Gazing Feminization and Masculinization through Image Engagement and Deployment during Hormone Treatment of Trans*[65] Persons: Approaching Images in an STS Case-Study

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Abstract When investigating hormone treatment, images are not only used in order to deliver a visible proof for research findings in medical publications, they are rather a central site where different states of trans* as well as practices of feminization and masculinization are materially enacted. Using and spreading images that come from MRI and PET brain scans, from scientific and popular image databases is a crucial practice when publishing scientific research results on hormone treatment, be it in scientific or in popular media. Images do not only make something visible but rather contribute to how we talk about trans* persons and practices of change, be it a feminization or a masculinization during hormone treatment. Tracing these images through different media I will also be careful about the possibility of enacting hybrid formations while presenting research on trans* persons. The research material was collected between 2016 and 2023: it consists of images (and other modes) in research articles- published in scientific journals and in popular media, and of (problem-centered) interview data as well as of data produced during my interactive conference talk in the session "queer fiction and technologies". For the purpose of this paper, I will introduce three analytical and methodological steps that I conducted during my investigations. The latter covers research on the image itself (compositional analysis), on images and other modes (multimodal analysis) and interactive research on images. The results showed that medical images on trans* persons do hardly travel beyond the scientific realm throughout the case whereas popular images open spaces for interpretative flexibility in different informed groups. Talking about images turned out to be a valuable tool for the validation of single image analysis.

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[65] The social category trans* points to the fact that a binary understanding of living ´sex´ and ´gender´ does not adequately depict the lived realm, be it questioning binary categories men and women or male and female be it focusing on aspects of living ´a wrong body´. Since trans* is a generic term for many different, even contradictory, ways of living ´sex´ and ´gender´ non-binary (Baumgartinger, 2017), I pay special attention to this multiplicity and thus use trans* with an asterisk to point to this multiplicity.

1 Introduction

It was in the beginning of 2016, we were just preparing a session for the seminar in "Gender Studies" at the Academy of Fine Arts, Vienna, when a colleague who had undergone hormone treatment in a sense of a feminization told me about a publication list that her attending physicians sent to her. Since she was participating in the study as a trans* person doing hormone treatment, she was not happy about the arguments the authors made about trans* persons in these texts. So, she asked me to take a closer look at the commented publication list, which figure 1 shows in excerpts:

-------- Forwarded Message --------
Subject: Vielen Dank für Ihre Studienteilnahme am AKH
Date: Tue, 8 Mar 2016 13:56:33 +0100

… Die anonymisierten Ergebnisse wurden bisher in sieben Publikationen veröffentlicht. Drei weitere Publikationen sind gerade in Arbeit. …

Die veröffentlichten Studienergebnisse sind im Internet zugänglich, allerdings alle auf Englisch, hier eine Auswahl:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4585501/>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4585501/

<http://onlinelibrary.wiley.com/doi/10.1002/hbm.23133/abstract>http://onlinelibrary.wiley.com/doi/10.1002/hbm.23133/abstract

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699258/>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699258/

Auch die PET-Studie brachte sehr interessante Ergebnisse. Sie zeigte, dass Testosteron einen Baustein im Gehirn erhöht (den sogenannten Serotonintransporter), der bei der Depression eine wichtige Rolle spielt. Hier die Publikation dazu:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4585531/>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4585531/

Auch die Medien wurden auf unsere Studienergebnisse aufmerksam (u.a. die Presse, Kurier, Standard, aber auch New York Times, The Globe and Mail…). Hier ein paar Beispiele:

<http://science.orf.at/stories/1751987>http://science.orf.at/stories/1751987

<http://kurier.at/lebensart/gesundheit/weltweit-erste-studie-testosteron-unterstuetzt-stimmungsaufhellende-antidepressiva/110.330.352>http://kurier.at/lebensart/gesundheit/weltweit-erste-studie-testosteron-unterstuetzt-stimmungsaufhellende-antidepressiva/110.330.352

<http://derstandard.at/2000010065276/Transgender-Neuronen-anders-vernetzt>http://derstandard.at/2000010065276/Transgender-Neuronen-anders-vernetzt

<http://diepresse.com/home/science/4679523/Das-Gehirn-bestimmt-das-Geschlecht>http://diepresse.com/home/science/4679523/Das-Gehirn-bestimmt-das-Geschlecht

