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## Doing Interdisciplinary Collaboration: Affective Frictions and the Emotional Labour of Knowledge Production



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### Introduction

While different actors and groups in societies are contesting how many ‘sexes’ exist, or precisely: should exist in their opinion, and who has the right to define this, numerous (also feminist) voices and policy papers have emphasized the need for interdisciplinary approaches to research sex/gender. There is a growing request for cooperation across disciplines, methods and institutions (Fausto-Sterling 1992; Schmitz and Ebeling 2006; Deutsche Forschungsgemeinschaft 2020; Wissenschaftsrat 2023). Interdisciplinarity is considered appropriate for the complex research object and called upon to provide answers to centuries-old debates about sex/gender, troubling actors across sciences, politics, media and law.

However, if one reads about or practices interdisciplinary collaboration themselves, it becomes obvious that such endeavour is considered risky for an academic career within the disciplinary structures of academia by some, and recognized as complicated by many. Moreover, an interdisciplinary collaboration can take many forms and its conceptions diverge, leaving its practice and results open to negotiation. Therefore the questions arise: What can an interdisciplinary collaboration on sex/gender look like in practice? And what can we learn from it?

This article seeks to exemplify this with one case of a collaborative research project on sex/gender across humanities, bio and social sciences. Showing that working across disciplinary questions, methods and concepts is not only still structurally uncommon and complicated to facilitate in the disciplinary academic organization – while increasingly called for –, it is also strongly characterized by *affective frictions*.

By following the affects in interdisciplinary collaboration, the article moves beyond the hegemonic convention of excluding and thereby disregarding affects in scientific

work. Through this intervention in interdisciplinary sex/gender research I want to bring the body 'back' into the often purely cognitive, intellectual imagined work of knowledge production.

To answer the beforementioned questions the article will, firstly, address the call for interdisciplinarity as a promise and requirement in current academic organization. Here I am focussing specifically on the field of sex/gender research to give a brief overview over structural challenges of interdisciplinary ventures. Moving from structural obstacles to the practice of collaboration across disciplines I will, secondly, outline the notion of affective frictions first through theoretical considerations. With this theoretical background I will then elaborate on the case of our interdisciplinary collaboration project on sex/gender across humanities, social and bio sciences. For this I will be analysing three ethnographic accounts of affective frictions from my ethnographic observations in the first year of this project to illustrate what insights can be drawn from such an analysis.

### Interdisciplinarity

Definition and usage of the term interdisciplinarity are not consistent even in the field of Feminist Science and Technology Studies. Still, interdisciplinarity is broadly understood as a phenomenon being investigated and researched through multiple disciplines in cooperation with each other, formulating cross-disciplinary terminology (Ebeling and Schmitz 2006, 11). Despite being captured under one term – interdisciplinarity – it is important to note that such projects differ greatly depending on the context, the institutionalization, the collaborating disciplines as well as the people conducting the project (Lewis 2021, 44).

### Interdisciplinarity as Promise and Requirement

Since the 1970s Feminist Science and Technology Studies scholars have demonstrated “contradictions in findings, methodological distortions and inadmissible generalizations with regard to sex/gender issues in biology” (Schmitz 2019, 29, all translations by Z.W.) by working across disciplinary borders. These scholars however also outline that biology and life science knowledge about sex/gender has been neglected in social sciences and humanities – leading to shortcomings in its conceptualizations on sex/gender (Schmitz and Ebeling 2006, 15).

Due to these findings, there have been growing calls for more interdisciplinary research in this field. Emphasizing the importance to move beyond the mere critical analysis of biological knowledge production, scholars like Anne Fausto-Sterling (1992) have advocated for working collaboratively in both directions to produce different knowledge on sex/gender. The idea is that “interdisciplinarity seeks to break down cognitive and disciplinary barriers in order to achieve an additive, interactive, or even

holistic production of knowledge through the integration of disciplinary expertise” (Graf et al. 2023, 3). Bringing together humanities and social science scholars with the life sciences on sex/gender is considered an “eye-opener” (Weller 2002 quoted from Ebeling and Schmitz 2006, 13).

Apart from ‘bottom-up’ quests by the aforementioned scholars from the field of Feminist Science and Technology Studies, there also has been a growing call for interdisciplinary sex/gender research and the inclusion of sex/gender dimensions in life sciences, e.g., by the League of European Research Universities (Buitendijk and Maes 2015) or the German Research Foundation (DFG) in Germany (Deutsche Forschungsgemeinschaft 2020). Research funding and policy institutions like the German science council (Wissenschaftsrat) have identified the necessity to integrate sex/gender perspectives in research and teaching in the life sciences, and call for an “intensification of cooperation across disciplines, methods and institutions.” (Wissenschaftsrat 2023, 8) It justifies this demand by stating that “sex/gender research [...] is a dynamic and also internationally promising field of research that offers all scientific disciplines potential for methodological and thematic development.” (Wissenschaftsrat 2023, 8)

Or as Tora Holmberg put it: “Everyone has something to gain.” (Holmberg 2008, 43 f.)

Interdisciplinarity is thus considered a driver of scientific modernization, enabling answers to complex societal questions and problems (Kahlert 2005, 23–24; Graf et al. 2023, 3). However, working interdisciplinary within structures of academia comes with difficulties and challenges due to its established disciplinary organization (Lewis 2021, 35). The requirement of interdisciplinarity is especially taxing concerning funding, publications, qualification processes and career prospects.

The difficulties in its practice arise on the level of funding because commission boards are often staffed with disciplinary experts applying disciplinary standards and quality measurements (Wissenschaftsrat 2020, 40-41). As a result, interdisciplinary project structures and aims often do not align fully to one discipline’s framework, and receive lower evaluation results in the application phase in comparison to disciplinary projects – unless interdisciplinarity is a separate evaluation category itself.

Publication logics also function along disciplinary infrastructures and requirements. Disciplines often entertain their own journals and conferences, causing interdisciplinary projects difficulties to place their results, as well as lower performances in disciplinary peer-reviews and lesser probability to being published in high-ranking, international journals (Callard and Fitzgerald 2015, 26-27; Biesenbender 2024, 107, 155).

Especially at the level of PhDs and Postdocs, one’s positioning in a discipline is a key requirement (Wissenschaftsrat 2020, 41). Establishing oneself as an interdisciplinary

researcher is as a consequence considered risky looking at career prospects (Callard and Fitzgerald 2015, 11). While there is a growing number of interdisciplinary research centres and institutes, academic degrees and professorships are still mostly assigned disciplinarily, which can cause career difficulties for interdisciplinary scientists (Wissenschaftsrat 2020, 41)

Concluding it can be said, that interdisciplinarity on one side holds promises for innovative knowledge production on sex/gender, while it is on the other side confronted with structural challenges in its implementation.

### The Shared Laboratory

To understand the overlapping and embedded levels of interdisciplinary collaboration which I am part of and investigating in this paper, I will sketch them out as our ‘shared laboratory’<sup>1</sup> in the following.

We are an interdisciplinary team of four humanities and social science scholars from history (one being trained in biology as well), cultural sciences and sociology. We are working together collaboratively with five researchers from a biomolecular project on sex development, one also being trained in biology and humanities. Both projects were constructed by the principal investigators around this interdisciplinary collaboration; the PhDs being recruited already knowing and being chosen under this circumstance.

As part of the interdisciplinary collaboration with the same project I conducted participant observations over eight weeks in 2024 in the molecular biology research laboratory. This laboratory can perhaps still be defined quite clearly physically: a space located in a university building – smelling faintly like hospital; consisting of a corridor lined with white coats on hangers, lockers and stacked parcels; leading to an office room, the bubbling coffee machine, empty Tupperware (or paper bags from the bakery) from breakfast, lunch or dinner, computers, note books and printed papers; the wet lab room of the biomolecular project, with all its white and grey instruments, containers, fridges with fluorescent liquids, humming machines, work banks, desks and chairs; and two more laboratory rooms, which are primarily used by other projects. On specific days this space extends itself to another university building in the same town depending on what methods and machines are necessary, with another corridor with hangers of white lab coats; another office room with computers, note books and water bottles; multiple wet lab rooms containing the same and different instruments and machines, storage rooms with dozens of pipette tips in plastic packaging, rows of media

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<sup>1</sup> This term was originally coined by one of the collaborators in the bio project during an exchange on our collaboration. They agreed on its usage in this paper and further work. Sincere thanks and full credit are extended to them for their contribution.

cooling in fridges, the ice machine producing a never ending stream of crushed ice; a small kitchen with a microwave, but no window.

It has become apparent in the first year of my research, that our shared laboratory consists, firstly, of these laboratory rooms of the biological project. Secondly, it must be understood as the sometimes physical, sometimes immaterial space of our collaboration beyond the participant observations. As collaborators we engage within a Collaborative Research Centre, the corresponding Graduate School and the associated events and structures as well as our collaborative meetings, in which we discuss literature or fieldnotes and engage on concepts, our methods and findings with each other<sup>2</sup>. As a consequence, our encounters outside and inside of the physical lab are interwoven with each other – and they all jointly constitute our shared laboratory.

### Affective Frictions

*“and when I take a note of that, she laughs and asks: »are you writing that down now?«”*

*Fieldnotes, 13<sup>th</sup> of October 2024*

In this laboratory, emotions like surprise, boredom, curiosity and hesitance arise. Using theorizations from affect studies, emotion “broadly refers to those affective upheavals in experience that are directed at events or objects in the world and that often prompt us to act in specific ways vis-à-vis these events or objects” (Slaby and Von Scheve 2019, 42).

Whilst the definition and distinction of affects and emotions are contested in affect studies, for analytical purpose I will outline Jan Slabys and Christian von Scheves theorization of emotions as separate from affects. According to them, “affect is inextricable from an approach to power, understood as relations of reciprocal efficaciousness between bodies – human as well as non-human – in a particular domain” (Slaby and Von Scheve 2019, 27). The distinction Slaby and von Scheve make is ‘affects’ as “pre-categorical relational dynamics”, while ‘emotion’ “signifies consolidated and categorically circumscribed sequences of affective world-relatedness” (Slaby and Von Scheve 2019, 43). Affects and emotions are thus both relational. Emotions however are considered further consolidated, as they can be referred to by established terms (such as fear, joy, shame, guilt etc.). Affects remain pre-categorical.

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<sup>2</sup> The collaboration takes place in English, whilst it is not the native language of any one of us, impacting the communication on another level. This impact is not thoroughly investigated in this paper, however could be subject to interesting research related to interdisciplinarity, collaboration and internationalization.

This rather narrow theoretical distinction is outlined here to highlight the fleeting, hard to-pin-down interactions I experienced in the field. In making sense of the first weeks of participant observation in the laboratory I noticed that certain encounters were difficult to capture in my notes. Small interactions that affected me, though I could hardly pinpoint what exactly had happened that made me remember them more strongly than others, let alone name them. Hence, I identify them as affects – as pre-categorical relational dynamics.<sup>3</sup>

With Anna Tsing these encounters can moreover be described as *frictions* – as “the awkward, unequal, unstable, and creative qualities of interconnection across difference” (Tsing 2015, 4) – in this case mostly disciplinary differences. Adding the *affective* to the frictions I want to recognize the often pre-categorical character of the experiences, making it difficult to capture them in the field notes. As others also thematize the non-verbal dimensions that accompany frictions, and arise in any, but most definitely also interdisciplinary working, Hillersdal and colleagues wrote:

*“In our experience, difference is indeed often first felt or experienced as an affective tension in particular situations, as excitement, bewilderment, doubt, resignation, etc., rather than as an explicated, verbalised understanding.” (Hillersdal et al. 2020, 68)*

Hence affective frictions will be used as an analytical lens to investigate interdisciplinarity in this collaboration of bio and social scientists regarding sex/gender. By analyzing the affective frictions, I am categorizing them; moving from affects to emotions, and the emotional labour associated with them. In the next section, this analytical approach and its theoretical basis will be explained further.

### **Analyzing Affective Frictions**

Analyzing affects as inscriptions of social structures in bodies can generate a deeper understanding of the social structures themselves. By ascribing affects to the body and consequently outside of scientific knowledge production, affects have been and still are mostly excluded from scientific observations, analysis and discourse. However,

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<sup>3</sup> However, I want to draw on Sara Ahmed and highlight the theoretical construction of this separation. Ahmed cautions against the often-made definitional boundaries between the terms, not accounting for the messiness of the world we strive to describe (Schmitz and Ahmed 2014). As this paper is part of the messy world, I am using both terms, emotions and affects, sometimes interchangeably, sometimes following the outlined distinction in the following. This is due to its inconsistent or contradictory use in the literature and concepts that inform this work, as well as the difficulty to always make a clear distinction between the two. As Ahmed has pointed out: “Clear distinctions for a messy experience or a messy situation are neither helpful for a better understanding of reality nor interesting for the debate.” (Schmitz and Ahmed 2014, 98–99) The distinction however remains helpful for initially understanding the affective frictions in the field as pre-categorical, and therefore difficult to name, talk or write about; as exactly this difficulty was the starting point of this analysis in the first place.

taking affects in interdisciplinary collaboration into account can facilitate new insights and moves beyond their hegemonic exclusion in academia. Emotions, as Charles Lindholm pointed out, historically have been neglected in anthropology studies due to its association with femininity:

*"For anthropologists seeking professional legitimacy in the sciences, a masculine meaning-centered and cerebral model of research naturally trumped any serious study of effeminate, irrational emotional states." (Lindholm 2007, 31)*

Historically laboratory studies (e.g., Knorr-Cetina (2012 [1984]), Latour and Woolgar (1986), Fujimura (1996), Traweek (1998)) – I would like to add – have been no exception in this, disregarding affects and emotions in the field from analysis.

However, drawing on anthropologists like Ruth Behar (1996), we can understand affects and emotions as an integral part of research practice by illuminating the “>epistemic value< of emotions for the ethnographic enterprise” (Lo Bosco 2021, 13). The methodology of ethnographic research indeed enables knowledge production through the affective engagement with the field, moving away from the idea of a ‘neutral’ and distanced investigator:

*“We only come to understand our field when we emotionally engage with others – our research companions – and embrace the feelings of vulnerability and discomfort that this journey entails. Because of this particularity, fieldwork multiplies the possibility of the unexpected and proves to be an emotionally charged experience” (Lo Bosco 2021, 14).*

Following the affects – affective frictions like discomfort, surprise or disconcertment – in ethnographic observation enables to identify moments of difference in social interactions that would otherwise have gone unnoticed (Verran 1999). By identifying affective frictions as markers of fragile, at times awkward but creative interconnections across difference (Tsing 2015) their generative potential becomes visible: “As a metaphorical image, friction reminds us that heterogenous and unequal encounters can lead to new arrangements of culture and power.” (Tsing 2015, 5) At the same time Tsing cautions us not to unilaterally view frictions as empowerment and resistance, but to recognize: “Hegemony is *made* as well as *unmade* with friction.” (Tsing 2015, 6 emphasis in the original). They *can* be a way of productively engaging, questioning, opening up spaces for new knowledge in particular in interdisciplinary, collaborative encounters:

*“These moments of generative friction offer critical points of reflection and surprise, and can reveal disciplinary assumptions and blind spots [...] it is when a habit, in this case a disciplinary way of thinking, is contradicted and calls for a new way of understanding (Clark 2018), as well as epistemic hu-*

*mility.” (Boudart and Borra 2023, “Generative Friction and Directions Forward”)*

## The Ethnographic Sequences

In the following I will analyse three sequences of ethnographic observations from the first field phase of eight weeks from October to December 2024 to illustrate these interactions of affective friction<sup>4</sup>. Guiding the analysis<sup>5</sup> are the questions: What differences become visible through the affective frictions? What insights do the identified frictions provide?

### Marinated cells

Over my first two laboratory stays a shared metaphor came into existence in our interdisciplinary team. Originating from the experience and negotiation of our different languages, it now simultaneously serves as a joint reference point for our difference and our working together in this difference – or *staying with the trouble* as one could say with Donna Haraway (2016).

During the first week of being in the lab mostly with my PhD collaborators I was having a lunch break with one of them. The sun was shining, and we went outside to eat together.

*Due to the lack of a break room in the lab building and the sun shining despite it being October in Germany, we were sitting outside of the lab on the stairs of one of the campus buildings, eating our home-brought food. I comment on the language I observed in the first two days there – harvesting, seeding, the timepoint of collection – and my collaborator answers laughingly, that it must sound like they are farmers if people don't know the context. She continues to tell me an anecdote of a co-worker from the lab, who once said that she was incubating the cake – instead of baking it – which in that instance led to laughter and the correction that “you can't say that”; I laugh about the anecdote. We chat about how our work language weaves itself into our daily life, and note the diverse meanings of words depending on their context. My colleague then proposes that she could tell a co-worker for fun that she ‘marinated the cells’ when informing them that*

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<sup>4</sup> The ethnographic sequences are taken from my field notes, reflecting my observations, affects and interpretations. My collaborators experiences are not portrait equally. Before publication I presented the sequences and the argument made in the paper, and got feedback and insights from them, which constitutes the framework in which I developed the paper. Furthermore, my PhD-collaborator engaged on the topic of affects in the shared laboratory and their experience of it further through own writings, which are not explicitly shared here, but informed my work.

<sup>5</sup> The analysis was conducted following Grounded Theory (Strauss and Corbin 1996) and (Auto)Ethnographic Positioning Analysis (Greschke 2024).

*she changed the media – we both laugh. I add: “I marinated the cells and put them in the oven” and we continue to laugh.*

*Fieldnotes, October 22<sup>nd</sup> of 2024*

While our exchange on the stairs wasn't an interaction of disagreement – as often associated with friction – it nevertheless felt like making myself vulnerable and being driven by curiosity, like my collaborator potentially as well. Through the comment I admitted my foreignness to the language used around me and acknowledged my lack of knowledge about the terms and practices I observe. Even though I could laugh about the marinated cells and the incubated cade, I had just acquired basic knowledge about the laboratory practices and terms. In that moment I was unsure how she would react to my observation, since it made my role as their observer obvious and their lab work visible. I did not know how she would react to me pointing out these words and phrases; whether it would make her uncomfortable or insecure, or whether she would even understand my curiosity about the terms. However, my collaborator mirrored amusement over my observations, maybe even the language itself. She appropriated it with jokes I would never have dared to make by making the reference to them being farmers – standing in a stark contrast to laboratory research's association with sterility and scholarliness – and the lab work as a baking process. My collaborator is thereby taking away some of their disciplinary exclusivity and transforming their work practices into something mundane – like baking –, something I most likely could relate to.

Thus, the encounter makes our disciplinary socializations and knowledge visible and tangible. But apart from that it also generated a shared language between us and shows that interdisciplinary collaboration had already happened to some degree, as we both understood the joke. It facilitated a feeling of commonality too, by bridging the difference through a common practice – the marinating and baking– and defined our relationship as engaged and affectionate, despite the difference. Laughing becoming a central aspect of the relational dynamic in this encounter; a shared humour facilitating the connection in difference.

The marinated cells did not sorely serve as an ice breaker at the beginning of my first field stay. By sharing this sequence with the other collaborators in the project it also became a reference point for both my PhD collaborators and me in the continued collaboration. Every now and then someone would keep the joke going by commenting that activities would be like *marinating the cells* or just refer to the phrase with a smirk. The laughter is potentially an affective expression also referring to underlining insecurities or nervousness as part of the interdisciplinary collaboration. Still, the shared joke now humorously and affectionately acknowledges the differences of disciplinary language and work practices that became apparent in the encounter, without dissolving

them. Beyond that it shows our working together: finding common ground and practice in talking to each other about our work, building a shared language besides learning more about the others. Through this we are establishing a relationship to each other and creating knowledge about and within our collaboration – in our difference.

**“This is not how lab work works”**

Another encounter from the first field phase that stood out to me because of affective frictions I experienced during and afterwards, happened at the end of my first week in the laboratory. I had to leave the lab to travel back to Berlin where I live.

*The two PhDs from the biomolecular project and I are in the wet lab room. One of them is splitting the cells in the hood (a work bench with a ventilation system for safety and disinfection), dividing the cells from one little plastic compartment (well) into multiple compartments, to give them sufficient room to growth, and the other one is labelling plates (flat plastic containers with multiple wells next to each other for cells) at a regular work bench using a little printer. I am sitting in between them with my notebook writing down my observations. Looking at the time I realize that I have to leave to catch my train. It is midday. Letting my collaborators know, that I will be heading off, one of them responds sternly: “that’s not how lab work works”. I feel caught, even though I am not sure in what, and admit to them that it feels weird to just leave now – without them being done with the work process, in the middle of the day. Having to leave while they are still working feels like I am leaving colleagues alone with a task I should participate in, just that I can’t help with their work process and their work load doesn’t change by me leaving – only maybe reduces because they don’t have to explain what they are doing to me anymore.*

*She answers, saying, that they often would also like to leave and end their workday, but that when the experiment or protocol is not done yet, they cannot. Even if the workday regularly would be over by that time. I have nothing to add to that, say my goodbyes, which are answered in a casual manner, and leave. On the way to the train station, I think about the exchange. I feel guilty about being able to come and go at the lab how I want to, while they are confined by the time schedules of the protocols and the cells, or their supervisors. Still, I also feel uncomfortable, as if I was being called out for leaving unauthorized during the workday. Even though my work day way nei-*

*ther was over because I left, as I continued to work on the train, nor do I need my collaborators authorization for leaving the lab.*

*Fieldnotes, October 23<sup>rd</sup> of 2024*

In this interaction and my arising emotion (guilt) multiple aspects of difference and positioning were enacted and negotiated. Firstly, by pointing out that they cannot leave like I do, our different disciplinary work structures and scientific methods become apparent. They are doing the lab work and are constrained by the temporalities and rhythms of the cells, the waiting times of reagents, the necessities of a protocol – the materiality of their methods. This regularly means working early mornings or late nights to split or feed the cells at a specific time point, on days off, weekends or holidays. Or figuring out how to schedule an experiment strategically to prevent this from happening and still making progress according to the time schedule of the project.

While I want to get to know laboratory work processes from start to end, I can still usually come and go as I plan during field stays and can mostly decide when I start and finish my work day, as I did by announcing my departure. While I also have the pressure to finish or do certain things by a certain time as happens in any, and surely academic, job, I still do not work with living material that leaves me no option at times – the materiality of my methods being different. My observations are dependent on the schedules of my collaborators, but my work more generally is not confined by it. As the majority of my work – writing up notes, transcribing interviews, coding and analyzing them, reading other publications, writing own publications – takes place outside of the laboratory. Me leaving in the middle of a protocol to catch a train does not mean my work day is over – just beyond my collaborators' eyes.

Secondly, the guilt I experienced in the situation and my urge to justify why it was legit that I left the lab at that time in the writing of the field notes that day (and this article), also refer to work ethics. In the collaboration we get confronted with the others' work structures, becoming more aware of work norms that are, in this instance, deeply intertwined with disciplinarity in material, work dynamics and practices of knowledge production. As the sociologist in the collaboration, I already feel like I have to proof my profession as 'science', my methods as 'objective' due to the continued hierarchization of 'science cultures' along these lines – whether I am interested in those categories or not. Being 'called out' on leaving during the day most likely hit a nerve with me, because I felt like it might reflect badly on my discipline, work practices and norms, questioning its scientificity once again.

