemented, following the logic of natural science. A faith in scientific progress which risks excluding 'old' canons, as Sharon Traweek terms it, regarding physics undergraduates (Traweek, 2009, p. 75). The narrative of catalyzation does however speak to the performative nature of working for increased equity and equality. It brings change into being by initiation, it makes it possible to resist the maintenance and work needed to uphold inequality regimes if the catalyzing force creates methods to sustain itself. If organizational inequality regimes demand maintenance, equality, equity and liberation regimes need the same level of maintenance, if not more, to resist the forces withstanding change.

Methodological contributions

One of the main contributions of this thesis is a methodological one. The method of following involves following people and actor-generated data, participant observation, and interviews to observe a process. This suits the abductive approach, building a methodological bricolage and

adapting to the research process (van Hulst & Visser, 2024, p. 4). The nature of the position, to conduct follow research for half of the project's duration and contribute to the project as a PhD researcher employed by the studied project and organization, creates an interesting starting point. It creates a mixture of corporate research and a PhD research project. The outcome is, however, an academic one, as explored in *Article III* and this section.

The methodology used in this PhD project has not previously been publicly explored in follow research, especially non-corporate following-research. Czarniawska's (2014) descriptions of shadowing comes the closest to describing the method used. Ladner's (2016) perspectives on corporate ethnography are also relevant. This combination of methods has allowed me to collect rich ethnographic data both in following the project but also expanding out of Chalmers, moving from the closeness of shadowing and participant observation to interviews based on those earlier findings, watching for similarities and differences to analyze the findings abductively (Timmermans & Tavory, 2012). This methodology captures the context of the project within the university, especially from an emic perspective, looking from the project out towards the rest of the university.

The combination of shadowing a group, active participant observation, giving feedback and following the 'quasi'-object through documents created this methodology. In this case, there is a grey area between corporate and non-corporate research, which is both complicated and interesting. The liminal space of PhD student, employee and advisor to the funder is useful to tease apart like I do in *Article III*. The power relations, material conditions, and the ethnographic perspective provide quite a unique case of conflict between participants, who were funders, and a PhD student who had an advisory role.

The methodological contributions of this work can be exemplified by how Flora and Andersen (2016) describe their collaboration with hunters in Greenland; they go in with a technology of tracking but no preconceived notions on how the relationship or what methods would work or if it even would produce 'data'. The technology of tracking is me in this case. My position was centered around my following or shadowing, something that has evolved and been experimented with by me,[118] the dual role of embedded participant and 'expert' has provided both trouble and valuable insights. The ongoing dilemma of subordination is what sets this case apart. The anti-social aspects of anthropological analysis described by Mosse (2006) highlight the necessity of distance. In my case, this can be explored further: how can

[118] With the advice of my supervisors.

distance be created and negotiated in this relationship? Flora and Andersson bring up the concept of epistemic disconcertment while discussing asymmetries in how findings are discussed with informants and collaborators (Verran in Flora & Andersen, 2016, pp. 111-112). They bring up that differences in knowledge traditions in collaboration do not need to be fixed or 'smoothed out' but can instead aid the process. This perspective was constructive in my project as one of the major difficulties was differing ideas of knowledge and attempts to bridge that gap. In *Article III*, I conclude that critical empathy (Patico, 2018) for the research participants and an anti-social distance (Mosse, 2006) while analyzing data can open up a less tumultuous relationship even with great power differentials. This was made possible through my position as a PhD student, which offers a level of employment protection with supportive colleagues. This is where an academic consultant would probably have to decide not to publish their findings or have that decision made for them. *Article I* would probably have been relegated to the desk drawer, never to see the light of day during those circumstances.

Future areas of research

This thesis mainly focuses on one technical university's work with gender equality, providing the context for how the work has been done and some of its implications. Similar efforts have been carried out in other technical universities in different contexts and with different methods, namely the Royal Institute of Technology.[119] Comparing and contrasting the different methods and outcomes would be a fascinating area of future research. Comparisons with non-technical universities' gender equality work are also relevant. How much do the contextual factors vary?

Another topic touched on in this thesis is diversity work, not limited to gender. How is the diversity concept taken up and mobilized in Swedish academia outside of technical universities?

[119] Royal Institute of Technology's Equality office https://www.kth.se/en/om/equality/kth-equality-office-1.840276

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