<http://diepresse.com/home/science/4651727/Testosteron-kann-gluecklich-machen?from=simarchiv>http://diepresse.com/home/science/4651727/Testosteron-kann-gluecklich-machen?from=simarchiv

<http://diepresse.com/home/science/4919811/Macht-zu-wenig-Testosteron-traurig?from=simarchiv>http://diepresse.com/home/science/4919811/Macht-zu-wenig-Testosteron-traurig?from=simarchiv

<http://www.theglobeandmail.com/life/science-in-transition-understanding-the-biology-behind-gender-identity/article25553156/>http://www.theglobeandmail.com/life/science-in-transition-understanding-the-biology-behind-gender-identity/article25553156/

<http://www.nytimes.com/2015/08/23/opinion/sunday/richard-a-friedman-how-changeable-is-gender.html?_r=0>http://www.nytimes.com/2015/08/23/opinion/sunday/richard-a-friedman-how-changeable-is-gender.html?_r=0

I, in the end, chose to analyse this particular research work in the frame of a PhD project[66], because the research project at hand (for the publication list see also figure 1) is one of the rare studies on hormone treatment of trans* persons. In the course of this study – at different points in time – brain scans of more than 120 persons were made in order to investigate the impact of hormone treatment on their brain functions. The study results were presented as first data relating effects of testosterone on the serotonin system and prominently published in *Biological Psychiatry*, a highly ranked journal (10,255). This fact was also institutionally recognized, in September 2015 the first author was honoured as Researcher of the Month at the Medical University of Vienna. The study results were also published in (Austrian, American and Canadian) popular mass media and offer a large amount of visual material and diverse interpretation efforts. The case represents, thus, state-of-the art research on how trans* is visually (re) presented in scientific medical publications, but also how this is travelling well beyond the scientific realm into public arenas. However, in this body of science communication - when starting my case study, I could find 28 images, in which visualizations, tables and graphs were included. The number of images per article ranges from 1 to 9.

By introducing MRT into the medical field a "visual turn" could also be observed in medical sciences (Haraway, 1991). Contemporary visual cultures value science, and thus, give importance to research results that are produced within the medical discipline. Thus, brain images of trans* persons are very powerful in and outside of scientific publications. While using images in scientific journals or in popular mass media, they establish authoritative knowledge about trans* persons (Joyce, 2005) and, hence, materially enact categories such as ´trans*´, ´sex´ and ´gender´.

As such, for research on trans*, it is valuable to investigate images as non-human actors that have the capacity to travel and to connect different social arenas. Therefore, in this paper I will introduce the three conceptual and methodological steps that I applied during my case study. During the queer session of this year´s STS conference in Graz I discussed two pre-selected images with the audience and I will also present the results

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[66] Knowing well that my research work is deeply entangled with my research field I shortly I want to reflect on and describe my position throughout the research project: I am a PhD-student and researcher in the field of Science and Technology Studies who is working for the Medical University of Vienna. I am also trained in Sociology and Fine Arts; further, I participate in art projects. Two persons who participated in the study I know personally. The sum of my professional expertise and experience informs my position that is driven by various layers of involvement in the issue. I am well aware of the challenge of having to balance research interest, political engagement, personal relations and artistic photography. I work with medical images in the context of exhibitions, and art/ science competitions. At another level I face the challenge to balance potentially conflicting interests of the research group, my team at the Medical University, the study participants, and funding agencies. I aim at establishing a cooperative climate to facilitate relations between individuals and disciplines and to pay special attention to the impact the knowledge I will produce might have on the broad range of actors involved in the research topic. Furthermore, being a mother of a 4-year-old son nourishes my research work.

of this conference talk that I conceptualized as a research practice. At the end of this paper we will come to an understanding of the biomedical gaze on trans* persons, feminization and masculinization through the use of images in scientific publications and in articles published in popular media and on the images´ interplay with other modes of communication, as well as how images are viewed in different social arenas.

