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To cite this article: Stine Willum Adrian (2015) Psychological IVF: conceptualizing emotional choreography in a fertility clinic, Distinktion: Scandinavian Journal of Social Theory, 16:3, 302-317, DOI: 10.1080/1600910X.2015.1091780

To link to this article: http://dx.doi.org/10.1080/1600910X.2015.1091780

Published online: 07 Oct 2015.

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RESEARCH ARTICLE

Psychological IVF: conceptualizing emotional choreography in a fertility clinic

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During ethnographic fieldwork at a fertility clinic in Denmark, I became intrigued by emotions. In particular, I found an incidence labelled ‘psychological IVF’ theoretically provocative as it challenged my views on materializations, which I was preparing to study. This paper centres on the story of psychological IVF, and I use this narrative to consider emotions and materialization methodologically. I also ask how emotions at fertility clinics can be conceptualized to enable analysis of their materialization, change, and effects. In order to do so, I develop the term ‘emotional choreography’. This theoretical work has three aims. First, it seeks to illustrate how the story of psychological IVF offers a rich range of materializations of emotions. Secondly, this work proposes a feminist materialist conceptualization of emotions that is both non-representational and posthuman. This conceptualization draws upon Thompson’s notion of ontological choreography and Barad’s theory of agential realism, extending these concepts to develop the notion of emotional choreography. Finally, this paper aims to contribute to current discussions regarding (new) materialisms within feminist theory, underscoring the conceptual importance of the feminist legacy.

Keywords: agential realism; assisted reproductive technologies; emotional choreography; emotions; feminist materialism; materialization; non-representationalism; performativity

That is when we say, ‘Well, this was a psychological IUI’ or ‘This was a psychological IVF’. That is what we call it during our morning meeting [staff meeting] when we scream and shout, ‘It is no use that you retrieve twenty eggs when we only have half a sperm cell – what on earth are you doing?’ But the couple is not ready yet. (Laura, embryologist, 2003)

During ethnographic fieldwork at a fertility clinic in Denmark, I became theoretically intrigued by emotions. I had not expected their complexity, omnipresence, and materiality. I came to the fertility clinic with an interest in how materializations take place. Informed by Donna Haraway (1991, 1997), I conceptualized materialization as a heuristic enabling me to see the emergence of materiality, discourses, subject positions, human and non-human changes, and the resulting entanglements (Adrian 2006, 2014a). In my empirical research, I sought to make use of Haraway’s conceptualization of nature, culture, humans, and technology implied by her figurations: the cyborg, trickster, and apparatus

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of bodily production (Haraway 1991, 1997). In other words, I inquired into what takes place when staff members, patients, gametes, practices, discourses, regulations, and technologies meet. I was interested in both materialities and normativities related to kinship, gender, sexuality, and race.

In particular, I found a series of events that the staff labelled ‘psychological IVF’ analytically thought-provoking. The fertility clinic staff used the term to explain how a treatment cycle of in vitro fertilization (IVF) with a low chance of developing into a pregnancy could be viewed as psychological preparation for the treated couple. The failed pregnancy could enable the couple to cease using only IVF in overcoming infertility, encouraging them to use donated gametes, adopt, or find peace in living childfree.\(^2\) I observed various incidents of psychological IVF, incidents in which emotions became entangled in shifting ontologies and materializations. These events prompted me to question the nature of emotions: are they material, discursive, personal, and social? I struggled to make sense of these emerging emotions as they intersected with materiality, kinship, race, sexuality, and gender.

In this paper, I unpack the puzzling questions of emotions and their materializations and entanglements in terms of psychological IVF. I describe how the emotions that initially intrigued and analytically trapped me eventually forced me to ask how emotions could be conceptualized to enable analysis of their materialization, shifting ontologies, changes, and effects. With this description, I have three aims. First, I want to illustrate how the incidents that develop into psychological IVF are rich with emerging emotions – emotions that materialize and exert effects, such as enabling renegotiations of kinship. Secondly, I seek to propose a conceptualization of emotions within the theoretical framework of agential realism, a posthuman and non-representational approach that does not discard emerging subjects or materializations (Barad 1996, 1999, 2003, 2007).\(^3\) I seek to extend agential realism by reconceptualizing the materialization of emotions as emotional choreography. My approach combines agential realism with Thompson’s notion of ontological choreography, which conceptualizes agency and the ontological shifts taking place between objects and subjects at the fertility clinic in the making of parents (Cussins 1996; Thompson 2005).\(^4\) Third, I propose that this reconceptualization of emotions contributes to the ongoing discussions of (new) materialisms that have developed within feminist theory (Grosz 1994; Alaimo and Hekman 2008; Ahmed 2008; Van der Tuin 2008; Davis 2009; Coole and Frost 2010; Lemke 2014). As I reconceptualize emotions by drawing on agential realism, I emphasize this theory’s commitment to posthumanism, non-representationalism, and the feminist legacy. In the paper, I demonstrate that the concept of emotional choreography contributes to understanding the inequalities and emotions that materialized as part of psychological IVF.

Entering the field of infertility, I was aware that I would observe several kinds of desires and emotions. In ethnographic work on IVF and kinship, Sarah Franklin (1997) and others (Franklin and Roberts 2006; Inhorn 2003; Thompson 2005; Becker 2000; Tjørnhøj-Thomsen 1999) have eloquently explained that desires and discourses concerning family, gender, and future lives with children motivate hopeful parents pursuing treatment at fertility clinics worldwide. Franklin (1997; Franklin and Roberts 2006), for example, has shown that IVF is a technology of hope and, as Throsby (2004) illustrates, a myriad of emotions emerge when IVF fails. A rich literature has reported on the psychosocial consequences of infertility (Sandelowski 1993; Schmidt 1996; Golombok 2000; Ólafsdóttir 2012). These works have all made important contributions to the understanding of emotions during IVF; however, their conceptualizations fail fully to explain the emergence and materializations of the emotions I encountered, particularly in terms of psychological IVF.
As a result, I turned to Arlie Hochschild (2003), a leading scholar working on the sociology of emotions. Her terms and conceptualizations of emotions resonated well with how I empirically experienced emotions as social, material, and psychological. However, she has primarily developed a theoretical understanding of the commodification of emotion in work situations; her research focuses on flight attendants’ emotional labour. One of Hochschild’s central notions is emotional management (2003), a concept that I find analytically valuable as it explains what was at stake as fertility clinic staff members managed their own emotions as well as those of the couples in treatment. The affective turn – the recent increase in interest in emotions and affect – is a shift that has been crucial to theoretical developments in social and cultural theory (Ahmed 2004; Gregg and Seigworth 2010, 6–9). This turn has been reflected in the intersection of science and technology studies as well as the sociology of health: evolving, where discussions are leading to a reconceptualization of care involving emotions and materiality (Svendsen and Koch 2011; Jespersen, Bønnelycke, and Eriksen 2014).

This paper has a theoretical focus on unfolding a feminist materialist understanding of emotions, integrating Thompson’s notion of ontological choreography (2005) with Barad’s theory of agential realism (2007). Both Thompson and Barad draw on Haraway and her figurations, such as the cyborg, and are committed to reflecting on inequalities and intersections of race, gender, and sexuality. Furthermore, they are informed by the notion of performativity, a concept that also resonated with my field experiences. Barad’s non-representationalist view of posthumanist performativity was particularly helpful in conceptualizing emotions and materialization.

Methodologically, this study was designed to investigate materialization by following eggs, sperm, and embryos inside and outside fertility clinics and sperm banks. This multi-sited ethnographic design (Marcus 1998) was inspired by Haraway’s suggestion to follow ‘imploded knots’ (Lykke et al. 2000, 58) and by Latour’s (1987) methodological reflections on studying science in action. The study was carried out at two sperm banks and four fertility clinics in Denmark and Sweden. Observations were made at all locations, although with a greater focus on the two fertility clinics using IVF; I spent a month full-time at each site. In total, 42 interviews with staff and potential parents were conducted. Narratives were collected on websites, at a fertility conference, and in newspapers, advertisements, and information leaflets (Adrian 2006). Empirically, this paper draws on accounts of psychological IVF as they illuminate the multiple ways that emotions emerge and have effects. This focus enables emphasis on the influence of the Danish context in terms of the emergence and materializations of emotions.

To illustrate how emotions emerge and take part in reconfigurations of kinship, I first give an ethnographic account of psychological IVF and how the observed materializing emotions challenged me theoretically. The next section introduces a feminist materialist apparatus for understanding the materialization and effects of emotions. This thinking draws on Thompson’s notion of ontological choreography (Cussins 1996; Thompson 2005) and Barad’s theory of agential realism (1996, 1999, 2003, 2007). In extending agential realism to thinking through emotions, I unfold Barad’s theoretical conceptualization of materialization, which takes as its point of departure the concept of phenomena. The next section explains why elaborating on Barad’s notion of performative practices provides a useful tool for developing a reconceptualization of emotions. I suggest that, together with ontological choreography, emerging emotions can be understood through the term emotional choreography. I return to psychological IVF in the fourth part of the paper, demonstrating how emotional choreography can be used to analyse the materialization, change, and effects of emotions without neglecting analysis of the subject and inequalities.
In the conclusion, I illustrate that this reconceptualized work on emotions enables analysis of their ontological change, materialization, and effects at fertility clinics. Ultimately, this conceptual proposal contributes to debates on (new) materialist feminist theories.

Psychological IVF

In order to illustrate why I initially became analytically stuck with emotions, I will introduce the different events during my fieldwork that emerged into a psychological IVF. The story of psychological IVF begins with my field notes regarding an egg retrieval that the staff already knew was unlikely to develop into a pregnancy.

‘Eggs!’ The shout comes from the hatchway to the laboratory. It is Laura, one of the embryologists, shouting to the doctor and nurses. Mie is the nurse who is taking care of the patients that day, trying to encourage the woman and her partner. She repeats: ‘Eggs!’

I am participating in my first egg retrieval. This particular retrieval takes place at a Danish public clinic. It occurs in the same room where the meeting between the scanner, the patients, the doctor, the nurse, and the embryologist takes place. It is a room that is also used for daily gynaecological examinations and conversations between the doctor and patients.

The woman whose eggs are being retrieved appears to be in pain. I feel a bit uncomfortable. Even though I am wearing a white coat, I haven’t yet figured out where to place my body in the room or learned what kind of position is appropriate. While I struggle with situating myself in the room, everyone else, including the woman and her partner, seems to know their role and how to move.

Before the egg retrieval, the woman was given anaesthesia through a hypodermic needle inserted in a vein on the top of her hand. She was also given painkillers. She was thoroughly cleaned and is now covered by sheets of green material. Shortly after the patient receives the anaesthetic, the doctor inserts the scanner probe.

The screen displays a lot of snow – grey and white – which is constantly moving. I realize that these are the follicles. The nurse explains to me that during IVF, the follicles need to be approximately 20 mm, like those on the screen, before they can be emptied. The doctor does this with a needle attached to the probe, which is inserted into the woman’s vagina. It is possible to follow the puncturing of the follicles on the screen. The liquid from the follicles is collected through the needle in a syringe. The procedure is carried out several times.

After the first puncture, when the doctor doesn’t retrieve all the eggs from the ovary, she decides that the woman needs to empty her bladder. A catheter is entered, and the urine runs into a container, which the nurse quickly takes away. They then continue the procedure, which causes the woman to moan again. More eggs are retrieved, about nine in all. The ‘sterile nurse’, who helps the doctor during all the technical procedures, then carries the syringes to the hatchway where the embryologist examines them under a microscope. Once they have been identified, the embryologist shouts, ‘Eggs!’

One nurse knew that this was my first observation and commented on the specific cultural circumstances that she thought took place. The woman undergoing egg retrieval was understood by the nurse to be coming from Africa; this became significant for her to underscore as she remarked that Africans express pain differently than most Danes. She implied that it all might have seemed more dramatic than it really was.

I remain impressed with how everything progressed so smoothly during the procedure. It was almost like a dance with constant improvisations – for example, when the woman’s bladder was full or when she showed indications of pain. The nurses were there when needed. The right instruments were available. Everyone encouraged the woman, and there was constant communication between the nurses, doctor, and embryologists. At the same time, there seemed to be a changing understanding of the woman and the eggs as subject and object, a change of focus underscored by the way the light was focused on the woman’s body, a light that moved as soon as the visualizations of the follicles came on the screen. I could not stop thinking...
of Charis Cussins’s description of ontological choreography as a way of understanding what happened that day at the fertility clinic. (Field note, November 2002)

This egg retrieval was the culmination of several weeks of hormonal treatment for the woman. Prior to the retrieval, she had had several gynaecological examinations, vaginal scans, and visits with the doctors and nurses. In order to obtain treatment at the clinic, the couple needed a general practitioner’s referral. They then had to wait approximately half a year before being offered to start treatment.

At the time of the fieldwork, IVF had become routinized in Denmark, and 4.2% of a cohort of babies born that year was conceived via IVF, the highest registered number in Europe (Nyboe Andersen et al. 2006, 3). Interestingly, at the time, Denmark had rather restrictive regulations, only allowing medical doctors to treat heterosexual couples who were cohabitating, and public clinics only treated women below 40 years of age. Despite these regulative practices, the clinic treated a heterogeneous group of couples with regard to ethnic, racial, and socio-economic backgrounds.

As illustrated in the excerpt from my field notes above, scenography and technology played a vital role in setting the scene for the mode of care practised: the eggs were moved through the hatchway to the laboratory, and the ultrasound screen was used to underscore the production of eggs. This procedure occurred at a public clinic in a major public hospital with a clinical outlook; nonetheless, a collage of baby pictures hanging on the wall reminded everyone of the expected outcome of a child, and images of conception were visible in the laboratory. Through such visual narratives, the technologies of hope were emphasized as part of the clinic’s practices (Franklin 1997; Franklin and Roberts 2006).

However, fear and uncertainty often accompany hope for women during treatment. In Danish public clinics, three IVF cycles are free. However, doctors underscore that only 60%–70% of couples undergoing treatment end up with a baby at the end of these three cycles. Those who are unsuccessful may adopt, learn to live without children, or continue treatment in a private clinic at their own expense – and not all are able to afford further treatment or adoption. In Denmark, very few children are nationally adopted, and transnational adoption is fairly expensive and only partly subsidized.

Another issue is the expense of medication, which is not free but comes at a reduced price. Treatment is a time-consuming endeavour, and women must visit the clinic frequently to monitor follicle development. These visits must be co-ordinated with work and other activities. Meanwhile, the not-knowing if all the hard work will result in a child can make the IVF treatment psychologically challenging. Staff members try to handle these difficulties; in other words, they conduct emotional management, a term coined by Arlie Hochschild, a sociologist of emotions (Hochschild 2003, 232). This form of management might also have occurred in the above-described observation when the nurse explained what she found culturally significant during the egg retrieval. In her commentary, she also gave me advice on how to act, just as she did with the potential parents. Through this experience, I learned which emotions would be intelligible and how to perform them in the clinic.

I experienced another example of emotional management during my visits to the clinic when staff members and potential parents discussed emotional reactions to drugs. When the women received drug prescriptions, I often overheard the male doctors joke that it would be a good time for the man in the couple to take on extra hours at work. In other words, drawing on gendered stereotypes, the doctors suggested that the hormones would negatively affect the women, making them easily irritable and unstable. With such humour,
the doctors attempted to prepare the men and women for what they might experience in the coming weeks. However, these emotions cannot be fully understood through the lens of emotional management.

I interviewed several women undergoing IVF treatment who underscored that the hormonal treatment had emotional side effects: they became tense, easily upset, and cried regularly. Their emotional reactions did not diminish their eagerness to take daily hormonal injections, which for many was an extremely difficult task in itself. Learning to inject was a skill that nurses taught the women and their partners through careful instruction (Adrian 2006, 164–9). These emotions are thus related not only to the injected hormones and the ways they influence the body but also to the women’s experience of injecting their bodies with needles.

Returning to the above-mentioned egg retrieval observation, the woman was not the only one who had undergone an operation to have gametes removed. She was married to an infertile man who, the previous day, had undergone an operation to retrieve his sperm. This operation was discussed in the staff meeting immediately following the egg retrieval, and the man undergoing the procedure was the subject of a great deal of (shady) humour. The doctor who had performed the testicular sperm aspiration (when a man’s sperm cells are removed directly from the testes due to the absence of sperm cells in his seminal fluid) found it comical to retrieve sperm cells from such a large black man. The doctor implied that black men were more virile and masculine than the white men upon whom he typically operated, a presumption that draws on racialized and sexualized stereotypes of black men.

At the meeting, the embryologist voiced concern about using the sperm from the retrieval, as there were few sperm cells, and those present were immotile. She preferred to use sperm cells that moved for intracytoplasmic sperm injection (ICSI), the injection of sperm cells into egg cells, so that, hopefully, embryos could develop. From her perspective, there was minimal possibility of conception. The clinic had donor sperm cryopreserved, and the option of donor sperm normally would be discussed with the couple in such a situation; however, the sperm in stock came from white donors. At this time in Denmark, embryologists selected donated sperm based on the principle of resemblance to the fathers’ phenotypes – a selection principle stipulated in legal guidelines. Therefore, using sperm from a white donor was not seen as an option in this situation.

During the meeting, staff members clearly believed that the chances were slim that the African woman would become pregnant. The hope was that an unpredictable pregnancy against all odds would happen, and, if the treatment failed, the IVF cycle would serve as psychological IVF, a term used by the clinical staff. Staff thought that the experience of an IVF cycle yielding no success and poor future prospects might encourage the couple to rethink the possibility of living childfree, using sperm donation, or going through with adoption. They thus viewed psychological IVF as a way to begin to renegotiate kinship, making the use of donor sperm an option. As I spent time in the clinic, I noticed that failed pregnancies generally were discussed as opportunities to learn about the uniqueness of women’s bodies and gametes. The staff worked on adjusting the women’s treatments in terms of medication, and unsuccessful treatment cycles prepared couples for the next technological step, such as going from insemination to IVF or from regular IVF to the use of donated gametes (Adrian 2006). In these processes, emotions played a vital role, and psychological IVF became a reconfiguration of failure, enabling diverging future paths.

As I have accounted for in this narrative, there were numerous elements taking part in the emergence of emotions, both for the staff and for the couples: intersections of race, kinship, gender, sexuality, sterility, and the lack of available donor sperm. Also involved
in the emergence of emotions were hormones, desire for a child, injection needles, the use of immotile sperm cells, visualizing technologies, such as microscopes and ultrasounds, and the unique work practices of Danish clinics. These intersections came together and caused me continuously to question the nature of emotions. How can they be conceptualized in order to understand the ontological shifts of which they are part? How might we understand the effects and the materializations taking place?

**Emotional choreography: a feminist materialist reconceptualization of emotions**

The narrative of psychological IVF provides an example of how the emotions in the fertility clinic were at stake in different ways and how they caused me to puzzle over how they could be understood. In the following, I will explain why Haraway and Latour, my initial theoretical inspirations, failed to offer the right analytical tools for the job (Clarke and Fujimura 1992).

Prior to this discussion, however, I would like to point out that Haraway’s figurations, such as the cyborg, onco-mouse, trickster, and apparatus of bodily production, were instrumental for my study (Haraway 1991, 1997). These figurations serve as reconceptualizing tools that enable us to think beyond existing dichotomies. The cyborg allows us to think of human and non-human entities together; the coyote and the trickster are figurations that obliterate distinctions of nature and culture, illustrating the surprising agency of materialities. The figuration of the apparatus of bodily production, in particular, works well as a heuristic that implies how the world materializes through economic systems of inequality and norms, such as intersections of race, gender, sexuality, materialities, and language (Haraway 1991). Conceptualizing beyond the divide of the human and non-human raised my awareness of emotional complexity, challenging me through the narrative of psychological IVF. It should be noted, however, that Haraway did not develop these figurations as tools to analyse processes and changes in ethnographic empirical material. Therefore, this limitation to Haraway’s use of figurations is not a critique, but instead an illustration of how different empirical materialities require different analytical tools. In this analytical situation, I needed conceptualizations that enabled understanding of the ontological changes and materializations of emotions. Unfortunately, the figurations were less helpful in my efforts to understand the emotions I encountered during ethnographic fieldwork.

This was also why I initially found methodological inspiration in actor-network theory (ANT), derived from ethnographic work in laboratory studies. In *Science in Action* (1987), Latour unfolds methodological reflections on how to use ethnography to research the processes of science in a way that includes material agency. ANT’s principle of symmetry is central to this concept, which commits ethnographers to pay equal attention to human and non-human agencies. However, ANT does not offer tools to understand differences of agencies and their effects regarding human subjects. For this reason, ANT lacked the necessary methodological and analytical tools regarding the materialization of emotions in the case of psychological IVF where intersections of race, gender, and sexuality matter.

In order to reconceptualize emotions, I chose to draw on Thompson and Barad, both of whom reflect on materialities and intersections of race, gender, and sexuality, thus enabling me to analyse both human and non-human agencies. As illustrated by the field note excerpt from the beginning of my fieldwork, Thompson’s (2005) concept of ontological choreography was analytically meaningful. This concept resulted from Thompson’s ethnographic work at US fertility clinics (Cussins 1996; Thompson 2005). The term *ontological choreography* describes the different and constantly changing ontological status of objects and
subjects as women undergo fertility treatment and become parents. Thompson explains the concept in the following way:

The term ontological choreography refers to the dynamic coordination of the technical, scientific, kinship, gender, emotional, legal, political and financial aspects of [assisted reproductive technology (ART)] clinics. What might appear to be an undifferentiated hybrid mess is actually a deftly balanced coming together of things that are generally considered parts of different ontological orders (part of nature, part of the self, part of society). These elements have to be coordinated in highly staged ways so as to get on with the task at hand: producing parents, children, and everything that is needed for their recognition as such. Thus, for example, at specific moments, a body part and surgical instruments must stand in a specific relationship, at other times a legal decision can disambiguate kinship in countless subsequent procedures, and at other times a bureaucratic accounting form can protect the sanctity of the human embryo or allow certain embryos to be discarded. Although this kind of choreography between different kinds of things goes on to some extent in all spheres of human activity, it is especially striking in ART clinics. They are intensely technical and intensely personal and political. (Thompson 2005, 8)

Ontological choreography is, in other words, an idea that conceptualizes the ontological changes that are at stake at fertility clinics. As Thompson explains in the above quotation, emotions play a part in ontological choreography. However, she does not foreground emotions, nor does she discuss their materialization in detail. She is more interested in the changing ontological status and relationship between objectification and subjectification (Cussins 1996) that is central during IVF treatment cycles. She also draws on Judith Butler’s understanding of the process of subjectification through performativity (Thompson 2005, 118–19), which is implied in the notion of ontological choreography.

Ontological choreography focuses on changes in ontological status, and Thompson draws on understandings of material agency as found in ANT and Haraway’s figurations. However, Thompson does not conceptualize how material agency and materialization is at stake during ontological choreography. As a result, I also turned to Karen Barad’s feminist materialist theory of agential realism. This theory aims to conceptualize what is at stake as the world materializes by rethinking theoretical positions together, including those of Niels Bohr, Michel Foucault, Judith Butler, and Donna Haraway (Barad 2007). From agential realism, I particularly draw on notions that are helpful in understanding emotions’ materializations that emerge during fertility treatment, illustrated by psychological IVF. Using emotions as an example, I will explain the concepts I have borrowed from agential realism in the following section.

Emotions as phenomena
As illustrated in the field note excerpt and my description of the clinical setting, performativity is an ever-present aspect of what is at stake in fertility clinics. However, this presence is not the only reason why Barad’s (2007) posthumanist conceptualization of performativity became an interesting framework with which to work as compared to previous conceptualizations of performativity (e.g. Goffman 1959; Carlson 2004; Butler 1990, 1993). Barad’s argument for introducing the concept of performativity is based on a critique of representationalism. She rejects the realist conviction as flawed and representationalist that one can gain knowledge about the world through non-biased, neutral observations of objects. However, she applies the same criticism to the contrasting conviction that knowledge can only be understood through language (Barad 2003, 801–11). Therefore, she is not only critical of realism but also of how the linguistic turn neglects material agencies — a
critique that she also directs at Butler and Foucault (Barad 2003, 803–11). She points out that both Foucault and Butler primarily exemplify how discourse shapes materializations of bodies, not the other way around. This critique does not negate Butler’s and Foucault’s contribution to understanding the emergence of subjects. On the contrary, Barad (2007) draws heavily on their work in her development of agential realism.

Barad’s way of getting around the representationalism inherent in language is to suggest that one can understand how the world comes into being through posthumanist performativity. By paying close attention to human and non-human agencies, one can apprehend how materialization emerges. In this way, performativity points to agency, which does not necessarily imply human agency. Posthumanist performativity is a critique of the anthropocentrism of the humanities and social sciences, a call for an inclusion of non-human agency in social theory—because it matters.

