MATTER

journal of new materialist research

Universitat de Barcelona

ARTICLE
ISSUE 8

# Doing infertility: an agential realist approach to the experiences of women with 'atypical' development of the reproductive system

## Fent infertilitat: un abordatge realista agencial de les experiències de dones amb desenvolupament "atípic" del sistema reproductiu

## Haciendo infertilidad: un abordaje realista agencial de las experiencias de mujeres con desarrollo "atípico" del sistema reproductivo

**Caynnã de Camargo Santos (ORCID: 0000-0003-4069-1363)**
Centre for Social Studies, University of Coimbra

Date of submission: March 2023
Accepted in: July 2023
Published in: July 2023

DOI: https://doi.org/10.1344/jnmr.v8.43453

**Recommended citation:**

Santos, Caynnã de Camargo (2023). Doing Infertility. *Matter: Journal of New Materialist Research*. Issue 8, 1-21. University of Barcelona. [Accessed: dd/mm/yy].

## Abstract

The current focus of feminist literature on the workings of new reproductive technologies has overshadowed a conclusion that also follows from approaching questions related to bodily reproductive capacities from a perspective informed by the relational ontologies advocated by feminist new materialisms, namely: like fertility, *infertility is not an independent, strictly biological property inscribed a priori in human bodies*, but rather consists of a phenomenon performatively enacted through specific material-discursive practices. To further explore this argument, this article proposes a reading of embodied experiences of infertility *through* Karen Barad's (2007) agential realism and *their* theory of posthumanist performativity. The text is structured around excerpts from interviews with women diagnosed as infertile due to Mayer-Rokitansky-Küster-Hauser syndrome. We seek to demonstrate how an ethico-onto-epistemological shift from "things" to material-discursive phenomena opens up important possibilities for developing new understandings of infertility that can overcome the limitations of both traditional biomedical and sociological approaches.

## Keywords

Infertility; Agential Realism; Posthumanist Performativity; Mayer-Rokitansky-Küster-Hauser syndrome; Economic Sterilisation.

## Resum

L'enfocament actual de la literatura feminista sobre el funcionament de les noves tecnologies reproductives ha eclipsat una conclusió que també s'origina en abordar qüestions relacionades amb les capacitats reproductives corporals des de les ontologies relacionals com els nous materialismes feministes: *igual que la fertilitat, la infertilitat no és una propietat independent, estrictament biològica, inscrita, a priori, als cossos humans*, sinó que un fenomen performatiu que es produeix a través de pràctiques materials-discursives específiques. Aquest article pretén aprofundir aquest argument. Per fer-ho, fa una lectura d'experiències encarnades d'infertilitat a través del realisme agencial de Karen Barad (2007) i la seva teoria de la performativitat posthumanista. El text s'estructura al voltant de fragments d'entrevistes amb dones diagnosticades infèrtils per la síndrome de Mayer-Rokitansky-Küster-Hauser i planteja demostrar com el canvi ètic-ontoepistemològic de "coses" a fenòmens materials-discursius obre possibilitats crucials per al desenvolupament de noves comprensions de la infertilitat. Aquestes són capaces de superar les limitacions dels enfocaments biomèdics i sociològics tradicionals.

## