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Bad Mother / Good Mother is an audiovisual performance that explores societal perceptions about ideal and non-ideal motherhood through sound and projected visuals. The sound comes from an amplified breast pump, while the visuals are projected on a single screen. In the performance, the artist plays the breast pump at different speeds. She plays it as a solo instrument and as part of an arrangement, and—at certain points in the performance—processes the breast pump sound using filters. This paper situates the performance within a discussion of how audiovisual performance can help express the relationship between gender and invisible labor.

CCS Concepts: • **Applied computing** \rightarrow Arts and humanities; Performing arts; Arts and humanities; Sound and music computing.

Additional Key Words and Phrases: Audiovisual performance, feminism, breast pump, invisible labor, gender, technology, politics, poetics

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1 INTRODUCTION

Bad Mother / Good Mother is an audiovisual performance about motherhood and the workplace. At the center is an amplified electronic breast pump and a projection on a screen. During the performance, I play the breast pump at different speeds ranging from the slower milk letdown mode to the regular pumping mode. In the beginning of the performance, I use the pump as a solo instrument, but as the performance progresses, I also process its sound with filters and play it within an arrangement.

The entire performance has four parts that I call "songs." Each song has sounds and visuals that are distinct from the others. In the first song, I intentionally synchronize the sound of the breast pump with the projection. In all of the other songs, the sound and projection are less dependent on synchronization. I composed the visual aspects of the performance entirely out of found footage. Some of the still images and film footage come from breast pump advertisements created by companies and influencers, others from broadcast news and news websites. I found a large part of the images and footage displayed in the performance on websites of companies selling breast pumps as well as on YouTube. The visuals are a predetermined score for the sound aspects of the performance, and the sound follows them. In each performance the sound is structured by the visuals, but unique as I control it live, as shown in Figure 1. Overall, the performance is linear with room for improvisation. The different parts of the performance build on one another to create an

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Fig. 1. Performance of *Bad Mother / Good Mother* at The Situation Room in Los Angeles in February 2018. (©Annina Rüst)

argument regarding motherhood and the workplace. This is a subjective argument. Subjectivity is a common aspect in art. My identity influences my experience and by extension this project. This performance therefore is just one subjective data point in a possible universe of other audiovisual performances about motherhood, (potential) mothers, and the workplace.

2 THE SONGS

The first song in the performance is about the stresses of pumping breast milk at work and the hidden spaces where pumping happens. The layout of workplaces and domestic spaces contributes to the invisibility of care labor (including but not limited to breast pumping). This section of the performance includes images of places where people pump breast milk; there are photos of closets, cars, bathrooms, and even a tent in a field. I juxtapose images of these hidden places with idyllic breast pump advertisements. In this song, I synchronize the pump with images. A film sequence from a breast pump advertisement serves as the transition between different image sequences; it shows a woman running from her desk to a lactation room and as she opens the door, a new image sequence appears. The song starts out slowly and becomes increasingly more frantic. If run at top speed, the breast pump sounds like an out-of-breath person gasping for air. The sound eventually pauses on a quote by Hannah Rosin about breastfeeding: "It's only free if a woman's time is worth nothing" [Rosin, 2009].

The second song is about maternity leave. In the United States, paid maternity leave is not mandated by law [U.S. Department of Labor, n.d.] and in many countries, a leave is only given to the parent who gave birth. A recurring theme in this song is depicted by visuals showing (US) politicians with calculated displays of insincere reverence toward women. It also features short clips of well-known US politicians speaking about family and workplace attitudes, as well as about gender and health care. The breast pump is playing in the background, defamiliarized by vocoding and processed with filters.

The third song is about freezing eggs to delay motherhood. Egg freezing is an elective medical procedure that is marketed to women as empowering. Statistics show that women are delaying pregnancy in industrialized countries [Bellieni, 2016]. Businesses marketing egg freezing suggest that extracting and cryopreserving egg cells will help women preserve fertility as they age, allowing women to excel in a career while delaying parenthood [Rosenblum, 2014]. Because the motivations to undergo the egg freezing procedure are social and not primarily medical, the practice is also called "social freezing." Recently, egg freezing has been popularized by large tech companies such as Facebook. Facebook announced that it will pay for employees' eggs to be frozen should employees wish to do so. Facebook was criticized for using this "benefit" to pressure women to delay motherhood [Alter, 2015].