I draw on this non-representationalist argument in order to reconceptualize emotions because this approach acknowledges how the world is kicking back, such as when women’s bodies react differently to hormones and express emotions in sometimes surprising ways. By drawing on non-representationalism and posthumanism in order to reconceptualize emotions, I do not discard the human subject and body with their particular conceptualizations of agencies, including how emotions emerge through race, age, gender, social class, and so on. Instead, drawing on agential realism allows me to think of emotions as both human and non-human. The heterogeneity of emotions that I encountered through my fieldwork illustrates this point. In the clinics, emotions resulted from discourses of gender, family, and kinship; from human hormones developed by the body; and from hormones produced by pharmaceutical companies. Thus, emotions can only be partially understood by separating the social, material, and psychological. Drawing on agential realism, I suggest that emotions can instead be conceptualized as phenomena.

Agential realism is a theory that conceptualizes materialization through phenomena, a concept that Barad borrows from Niels Bohr’s philosophy-physics (Barad 2007, 141–53). This idea emerged in quantum physics, representing a theoretical critique of thingification, atomistic metaphysics, and Cartesian epistemology (Barad 2003, 812–13). In other words, agential realism radically changes the way the world is conceptualized: from thinking about things and actors to seeing the world as phenomena materializing, changing, or being reconstituted.

Bohr develops this term as he elaborates on his epistemology. He discusses the production of knowledge and how materializations differ depending on the apparatus’ set-up in an experiment (Barad 2007, 97–133). Based on the double-slit experiment, Bohr argues that no neutral observer exists in an experimental setting. The researcher is part of the phenomena studied, as are other elements that shape the materialization. The double-slit experiment illustrates how different elements come together and materialize, depending on the experimental apparatus and observer, who is a part of the apparatus. In this example, light either materializes as waves or particles, depending on the set-up of the apparatus. Therefore, the apparatus and the materialization of knowledge are one: knowledge is a phenomenon during materialization (Barad 2007, 333–6). In this conceptualization, the apparatus is never just a thing but also the conceptual thinking, discourses, and practices that unfold as the apparatus.

By introducing a non-representationalist understanding of emotions through the phenomena instead of conceptualizing emotions as separate entities or things, I gained a different analytical tool and a helpful perspective on the emergent emotions that I encountered in my fieldwork. In the example of psychological IVF, emotions cannot be reduced to being material or discursive: they are both at the same time. Barad’s explanation is also
Barad argues that phenomena emerge through posthumanist performative practices. As previously mentioned, Barad was inspired by Butler’s refined notion of how performativity enables materializations of subject positions and bodies. This concept is undoubtedly pivotal to understanding materializations that derive from fertility clinics. When explaining how discourses performatively enable materializations, Barad draws on Butler’s insights. Butler (1990, 1993) suggests that an iterative citational performative practice is at stake when, for example, gender materializes. In Bodies That Matter: On the Discursive Limits of Sex (1993), she explains:

Butler introduces performativity in order to conceptualize the process of materialization of sexed bodies. She argues that the processes by which this materialization takes place can be conceived as iterative citational practices. These practices are not individualized conscious acts: they are discursive. At the same time, they are open-ended in the sense that they always enable the possibility of change. Iterative citational practices may turn out to be parodies and, thereby, materialize sexed bodies in other ways, just as they might reconstitute an existing hegemonic discourse (Butler 1990, 134–41).

When Barad argues that materialization is also about the agency of materialities, she draws on Butler to contort the understanding of parody and iterative citational practices. In order to underscore that the world is material-discursive, Barad (2007, 208) rephrases this conceptualization. She not only explains the variations in materializations of subject positions pointed out by Butler but also elucidates on non-human elements as phenomena that emerge. Barad argues that these materializations take place performatively as iterative intra-actions. Just as in material-discursive phenomena, intra-action is a term that illustrates why phenomena are not enabled through separate entities. In this sense, intra-action differs from the notion of interaction, which is inherently based on an atomistic metaphysics.

Therefore, we can perceive the phenomena of emotions that emerge during the events of psychological IVF as material-discursive, iterative performative practices. Conceived in this way, the phenomena of emotions have no clear boundaries or inside and outside. Nonetheless, these phenomena do create inclusions and exclusions that have effects, established by what Barad calls an ‘agential cut’ (Barad 2007, 148). These cuts enable certain emotions to materialize and not others. It is through agential cuts that emotions have effects.

My ethnographic account of psychological IVF provides a strong example of how a performative practice of doing kinship based on phenotypical resemblance transformed an IVF cycle into psychological IVF. This particular performative practice of kinship and race created an agential cut that mattered significantly. This materialization of emotions can be understood as emotional choreography, now defined as a conceptualization of how material-discursive performativity enables emotions to materialize, ontologically alter, and have material-discursive effects.
Emotional choreographies and psychological IVF

I return to the ethnographic account in order to understand how emotions materialize, change, and have different effects during psychological IVF. At the same time, I seek to illustrate the analytical potential of the emotional choreography concept. The scenography that I emphasized at the beginning of my description of emotions, as psychological IVF emerged, illustrates how the clinic and its decorations promote the material-discursive emergence of emotional phenomena. The narratives illustrate technologies of hope by displaying illustrative examples of babies. In this respect, technologies of hope, a term coined by Franklin (1997) and Franklin and Roberts (2006), are one way of conducting emotional choreography, enabling staff members and patients to hold on to the hope that ARTs will lead to children. At the same time, the clinic’s decorations may also play into the material-discursiveness of where and when to display emotions (Adrian 2006, 2014a).