2 Getting Hormone Treatment and Sites of Being Classified

There are two possibilities of treatments, one with female sexual hormones towards a feminization and, the other with male sexual hormones towards a masculinization. Whereas the medical community considers *"transgender and gender diverse (TGD) people as (Annotation of the author) members of the many varied communities globally of people with gender identities or expressions that differ from the gender socially attributed to the sex assigned to them at birth" (Coleman et al., 2022, p 55)* as rather static, for me it was important to consider also dynamics that are inherent to gender-affirmative healthcare. Therefore, I reflected on hormone treatment as transitions in terms of feminization and masculinization through dispensing high doses of sex hormones.

In Austria, medical treatments are carried out in accordance with the Standards of Care of the World Professional Association for Transgender Health (WPATH). Therefore, getting hormone treatment is tied to a psychiatric diagnosis called "gender dysphoria" which is listed in American Psychiatric Associations´s (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-V). The manual lists diagnostic criteria, which allow either getting or being denied hormone treatment. Since the diagnosis "gender dysphoria" is an important prerequisite for getting hormone treatment, applying the diagnostic criteria must be considered as one site of classifying and standardizing trans* persons during hormone treatment.

One further important site is the research practice of MRT (magnet-resonance-tomography) and PET (positron-emission-tomography)[67] scanning at different points in time, such as at the beginning of the treatment, after four weeks and after three months for instance. These practices of image production can be seen as a further particular (re) presentation of trans* persons, since visual (re) presentations are deeply gendered, in material and in symbolic ways (Faulkner, 2001). As such, images are a central site where trans* persons and the multiple specific aspects of trans* persons lives are enacted and

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[67] Positron emission tomography (PET) is a nuclear medicine process using various radioactive substances (tracers) in order to display metabolic processes in the body. One area of application – among others - is neurology.

must, thus, be considered as an important actor establishing, transforming or changing knowledge on trans* persons, hormone treatment and aspects of feminization or masculinization.

3 Approaching Images in an STS Case-Study

Medical images have become key actors in establishing, what can be regarded as research finding in medical publications. Furthermore, they are deeply entangled with the ways in which medical knowledge develops and deploys classifications and standards for social categories, such as trans*, sex and gender. The following three concepts, thus, will allow me to see entanglements between classifications of trans* persons and the visual as central element in medical knowledge production.

3.1 Image Engagement and Deployment

Speaking with the idiom of co-producing gender and technology, which is *"a two-way mutually shaping relationship between gender and technology in which technology is both a source and a consequence of gender relations and vice versa"* (Faulkner, 2001, p 81) MRT and PET scans are of particular interest when talking about sites of being classified during hormone treatment. Practices of making trans* persons visible is deeply entangled with classifying research subjects into different groups and, thus, with talking about the social category ´trans*´ in a particular way. However, images might also change how trans* is viewed by others when made relate to other groups of people.

The role of the technologies involved in the processes of creating images of ´trans´ persons refer to one of the three topics suggested by Valerie Burri and Joseph Dumit, namely "image production" (Burri and Dumit, 2008, pp 301). Starting with the abovementioned publication list provided by my colleague, I collected further data following the ongoing publication activities of the research group in highly ranked scientific journals as well as in established popular media, and collecting other materials, such as lecture announcements of study authors, (linked) webpages, online-forums and art formats. I also conducted problem-centered interviews with study authors (Witzel and Reiter, 2012). At the conference in Graz, two pre-selected images were further discussed with the STS queer community. Since I investigated images as a material enactment while establishing and communicating scientific research results on feminization and masculinization, the material that I analysed did not only comprise images but also text and other modes of communication, such as screens for online publications.

Since studies on trans* persons are rare and since the schedule of such a research project would go beyond the time frame of a PhD-project, my ex-post analysis focuses on "image engagement" and "image deployment" (Burri and Dumit, 2008, pp 301). Whereas the first focuses on the instrumental role of images in scientific knowledge production, the latter refers to the use of scientific images in different social arenas. Typical questions that image engagement deals with, are the ways images are talked about and what role they play in this talk. Image engagement also is about the question what concepts images do (re)present and what forms of creativity they do engender whereas image deployment refers to the momentum when images leave the environment of their production. Entering different social arenas and intersecting with different forms of knowledge it is interesting to see how images´ capacity to persuade can be sustained when leaving the laboratory and the clinic (Dumit, 1999).