One of the tactics used by companies that market egg freezing to make the procedure seem empowering is to organize informational sessions and call them "egg freezing parties" [Gorman, 2017]. Therefore, in the part of the performance dealing with egg freezing, I create an ironic party atmosphere. I play the breast pump sound as the heavily vocoded lead vocals in a MIDI cover of the French electronic music group Daft Punk's song "Get Lucky" [Daft Punk, 2013]. I call my version of the song "Daft Pump." I juxtapose the party atmosphere with footage of a woman injecting herself with hormones. Hormone injection is a part of preparing for the egg "harvesting" procedure. The clip of the injection is preceded by a clip of a young Donald Trump saying how terrible pregnancy is "for a person running a business." "Daft Pump" is a song about the ironies of mixed messages directed at women workers.

The fourth song is more difficult to describe. It depicts the repetitiveness of a pumping routine. I cut up a YouTube video of a woman demonstrating her pumping routine and repeat each part several times before moving on. The sound is improvised here as I pass the breast pump sound through different filters. Since the breast pump is amplified, I never know how the sound will play with the sound system of a given venue, making this piece a distinctive performance each time I present it. Compared to the other songs it is more abstract and improvised.

3 THE COSTUME

The costume that I wear during the performance is an exaggerated pumping top, as depicted in Figure 2. Around the cutouts where the breast pump shields attach to the breast, the garment has seven rows of multicolor LEDs pointing outward like a star. The LEDs are attached to a microcontroller board with a microphone and audio processing capabilities. Each arm of the LED star represents a frequency band of sound coming through the microphone. The LEDs therefore pulse along with the sounds produced by my performance. However, the bands are lit individually depending on the energy content in this frequency band. It is designed to look similar to a rock star's costume, and ironically glamorizes the profoundly unglamorous act of using a breast pump in a world where pumping breast milk remains invisible and behind closed doors, rather than out in public.

4 INVISIBLE WORK MADE VISIBLE

The questions that I am asking throughout the performance are: Who do members of society judge to be a good mother? And, by extension, who is a bad mother? The answers have a lot to do with unequal and symbolically laden gendered division of labor, as well as the disproportionate amount of invisible, unglamorous, underappreciated labor that women do. The breast pump is symbolic of invisible labor, as societal pressures to be a "good mother" compel women to do inordinate amounts of invisible labor, from which men are exempted.

The gendered division of labor based on social norms is arbitrary. At many points of time in history these norms have changed, and social expectations have shifted to pressure women to take

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Fig. 2. The costume as worn during the performance of *Bad Mother / Good Mother* at Live Performers Meeting in the Mattatoio, Rome, Italy, 2019. (©Annina Rüst)

upon new labor roles. During World War II, women took over many areas of work previously done by men, yet after the war, as national gender discourses again shifted, "women found themselves addressed by an intense ideology of 'femininity' and 'domesticity" pressuring them to give up their workplaces for the benefit of men [Cockburn, 1988].

More recently, since the spring 2020 coronavirus lockdowns when schools first closed, women have taken over more than half of the homeschooling duties for children. A poll done by the *New York Times* with Morning Consult shows that men overestimated the amount of work they did and that in most families, women did more of this new type of work. Sociologist Kathleen Gerson, who analyzed the data, suggests that, regarding homeschooling, "to say he does more of it is to say, 'I'm not a good mother" [Miller, 2020].

The social imperative to be a good mother starts before the birth of the child when women find themselves counseled by friends, family, medical professionals, and strangers about what to eat and what not to eat [Warren, 2020]. After birth, women are encouraged by hospital staff, lactation consultants, and pediatricians to breastfeed their baby for at least six months. Formula feeding is seen as a capitulation. For women who cannot or do not want to breastfeed full-time, breast pumps are encouraged. However, being able to use a breast pump is also a privilege. Many women who would like to pump breast milk either do not have access to the technology or work in places where

it is impossible for them to pump and store breast milk without losing their job. Like most invisible work, pumping takes a significant amount of time and requires a strict schedule. But it is not a type of work that is paid. Hannah Rosin writes in *The Atlantic* that breastfeeding—and by extension, pumping—is "only free if a woman's time is worth nothing" [Rosin, 2009]. Breastfeeding is not the only time when mothers end up doing more work for less. Statistically, motherhood comes with a financial penalty as when women have children, they lose out in terms of pay; at the same time, men are financially rewarded for fatherhood [Miller, 2014].

The imperative to be a good mother drives an accumulation of invisible labor. This is work that women do in addition to their paid work. *Bad Mother / Good Mother* communicates the complicated web of mixed messages about what constitutes a "good mother." It also communicates the exhaustion that compliance with the imperative of being a "good mother" brings to many women.