Thirdly, we enact different positionalities in the interdisciplinary collaboration in this encounter: them conducting the biological lab work, me observing them doing it. They are the experts on all things lab, taking me along, explaining and correcting – also

showing me that just leaving in the middle of the day is not how it works in their discipline. Me, however: observing them, watching, taking notes, asking questions, and later analyzing all of it. Positionings that are related to questions of power.

Not infrequently, especially at the beginning of a new field phase – everyone readjusting to the process, renegotiating our positionalities – my presence and note taking is commented on. The feeling of monitoring and being monitored is palpable, requiring all participating sides to navigate this interaction and its (possibly uncomfortable) affects. While the obvious positionality is the ethnographer being the observer, and the collaborators being observed, my PhD colleagues started pointing out that *they start reading me too*. By the end of the first eight weeks in the field, they started to know – and comment on – that they could tell when I was just ‘mhm’-ing without understanding what they were explaining to me, or when I was actually understanding; my body giving me away. Realizing that they can tell when I do not understand something, but do not want or care to ask again, made me uncomfortable. The disclosure of my ‘bad acting’ seemed to question how I am doing my observations, and whether I was acquiring the biological knowledge properly, revealing my lack of understanding. The reversal of observational roles gives me some idea of what it must feel like for my collaborators to be observed, how they might feel like they have to demonstrate knowledgeability and competence while I am there, hesitant to ask a question to not look dumb or say something ‘wrong’. Since I am experiencing this, I assume that they might be too; having to demonstrate knowledge and competence not only in one’s own discipline and expertise, but due to the interdisciplinary character of the collaboration also the others despite our backgrounds in distinct scientific knowledge systems.

This seeming reversal of observation nevertheless does not change, but maybe just makes more apparent how all of us enact roles and positions in this collaboration, and how they are tied to one’s method, expertise and discipline. By following the affect in these interactions, the frictions between sciences, knowledge and power become tangible and illustrate their complexities.

### **A little Zelda on her shoulder**

The last situation of affective friction I want to depict here happened outside the laboratory rooms at the end of the eight-week field stay. One night during the field stay the PhD students from our collaborating project, as well as other PhD students from the laboratory and I went out to a classic German Christmas market.

*I haven’t been to the lab today, due to a delayed train, meeting up with them at the market in the evening. The evening was rather cold. When we were walking through the brightly lit market, different sweet and savoury scents of caramelized nuts and fried Lángos were swashing in our direction. We walked along the different stalls in pairs or small groups, buying differ-*

*ent foods and marzipan-flavoured drinks the region is known for, inspecting a gingerbread house contest and chatting.*

*At some point we were sitting down in a seating area, while some of us were having something to eat. During the conversation with everyone at the table, one of the PhD collaborators from our project told the group that sometimes when she says something now regarding sex/gender (whether only in the work context or also beyond stayed unspecified) she thinks of me, she thinks about what I would say in response. It's as if she has a little Zelda on her shoulder who gives her feedback on what she says – she explained. Everyone at the table laughed – including me, unsure what else to respond – and the conversation moved on.*

*Back at my apartment I took voice recordings for my fieldnotes and return to this interaction. It made me feel uneasy, without me being able to say why.*

*Fieldnotes, December 9<sup>th</sup> of 2024*

This instance resembles the different assigned and embodied positionings, roles as well as competencies we hold within the collaboration and that are set out for us in the research design. In the daily laboratory life, it is on me to follow (or anticipate) the rules and instructions provided by my collaborators – what to touch, how to call something, when to talk or when not. And I, as the social scientist, am in and enact the position – like an angel or devil – of commenting from above the work of the biologist and specifically regarding sex/gender.

At the same time it did not appear to me, that it bothered my collaborator or caused her discomfort, that I am sitting on her imaginary shoulder consulting her on sex/gender as the remark conveyed friendliness. Quite contrary it could be interpreted that she positions me close to her work and engagement with the topic, in physical connection and proximity to it. Nevertheless I, as the sociologist, am seemingly still holding the expertise on sex/gender and am called upon this attributed competence. As in the broader context of the Collaborative Research Centre the social sciences and humanities are functioning as advisors on and providers of sex/gender knowledge and its implementation in biological and medical research. We represent not only disciplines and knowledge, but also morality here – just like angel or devil do. Which can cause challenges in working together and lead to the difficulty to name the unease I affectively experienced in the described encounter. The mental representation my expertise holds for my collaborator, our assigned positions and competencies – already defined by the setup of the research – are reiterated. This cautions me again to critically engage with the disciplinary positionality I am positioned in and position my-

self in, to question how my assumed representation of sex/gender knowledge and practice as a social scientist is interwoven with and shapes our collaboration.