3.2 Visual (re) presentation

The brain scans the material provides do only make certain regions of the brain visible but rather are a result of multiple formalization and transformation processes that turn a brain into more than a neutral scientific proof (Lynch, 1985, Lynch, 1988). Since images are a crucial element in the process of gradually establishing research results, it is of deep interest how numeric models produced while scanning brains of trans* persons are transformed into images used for publishing in scientific journals and in popular mass media (Amann and Cetina, 1988). Practices such as labelling, cutting the visual material, or aggregating brain scans are of high interest at that point. However, medical images do not only gradually reduce complexity, they also hold the potential to change ways of seeing and, thus, shaping collective meanings (Burri, 2012). Jordanova investigated anatomical images´ capacity to persuade. She found out that medical images do not only represent ´sex´ and ´gender´, they are rather constitutive to our understanding of these categories (Jordanova, 2004). All these extended concepts of representation refer to synchrony of representation and presentation. Quoting Donna Haraway medical images are *"…highly specific visual possibilities, each with a wonderful detailed, active, partial way of organizing worlds"* (Haraway, 1991, p. 177). Consequently, they offer certain possibilities of what can be said, and leave out others, such as rather presenting ´sex´ than ´gender´ aspects. Thus, it is crucial to fully understand (re) presentations of trans* persons in scientific journals and popular mass media, and how these images transform and standardize ways of seeing trans* persons and practices of feminization and masculinization.

3.3 Gazing feminization and masculinization

Since I am rather interested in investigating the images´ capacity of (re) presenting feminization and masculinization, then their contribution to establishing scientific research results, I chose to apply a critical analysis. My critical position also relates to the fact that medical images are produced on the background of scientific institutions while creating a scientific view on trans* persons during processes of image engagement and deployment. As images are never innocent, but deeply entangled with social categories, the term "gaze" might relate to medical images as a disciplinary technique that disciplines both, the viewer and the viewed (Kress and van Leeuwen, 1996). In this sense, images as gazes support practices of constituting certain relationships between trans* persons, control groups, brains, hormones and so on and so forth. Sturken provided a definition that allows me to capture the use of visualizations as gazes: *"By discourse… a group of statements that provide a means for talking (and a way of representing knowledge) about a particular topic at a particular historical moment. Hence discourse is a body of knowledge that both defines and limits what can be said about something"* (Sturken, 2001, p 105). Following that definition, medical images of trans* persons are disciplinary tools used as proofs in medical knowledge production but allowing a certain view on practices of feminization and masculinization at the same time.

4 What does this mean methodologically?

Between 2016 and 2023, starting with this body of science communication (see in detail figure 1 in the introduction), I collected further data by tracing the principal investigators´ publication lists and work and, by interviewing medical researchers (2020-2021). These semi-structured problem-centered interviews (n=4) covered four main topics, which were researchers´ understanding of the social category trans*, hormones, timely aspects of being trans* and the use of visuals in their research work. My analytical work being considered for this paper focused on the images in the material, amending the visual analysis with discourse analytical aspects considering scientific articles, articles published in popular media, forum entries, talk announcements and a master thesis amongst others. I further contextualized the visual data with visual material from other social arenas, such as art, film and fashion.

With a few exceptions, the use of images in social research does not have an as long tradition as conducting interviews and text interpretation for instance have. Since visual methodologies rather focused on aspects of how to gather data using images (such as photovoice methodology), STS studies rather put the focus on the image itself, its materiality and its social effects. Investigating the social effects of scientific images is

rather a new methodological tool in STS and, therefore, within my work I also lean on concepts from other disciplines, where image theory has been established earlier such as in communication science, media and art theory as well as in geography. Basically, I conducted a three-step analysis: first, I focused on the image itself when applying compositional analysis (Rose, 2007). This tool allowed me to describe basic elements of single images but also to focus on different aspects for different types of images, such as scientific ones or the ones from popular media out of databases used by daily newspapers. Subsequently, I looked at the image in relation to other modes, such as the screen for online articles and of course in relation to textual structure. And last, part three which I am still working on covers interactive research on the images used during the case study. Speaking with Gilian Rose this third step reflects on the site in which the image is seen by various audiences (Rose, 2007). Hence, the division of the following chapters reflect on this three-step approach of my analytical practice.