As part of the clinical room’s particular scenography, both nurses and doctors performed Hochschild’s (2003) ‘emotional management’ in their meetings with patients, which can be conceived as a form of emotional choreography. The doctor’s quip to the man in the heterosexual couple that he should take on extra hours at work is an example of this emotional choreography. In this situation, the emotions are material-discursive as the phenomena emerge not only through hormone injections, but also through the gendered stereotypes invoked by the doctor’s tasteless joke.

By prescribing hormones and following certain protocols of medication conceptualized by particular understandings of the female body and reproductive system, the doctor facilitates the physical sensitivity and psychological reactions for which he wants the couple to be prepared. Thus, while Hochschild’s emotional management focuses on the handling of the patients’ and doctors’ emotions in the clinical setting, emotional choreography also includes how emotions develop in the presence of phenomena, including drugs, syringes, physical reactions to drugs, expectations of side effects, and the psychological challenges resulting from prolonged treatment.

During the egg retrieval described previously, various other emotional phenomena emerged. The nurse who was emotionally engaged in caring for the moaning African woman tried to make the situation intelligible to herself and me through cultural explanations. In a Danish health care context, the performativity of pain is often ascribed to ethnic background. The nurse’s explanation illustrates what often is referred to as ‘ethnic pain’ (Jensen 2014). The nurse pointed out that the woman performed differently from Danish women and presumed that her African background was the reason. The woman’s performance of moaning, showing emotions, and being in pain is not culturally intelligible in a Danish context unless it is seen as African. Had a Danish woman performed in the same way, the nurse’s reaction would have differed, as she would have found the woman’s emotional reactions abnormal. The situation illustrates how intersections of race and gender were entangled with the performativity of emotions at the clinic and how this, in practice, affected the woman’s care.

Another example of how agential cuts enable phenomena of emotions and emotional choreography can be seen in the expected failure of the treatment cycle, a failure that could develop into the question of whether or not to use donated sperm. A central principle of public health care in the Danish context is equal treatment opportunities regardless of the patient’s background. From this perspective, the public clinic’s failure to offer the same treatment options for racial or ethnic reasons may come as a surprise. The staff did not reflect on the influence of race on the treatment choices they finally offered the couple. Denmark has historically been a rather homogeneous society; therefore, whiteness is
Had the couple been white, the staff might have discussed the option of using donated sperm with the couple. However, the lack of sperm from a donor resembling the man, as well as the performativity of race, gender, and sexuality during the egg and sperm retrievals, created particular phenomena of emotions. These phenomena led to agential cuts shaped by material-discursive practices of race, kinship, and masculinity, making the use of donor sperm a non-option. In this way, particular emotions materialized and had effects.

Notably, the phenomena of feeling uncomfortable emerge as the embryologist in charge conducts the ICSI with immotile sperm. However, by reconceptualizing the expected failure of the IVF into a psychological IVF, the emotions and ontology of the phenomena changed. This type of emotional choreography could enable the changes of kinship and family needed to make a choice to adopt children, conceive offspring using donor gametes, or live a life without children. It also enabled the staff to make sense of all the work they put into cycles that they knew would probably not end up in pregnancies and children, as imagined through technologies of hope narratives. In this way, the phenomena of emotions had material effects on practices of kinship, couples’ desire for a child, and embryologists’ work practices. These effects indicate that the embodied experience of failure and phenomena of emotions is part of performative practices enabling changes in renegotiating kinship, treatment options, and other trajectories like having no children or adopting children.

Analysing psychological IVF using the concept of emotional choreography, it became possible for me to understand the complex materializations of emotions that took place when the IVF under observation became a psychological IVF. Psychological IVF is also an excellent example of how the material-discursive phenomena of emotions are not only about materializations of eggs, sperm, embryos, and children. Iterative intra-active practices likewise change or reconstitute the materialization of discourses related to race, kinship, gender, sexuality, and the desire to have children, including ideas about what constitutes a family.

Conclusion

In this paper, I have made an ethnographic account of psychological IVF, illustrating how emotional choreographies occurred as the process evolved. This is a narrative that by no means has exhausted all of the different ways that emotions materialize and have effects in fertility clinics. However, using my ethnographic inquiry into materializations, I have suggested a theoretical conceptualization that enables an analysis of the emergence, materialization, and effects of emotions. Emotions were not initially my research interest; my preconceived ideas of emotions were shaped by a separation of social, material, and psychological phenomena. In actuality, emotions are far more fascinating, heterogeneous, omnipresent, and difficult to analyse. The heterogeneity of emotions that I encountered in the fertility clinics became a productive obstacle that challenged my preconceived notions of materialization. Confronted with these observed emotions, I was forced to rethink my theoretical framework and methodology in relation to materializations.