The interaction entailing affective friction and my reflexion upon the uneasiness as well as connectedness, reveal our disciplinary positionalities and opened room to question this embedded structure of the interdisciplinary collaboration on sex/gender across bio and social sciences.

In the following, I will recapture and theorize the insights generated through the analysis of affective friction in the preceding segments.

### **Affective Frictions as Openings for Reflexivity**

Acknowledging affective friction in interdisciplinary collaboration made possible the identification of disciplinary differences, which are rooted in distinct systems of knowledge (production). As outlined in the theoretical background “moments of generative friction offer critical points of reflection and surprise, and can reveal disciplinary assumptions and blind spots” (Boudart and Borra 2023, “Generative Friction and Directions Forward”). Multiple layers of differences were marked by the observed, albeit often fleeting moments of affective frictions and could be made visible through them: disciplinary languages, disciplinary scientific practices, norms and work methods, positionalities within the collaboration and competences in it. They can be summarized as markers not only of differences, but in fact of disciplinarity and distinct conceptions of knowledge by the different participation collaborators.

The working together in this difference to produce interdisciplinary knowledge, as Boudart and Borra pointed out aptly: “often requires overcoming epistemological paradigms through disciplinary destabilization.” (Boudart and Borra 2023, “Generative Friction and Directions Forward”) The analysis of the ethnographic sequences allows us to conclude that, indeed, the interdisciplinary work led to a disciplinary destabilization or at least vulnerability, that became tangible through the affective frictions. As one’s disciplinarity becomes almost painfully obvious in the encounter with another, especially stemming from the so-called ‘different science cultures’ as bio and social sciences – we were required to reflect upon our disciplinary assumptions and knowledge system. Which can open space for exercising epistemic humility and overcoming epistemological paradigms in sex/gender research.

### **Interdisciplinary Collaboration as Co-Laboration**

Jörg Niewöhner’s definition of collaboration as *co-laboration* will be used here, to illuminate this finding. He understands co-laboration as: “temporary, non-teleological, joint epistemic work aimed at producing disciplinary reflexivities not interdisciplinary shared outcomes.” (Niewöhner 2016, 2) He perceives this methodology as a way “to diversify existing notions of reflexivity and critique, thereby broadening the analytical

spectrum and adding interpretative degrees of freedom” (ibid., 2). With co-laboration Niewöhner, Bieler and colleagues call “for the practical achievement of reflexivity [in which, Z.W.] the co-laborating partners need to commit themselves to a process of continued reviewing of professional knowledge practices” (Bieler et al. 2021, 81). Understanding reflexivity as “turning one’s analytical gaze upon one’s own position and research” (Davies et al. 2025, 6), “not just as an ethnographer’s individual mental capacity, but also as an embodied process of making ethnographies accountable that necessarily involves the researcher as much as the participants in research fields” (Bieler et al. 2021, 78).

Going back to the promise of interdisciplinarity as enabling knowledge or solutions to complex questions and problems – like sex/gender is considered one – it becomes apparent, that the practice of interdisciplinary collaboration, at least in this case, is more about epistemic work and producing disciplinary reflexivities than shared outcomes. In this sense it must be considered co-laborative.

As a first insight the preceding analysis hence showed that affective frictions in interdisciplinary collaboration as markers of disciplinary differences and destabilizations. The destabilization of taken for granted disciplinary systems of knowledge facilitates epistemic humility and opens up space for co-laborative reflexivity in the process of knowledge production. As the researchers can question their own as well as others disciplinary norms (e.g., language, work practices, models), and think together about changing the established terms and pathways of research.

Since “[r]eflexivity [...] helps to interrogate the role that research plays in constituting, rather than merely describing, the worlds that we engage with” (Davies et al. 2025, 8), reflexivity is a central part of knowledge production, especially on sex/gender as a socially charged topic, “integrating reflection on the ethics and impacts of [its, Z.W.] scholarship” (ibid.).

### Doing Interdisciplinary Co-Laboration: Affects and Emotional Labour as Part of Scientific Knowledge Production

While the outlined encounters of affective frictions can be surprising and enlightening regarding one’s own and other’s disciplines. They are also – which I, secondly, wanted to illustrate with the ethnographic accounts – tiring or challenging because enduring and navigating the affective friction in working with each other requires emotional labour.

*Emotional labour* (Hochschild 2006) describes the goal-oriented control of affects/emotions of others and oneself to serve a specific purpose, mostly in professional, institutional contexts. In contrast to *emotion work* – the active regulation of one’s own affects/emotions in accordance to cultural and societal norms of emotional ex-

pression outside of work contexts – emotional labour is a more or less visible and acknowledged part of a paid job. Despite the theoretic distinction, they often present themselves as intertwined phenomena.