4.1 The Image Itself

The complex entities produced with state-of-the-art visualization technologies such as MRT or PET found during my case study are already extensively processed, analysed and interpreted as well as reduced in size, as the hundreds of single images produced in the course of the study are raw data that are not ready for publication yet. The images visualizing research results on trans* persons, however, follow a different production logic: they are not produced for the purpose of writing the distinct article. Rather they are produced for a certain commercial purpose, such as being part of an image database from which single images can be selected for a particular text. Due to the broad range of different types of images in my material I started with the conduct of compositional analysis in order to identify key elements of the single images (Rose, 2007). It covers aspects of content, colour, spatial organization, light, and the expressive content.

4.2 Images and Other Modes

Since images do not stand per se, but rather are one element in establishing scientific knowledge about hormone treatment of trans* persons, the multimodality of the examined publications – textual, linguistic, spatial and visual resources/ modes used to compose a message, needs to be taken into account. Not merely one mode enacts practices of feminization and masculinization but the interplay of different modes of communication (Jancsary et al., 2015). For investigating images´ capacity to build, establish or transform the social category ´trans*´, I analysed relations between images and text, the multimodal composition of the material at hand and I tried a critical evaluation being guided by my generic thinking of trans* and by the data in front. This critical evaluation is in the center of my analysis and takes place at several points: also,

the aspect "expressive content" in compositional analysis covered a critical evaluation as well as the interactive research in different communities (see also chapter 4.1 and 4.3).

4.3 Talking about images

Whereas John Berger´s art-critical theory on looking at images is rather focused on the relation between the depicted and the person who is looking at it (Berger, 1979), in STS looking at images and talking about it is an integral part of understanding the visual in science, as they are supposed to be carefully used and positioned while writing publications. Uncovering multiple transformations of social categories during image engagement and deployment is difficult if only images are analysed (Burri and Dumit, 2008). So, I discussed images with study authors in the frame of problem-centered interviews and, in a follow-up setting, pre-selected images in the queer STS section of the yearly conference in Graz (Witzel and Reiter, 2012). Talking to different communities is a central part of my research concept, as it is deeply intertwined with the question who is allowed to speak on the behalf of trans* persons (Jancsary et al., 2015).

4.3.1 With Study Authors

Since my interest is not on the image production practice itself, but the work performed in the process of science communication, between February 2020 and June 2021, I conducted problem-centered interviews with the study authors (n=4). I did interviews with researchers from different fields, such as chemistry, psychology and medical science and – due to snowball recruiting practices, researchers from different institutions in different countries, such as the Karolinska Institute in Sweden. Within these interviews, I also discussed visual material on trans* issues produced in different social arenas, such as in film, performance and art. The material covered all the images found during data collection and other media, such as the film "The Ballad of Genesis and Lady Jaye", a report on a transgender designer from the "New York Fashion Week" and a workshop by Diane Tor "Man for a Day" as well as an art piece produced by Jakob Lena Knebl and Hans Scheirl for the Rathausplatz in Vienna.

I mainly asked three questions in the frame of the interview setting:

Question 1: Looking at all these images, which one, do you think, depicts feminization/ masculinization best? And, why?

Question 2: Looking at these images, which one, do you think, depicts being trans* best? Why?

Question 3: Among all these images, please choose the most interesting one. Why did you choose especially this one?

4.3.2 With the Scientific Community

During the STS conference in Graz in May 2023, I was able to discuss two of the popular images used during my case study with the STS community. My presentation took place in the section "Queer fiction and technologies". Since my conference talk was conceptualized as research practice, the images were decontextualized for this purpose. I also presented three questions to the audience, the first two should help validate the visual meaning and the composition of the image but also help to make the audience familiar with the visual material in my case study.

Question1: What can you see on this image? What is on it? What is not visible?

Question 2: What is particular about this image, in terms of body, perspective, colors amongst others?

The latter question aimed at supporting my interpretation efforts of the critical evaluation of the two images.

Question 3: How can you relate this image to trans* persons, to hormone treatment, and in detail to feminization and masculinization?

After the conference I transcribed the answers, interpreted them and analysed them in the context of the other methodological approaches.

5 Results

A first result was that the medical images produced for the purpose of medical publication did hardly travel beyond the scientific realm, in particular travelling of medical images into popular arenas could hardly be observed in my case. They were rather travelling between research fields and topics such as endocrinology, language performance and depression.