The notion of emotional choreography became a synthesis of my thinking: I combined agential realism and ontological choreography into a posthumanist performative theory to analyse how emotions, as phenomena, materialize and have effects. Emotional choreography at the clinics thus became an important analytical point of entry by which to understand the changes that evolved and mattered. This conceptualization of emotional choreography contributes to an understanding of materializing emotions as phenomena. Although emotions at the fertility clinics can be related to human subjectivity, one cannot know
where the emotions as phenomena begin or end. Do the phenomena of emotion emerge with the desires for a child, the drug injections, physical reactions, ultrasound scans to count follicles, and the grief over not yet, and perhaps never, becoming a parent? In this sense, emotions are material-discursive phenomena. They include non-humans because emotions emerge during ultrasound scans and follicle puncturing or in the laboratory while embryologists work with gametes. Emotional materializations are not constrained to the human body: their materialization as phenomena extends beyond. Looking at the phenomena of emotions as both human and non-human might seem counterintuitive. However, my fieldwork at fertility clinics illustrates how looking at emotions as material-discursive phenomena can create new insights into how different and changing materializations might take place and have effects.

Analytically focusing on the materialization of phenomena of emotions beyond the body, as in the example of psychological IVF, does not mean that the intersections of age, race, class, and gender – among other elements – do not have significant effects on materializations. On the contrary, it illustrates how material agency also can be pivotal in emerging inequalities. In my reading of agential realism, I emphasize that it is necessary to understand material-discursive processes of performativity in order to understand processes of materializations. In this regard, emotional choreography, as a feminist materialist notion, contributes to acknowledging how the world is shaped by inequalities produced through intersections of materialities and age, race, class, gender, sexuality, and so on. In this sense, my reading of agential realism and development of emotional choreography has focused on the materialization of material-discursive inclusion, exclusion, and differences, thus following the long tradition within feminist science and technology studies (Leigh Star 1991) of asking the question cui bono – who benefits? This reading of agential realism emphasizes the importance of Foucault’s and Butler’s legacy and Bohr’s philosophy-physics, while simultaneously sharing Haraway’s call for situated knowledges.

Certainly, my reconceptualization of emotions is not the only theoretical path to approach emotions and materializations. In recent years, other studies have made other valuable contributions (Jespersen 2008; Svendsen and Koch 2011; Schwennesen and Koch 2012; Meskus 2014; Jespersen, Bønnelycke, and Eriksen 2014). However, using emotional choreography as a concept to obtain insights into how emotions as phenomena materialize, change, and have effects during psychological IVF proved to be an effective analytical apparatus.

My hope is that the implied reading of agential realism and materialist feminist theory through the concept of emotional choreography may prove to be a constructive intervention in the discussions on (new) materialisms in feminist theory. I do not proclaim this feminist materialist reading to be ‘new’; instead of creating distance from the theoretical genealogy, I rather prefer to build upon it.

Acknowledgements
I would like to thank the various scholars who have helped me reflect on emotions, materialization, and feminist materialisms. Furthermore, I want to thank the anonymous reviewers and the editors of this special issue, Sarah Dionisius, Thomas Lemke, and Lars Thorup Larsen, for critical, insightful, and valuable comments.

Disclosure statement
No potential conflict of interest was reported by the author.
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Notes
1. IUI stands for intrauterine insemination a technology where the sperm is washed and placed in the uterus of the woman.
2. I use the term ‘childfree’ instead of ‘childless’, which implies that having no children is a lack. Childfree is currently the preferred term in discussions of choosing to live without children either as a pure choice or due to life circumstances.
3. Although only implicitly reflecting emotions in clinical work related to prenatal testing in Denmark, Schwennesen and Koch’s (2009, 2012) ethnographic work supports this theoretical choice to think about the materialization of emotions.
4. Charis Thompson has published under the name of Cussins. In this paper, I use her current name but cite work written under both names.
5. During the fieldwork it was rather unclear from which country the woman originated. However, the staff defined the couple as black and African without much further reflection.
6. Since 2007, single and lesbian women are legally entitled to receive treatment at public clinics in Denmark. At the time of the fieldwork, they could be inseminated at clinics run by midwives or biomedical laboratory scientists, but not medical doctors. At private clinics, regulations stipulate that women above the age of 45 cannot be treated.
7. I would like to underscore that I do not seek to reduce ANT, post-ANT, and research agendas by building on the principle of symmetry purely to hold on to analytical symmetry (Latour 1987). Nonetheless, several studies inspired by this tradition worked deliberately on emotions, but these did not enable me to work with the empirical complexity I encountered (Moser and Law 1998).
8. This is also a concept developed to introduce a different perception of gender and technology compared to those inspiring the radical feminist critique of assisted reproductive technologies (ART). Radical feminists claim that gynaecological practice is another patriarchal technology for objectifying women (Farquhar 1996; Thompson 2002; Adrian 2014b). However, Thompson illustrates that, although objectification takes place often at fertility clinics, it is done in multiple ways with different effects. This process is part of a performativity that women at certain times during gynaecological exams find necessary to desexualize the situation (Cussins 1996).
9. The concept of posthumanism has different genealogies depending on how the term is discussed. For a further elaboration on feminist posthumanism, see Braidotti (2006), who gives an excellent overview.
10. Arguably, she is likewise quite inspired by Haraway’s classic text on situated knowledges (Haraway 1991, 183–202).
11. The term ‘material-discursive’ closely resembles Haraway’s (1997, 2) notion of the material-semiotic. By using the notion of discourse, Barad (2003) emphasizes the legacy of Foucault who underscores how the world materializes through discourses.

References