5 THE POETICS AND POLITICS OF THE SOUNDS OF DOMESTIC LABOR

Bad Mother / Good Mother involves repurposing a domestic technology, the breast pump, to make a feminist point about domestic labor. It is not the first performance project to do so. There is a history of music made with household technologies. Like me, other women have addressed the imbalances in gendered division of domestic labor through sound projects involving domestic tools. But there are also examples of renowned contemporary artists creating performances with domestic appliances who are not taking into account the larger share of unpaid household work done by women.

Historically, it is not uncommon for a domestic technology to be repurposed as a musical instrument. One example is the washboard or frottoir used in zydeco, jug band, jazz, folk, and skiffle music. It is a rhythm instrument that has its roots in West African juba dance and hamboning traditions. Hamboning as a rhythm technique was pioneered in the United States by African Americans in times of slavery [Wacky But True, 2019]. The washboard has been replaced by washing machines, and a washboard is now more synonymous with music creation rather than as a domestic tool.

Much-revered composer John Cage created the performance *Variations VII* in 1966 [Cage, 1966]. In the performance, Cage used various household machines to create a tapestry of sounds. The work was performed in the New York Armory as part of *9 Evenings: Theatre and Engineering*. The legendary performance series was produced by artists and engineers surrounding Bell Labs engineer Billy Klüver. The performance by Cage included kitchen appliances like a blender, a juicer, and a toaster outfitted with contact microphones. It also included several open telephone lines to different places in New York, like Merce Cunningham's dance studio. Film documentation shows males in shirt and tie performing with kitchen appliances and entertainment electronics like radios [Cage, 1966]. The performance used sounds of domestic appliances in conjunction with devices for sonic quality. However, it did not appear to include any references to the politics of domestic labor or feminist critique, even though feminist demands were well-known in 1966. A variation of Cage's performance was posthumously recreated by experimental music duo Zoviet France but, like the original, this iteration also appears oblivious to the political and gendered implications of domestic appliances [Brown, 2008].

Electronic music duo Matmos continues Cage's poetic use of domestic technology in their album *Ultimate Care II* [Matmos, 2016]. The album's length is 38:06, the duration of the cycle of a washing machine. The album was recorded entirely on an Ultimate Care II washing machine outfitted with contact microphones. It was recorded in one take with the musicians and guests manipulating the machine from the outside. The artists describe the work on their Bandcamp site as "a feminist point about alienated domestic labor" [Matmos, 2016]. While the composition and execution of the

project exemplify exceeding skill in electronic music performance and production, the feminist point is rather hidden.

Women artists are making more forceful points about the politics and the poetics of the sounds of domestic labor. One example is Kelly Dobson's *Blendie* [Dobson, 2003]. It is a 1950s Oster blender that requires users to operate it with their voice imitating the sound of the blender. A low growl will induce the motor to spin slowly, and the higher and more rageful the pitch of the person interacting with the blender, the faster the motor spins. The video accompanying the object shows the artist as a 1950s homemaker in a kitchen interacting with the blender. It positions the object within feminist critiques of space and labor.

Another project overtly embodying feminist critiques of social norms is described in the 2019 paper "Women's Labor: Creating NIMEs from Domestic Tools," presented at the 2019 International Conference on New Interfaces for Musical Expression (NIME) [Schedel et al., 2019]. The authors describe a musical interface built from an iron and a wooden ironing board. The instrument will sense the type of fabric being ironed as well as record the iron's x/y position, rotation, and tilt. A central part of the project is performing compositions by women. It takes historic cues from virginals, Baroque keyboard instruments that were played and composed for by young women. The iron will be part of a larger series titled *Women's Labor*.

The two categories of performances with household technologies that I described in this paper were all created during a time when feminist demands around domestic labor were well-known to a general audience, but only the performances in the second category explicitly embody feminist critique. My performance of *Bad Mother / Good Mother* falls in the latter category. In *Bad Mother / Good Mother*, I did not want the breast pump to be understood as a sonic curiosity, but rather as a gateway to reflection on domestic technologies that would prompt discussions related to the workplace and motherhood.

6 TECHNICAL DISCUSSION

This project uses a patchwork of different software and platforms. Most of the software runs on a MacBook, and a fairly simple Max [Cycling '74, n.d.] patch controls the visuals. The sound of the breast pump is recorded through two microphones and amplified in real time via a Thunderbolt audio interface; the sound is then processed via the MacBook. The audio part of the performance is mostly improvised. It relies upon several Ableton Live [Ableton, n.d.] projects that have different levels of predetermined arrangements. The second song and the last song (of four songs) make use of the knobs on a MIDI keyboard to control filter parameters. I also use the breast pump itself as an interface, playing it at different speeds in both milk letdown mode and regular pumping mode to create different sounds to accompany the visuals.