The high-dose donation of testosterone was, thus, further discussed as a model for treating depression, whereas the medical images used for scientific publications did not appear in any of the media in non-scientific arenas. Only one article in an Austrian newspaper provided a link to the entire article in scientific media. It seems that every medium follows one´s own image strategy which was a further empirical finding. Therefore, the permeability of science in the case at hand- so far, rather refers to a story than to an image, though the story is based on medical image production and hence, gives power to the words written and the words said. So, the images still unfold- though being absent, their power through providing the stories told with scientific evidence in

popular media. This becomes visible, for instance, through mentioning the technology used for observing trans* brains or for mentioning the number of people being scanned in the popular stories.

For further analytical purpose during the STS conference, I shared two pre-selected popular images during my research talk in order to get further informed interpretation efforts.

5.1 Image 1

I chose the following image for the discussion at the conference because it was an outstanding image in the set of the images used in popular media in a sense of not being a photograph but rather a graph. My assumption was that it could open some space for interpretation.

Figure 1: Image used in the article: How Changeable is Gender? By Richard A. Friedman https://www.nytimes.com/2015/08/23/opinion/sunday/richard-a-friedman-how-changeable-is-gender.html.

Whereas one of the study authors found this a valuable (re) presentation of trans* persons, the queer community at the STS conference rather criticized several aspects of this image. Nevertheless, some aspects brought up complement each other, others contradict each other very clearly, such as seeing one person versus seeing a group of people or seeing two separated characteristics versus several overlaying and concurring characteristics. The invisibility of "others" but also of some sort of a trans* visibility was criticized in the conference setting – what I found especially interesting, as the latter suggests that there is a kind of a single trans* identity.

"What is visible are shapes that through social norms one might identify as an identity but it is not. I cannot see an identity because I cannot be in conversation with these shapes. So, I think what is not visible is exactly *that* identity." (Response 2)

"I see something fragmented and disjointed, and what I don´t see is a sort of sensible whole." (Response 3)

The colors of the picture and also the forms in the image were an issue, the latter were described as "silhouettes", "shades" and "rip figures" for instance. The forms were also interpreted as a metaphor for gender and in this sense criticized to reduce trans* persons to a "trope".

Relating the image to a transition process was not very easy for everyone: one respondent could not relate the image to transition at all, another one saw a "meant" visualization of a transition process. Another respondent saw in this image what the scientists observed with MRT scans, namely that trans* is seen as a middle category. Whereas this position is in the focus of interpretations in both groups, nevertheless, it is differently contextualized. Whereas seeing trans* as a middle category is criticized during the conference, one study author relates to transition as changing the binary coded gender into the desired direction:

"It shows that there is "both" in one person, and especially for trans* persons, it is "just" the wrong body and not yet the desired gender. The female part becoming a male silhouette and vice versa." (Study author 1)

During the conference, exactly this practice of building relations between trans* persons, transitions and binary categories such as sex versus gender and male versus female, (re) presented in the image through high heels, the suit, and, haircuts, was criticized.

"…the picture maybe might *also* (annotation of the author) depict a lot of identity struggles but always in reference to a gender-binary." (Response 8)

5.2 Image 2

The second image discussed during my conference talk was an image that was not easy to interpret during my first analytical step, in particular in the context of the story given in the text. The study authors did not choose this image for further discussion at all. During single image analysis, I could not really make sense of the social characteristics of the depicted person, such as age and gender for instance. The other thing was that the story in the text was about male and female aspects of bad mood, depression, some emotional states. The article was not about feminization, but rather about donating testosterone to trans* men in order to cure depression. So, I decided to present it to peers, but without that background information, title and, context.