As demonstrated through the ethnographic accounts' affects and emotions arose in the collaboration that require emotional labour to navigate. To handle the amusement, insecurity, curiosity, discomfort, guilt, unease, awkwardness in the interactions all participants needed to regulate them actively, making sure their interactions met social norms in the display of the affects/emotions and resolving them for themselves. The collaboration serves the purpose of working together collaboratively over four years to produce new knowledge on sex/gender across bio and social sciences. This setup makes his type of work essential in order to sustain the collaboration and fulfil the promise of interdisciplinarity. However, there is neither a (social or scientific) script on how to handle affective frictions in academic collaboration, nor does this work show up in the work packages of the project or the approved project proposal.

In academia emotional labour necessary for scientific collaboration is rarely thematized or acknowledged in its work practices, funding structures or publications. In accordance with the hierarchical dichotomies of public/private, production/reproduction, male/female the 'house work' of scientific projects (Callard and Fitzgerald 2015, 104) – meaning emotional, communicative, relational work – has been excluded from and made invisible within academia.

Nevertheless, feminist scholars are pointing out “the increasing importance of communicative, emotional, and relationship-oriented work in science” (Laufenberg 2018, 295). Mike Laufenberg drew the conclusion from his ethnography in a physics laboratory, that these forms of emotional labour are getting more important in science production especially due to the growing international character of project groups and the strong labour division as well as size of research teams, often working across multiple sites. And, as I would like to add with this article: also due to the interdisciplinarity and collaboration of research projects nowadays and even more in the future. Following affective frictions offered the possibility to make visible this work, that often remains abstract or illusive.

Concluding it can be said, that the analysis of the ethnographic accounts revealed how through establishing a shared language (humour, metaphors, informal conversations) and relationship building doing interdisciplinary collaboration with all its affective frictions becomes possible. Using them as an analytical lens made visible how we employ emotional labour to find commonality and create a working relation in the difference – a practice of “response-ability” (Haraway 1997, 71): “the capability to work with sensitivity to difference” (Hillersdal et al. 2020, 71).

## Conclusion

The article started with the questions what an interdisciplinary collaboration on sex/gender can look like in practice and what can we learn from it. Expanding on the introductory theories from feminist Science and Technology Scholars this article consequently seeks to answer these questions by giving practical insights into *doing interdisciplinary collaboration* that go beyond the promise and requirement of interdisciplinarity in academia nowadays. Thereby I hope to have shown that focussing on the often overlooked affects and associated emotional labour in scientific work opens up new perspectives on and knowledge about collaboration, (inter)disciplinarity and reflexivity.

Following the affects and identifying moments of friction first of all made tangible how we as collaborators gain insights into our differences and understand more deeply *our own* disciplines, expertise and limitations as well as the others'. Such practices of disciplinary reflexivity through co-laboration broadens possible critique and analysis in knowledge production on sex/gender, without necessarily offering concrete solutions or answers to societal questions on the number of sexes/genders that ought to exist. Different actors are leaning on and appropriating scientific – but mostly biological and medical knowledge – to resolve juristic, medical and political debates about sex/gender relations in society. Biology and medicine are “endowed with the authority of a natural science, they produce truths about sexes/genders and their relationships” (Ebeling and Schmitz 2006, 13). They are “constituting, rather than merely describing” (Davies et al. 2025, 8) sex/gender, making disciplinary reflexivity in its research of particular importance.

The analysis has, secondly, shown the importance of emotional labour in interdisciplinary co-laboration on the socially contested topic sex/gender. Despite growing demands for interdisciplinarity through funding institutions, emotional labour still remains invisible not only in the work packages of project proposals, but usually also the output they generate. Recognizing the time and emotional labour fundamental to enable reflexivity must be addressed on both structural and organizational levels in science funding and project management, as well as their practice. Without this the attributed promises and potentials of interdisciplinary collaboration on sex/gender remain precarious.

What becomes recognized within structures such as academia and what gets excluded from it are powerful acts (Thaler et al. 2013, 18). The inclusion of affect and emotional labour therefore transcended the deeply entrenched hierarchical, but constructed separation of thought/affect, objective/subjective, masculinity/femininity in knowledge production. It brings the body with its embodied experiences of affect into the centre of scientific knowledge production. As “queer approaches deliberately

seek to criticize [theories but also academic practices that overgeneralize, simplify, create binaries, establish hierarchies and mechanisms of exclusion] and counter with alternative perspectives” (Thaler et al. 2013, 18–19), I hence understand the reversal of this exclusion as a practice of queering science.

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