The LED costume that I wear during the performance of this piece runs on a regular Arduino microcontroller board [Arduino, n.d.] with a SparkFun Spectrum Shield [SparkFun, n.d.]. The LEDs are Adafruit NeoPixels that may draw 60 milliamps per individual NeoPixel at maximum brightness [Burgess, 2013]. There are 140 NeoPixels on the costume, but not all of them are turned on at the same time, so a battery that can source two ampere hours is sufficient. Inside the breast pump enclosure there is another Arduino. It has a small microphone and activates a strand of NeoPixels that surrounds the breast pump enclosure and is sound reactive via a small electret microphone.

7 PERFORMANCES AND REACTIONS

Tara Rodger's book *Pink Noises: Women on Electronic Music and Sound* discusses what it means to be a woman in electronic music. She writes: "In dominant discourses and practices of sound reproduction, technological forms and processes that are culturally coded as female or maternal have been systematically devalued and controlled" [Rodgers, 2010]. The book contains interviews



Fig. 3. A composite depicting several stills from a performance of *Bad Mother / Good Mother* at xCoAx: Conference on Computation, Communication, Aesthetics & X in Milan, Italy, July 2019. (©Camila Mangueira)



Fig. 4. A still from the *Bad Mother / Good Mother* performance at NIME, 2019 at Salão de Atos in Porto Alegre, Brazil. (©Annina Rüst)

with prominent women in electronic music. These artists speak about being the token woman on a compilation CD or having their work compared by journalists to the work of another woman artist simply as a result of both artists being women. When performing *Bad Mother / Good Mother*, I also found that in venues with a majority of women performers and artists, discussions were different and more in-depth than in venues with mostly male artists.

I performed *Bad Mother / Good Mother* in expressly feminist contexts like The Situation Room in Los Angeles and the 2020 Toronto Feminist Art Festival [Feminist Art Collective, 2020], as well as in the performance programs of mostly academic audiovisual and music technology festivals and conferences such as xCoAx: Conference on Computation, Communication, Aesthetics & X [xCoAx, 2019], as depicted in Figure 3, and NIME: New Interfaces for Musical Expression [NIME, 2019], as depicted in Figure 4

In the feminist art context, the performance is a contribution to an existing matrilineal tradition. At the 2020 Toronto Feminist Art Festival, the audience had previously already attended talks and panels on related topics. In this context, performances involving breast milk are well-known [Dobkin, 2006]. The large part of my performance session was reserved for discussions among audience members. They shared and compared their own stories. In this context, the performance did not feel interventionist because the context had been well-established by generations of artists.

In contrast to events focusing entirely on feminist art like the Toronto Feminist Art Festival, the audiovisual performance and music technology context is different because men are the overwhelming majority within the audience and among contributing authors [Xambó, 2018]. In the audiovisual performance and music technology context, many performances involve the human body. Gestural controllers and performances using live motion capture are common in this type of venue. It is also common to see men music technologists collaborate with women dancers on projects related to sound and the body. However, I have never seen women music technologists collaborate with male dancers on similar projects. This is one example illustrating how a lack of diversity in this community of creators limits the diversity of approaches. However, I was also happy to find women artists and feminist voices within the audiovisual performance and music technology context. I felt like my performance was a welcome addition to an existing, albeit marginalized, matrilineal tradition within the field. But performing *Bad Mother / Good Mother* still felt like interventionist art in this majority-male context.

Judging from reactions that I received in Q&A sessions and more informal discussions, women in the audience had a nuanced idea regarding content of the performance while men on average seemed not to have been confronted with the topics discussed in the performance. Some women perceived the sound bites of voices of male politicians in my performance as grating. We also discussed whether this performance primarily depicts the situation in the United States, or whether it is more universal as systemic issues like sexist politics, gendered division of labor, and invisible labor are problems in women's lives regardless of country of residence. For women who are struggling with fertility combined with career pressures, the performance is (understandably) difficult to watch. Men's reactions varied depending on their sensitivity to the theme. Some asked questions along the lines of "What is the problem?" Others wanted to learn more or shared stories from their life.

8 CONCLUSION

I am in awe of the matrilineal tradition within the field of audiovisual performance and created this paper and my performance as a contribution toward this tradition. However, I also created this performance and paper because I found audiovisual performance programs at festivals and academic conferences to be dominated by male performers and male technologists. Discussions surrounding invisible labor and motherhood are largely missing from the audiovisual performance context. They will continue to be missing until audiovisual performances about all (potential) motherhoods have been created and all views on motherhood, the body, and invisible labor have been explored. A lot of work on fostering diversity of thought and practice in the field of audiovisual performance therefore still remains to be done and can only come to fruition if feminist perspectives are taken seriously.

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