Figure 2: Image with the title "Leidende Volksseele: Depression"
© Klaus-Peter Adler / Fotolia, used in the article: "Testosteron als Stimmungsbooster?"
https://kurier.at/wissen/weltweit-erste-studie-testosteron-unterstuetzt-stimmungsaufhellende-antidepressiva/110.330.352

During our discussion the person depicted could also not easily be identified in regard to age and gender:

"I personally see on this picture an upset child, or maybe more an adolescent. I am not good with age. Probably a teenager. So, an upset youth." (Response 10)

"… I think we immediately also ascribe a gender to the picture but maybe we are not sure what gender this person is." (Response 11)

Nevertheless – maybe a bit less surprising in the context of my presentation, the image was contextualized with a wish for change and a transition process:

"… it might be a youth… wanting to change that gender but might experience difficulties in society with it and therefore maybe upset in the context. Or frustrations with the transformation process. …" (Response 10)

Since the gender of this person is not easily accessible we could not see if the discomfort comes from a feminization or a masculinization process. The gender of the depicted person is not visible and not clear, whereas in the text the male way of dealing with frustrations as well as the donation of testosterone, hence masculinization practices, are valued as the more worthy transitions.

One respondent found a communality between the two images presented during my conference talk, namely that none of the persons shown in the images have faces, and found this practice sort of a de-humanizing practice.

"I am personally really struck between the images, how none of them have faces. So, the lack of faces in these images is a de-humanizing process." (Response 12)

Concluding, the answers of the conference participants gave new insights but they primarily served as a tool for validation of the analytical step "the image itself" (see chapter 4.1). This affected in particular the two images selected for presentation at the conference, as their interpretation was not easy in a sense of not being able to describe their expressive content whereas on the other images gender aspects and especially aspects of feminization and masculinization could be much easier explored. It was also surprising that these two images (re) present or tried to (re) present the non-binary aspect of feminization and masculinization which also raised the question if making the non-binary visible is a particularly difficult task for authors in popular arenas.

6 Short Discussion

This paper aimed at giving a detailed view on how I approached images in an STS case study investigating a medical research project on hormone treatment of trans* persons. I tried to establish a critical view on (re) presentations of feminization and masculinization

which demanded- an introduction of theoretical concepts, and the documentation of some methodological practices, including the conference talk at the STS conference in Graz that was conceptualized as a research practice and asked the queer STS community to participate in my research work. So, first, I shortly want to reflect on what happened during the session "queer fiction and technology" and, then, embed the results of the discussion during the conference in the broader discussion established during my analytical work so far.

Against my initial plans, I gave the conference talk online, which is not per se a problem. However, for the interactive part and the discussion of the visual material it was as I could not see the audience but just the screen that I was sharing and the moderators in front of the presentation. I could not see, thus, the faces of the people which, during offline interviews, makes it easier to interpret the words said. I also could only rely on my ears in order to know about social categories of the respondent, such as age and gender. Nevertheless, talking to the technological feminist community, and hence to a professional audience, that is familiar to theoretical concepts of queer and trans as well as of technologies, was extremely valuable for my research work. All the single statements allowed me to advance my analytical work. Methodologically, it was interesting to interact with the bundle of knowledge at the conference section, due to several reasons: dealing with a number of more than 10 images, it can help to investigate why a particular image is chosen for further discussion or not. The more important aspect, though, is the possibility to validate single image analysis- which is often conducted by a single researcher, within the peer group. At the same time such a procedure has the capacity to support further exploration of the image selected for discussion and, hence, reduce its interpretative flexibility.

So far, the visual analysis in my case study could show how valuable the analysis of non-human actors can be for my research purpose. Analysing the use of images in a research project on hormone treatment relates scientific with non-scientific products, knowledge, and practices. While several authors in STS emphasize different mobility aspects of images between scientific and non-scientific arenas (Dumit, 1999), in my case study imaging practices are rather tied to the publishing media than to images that travel. Nevertheless, images allow scientists to move between different research issues and disciplines, such as endocrinology, language research and depression (Beaulieu, 2001). This aspect still demands in depth analysis, as the latter can be viewed as the biomedical gaze on masculinization, in particular on the donation of testosterone as a treatment model for depression. Though this story travels in popular media through the textual mode, it is not necessarily reflected in the images used.

Medical images are objectified in a complex negotiation process, at whose end is the minimization of the interpretative flexibility of the images (Amann and Cetina, 1988).

However, for the popular images in my sample it turned out that they are in some regard open for interpretation. As I showed in the results section, images used in the context of reporting a research project on trans* persons might, when showing the same picture to different people, be interpreted in distinct ways such as a middle category of the binary or as de-humanizing. Due to the results at the conference, which strengthened the aspect of interpretative flexibility of images, it is even more valuable to still do interpretation sessions with trans* persons.

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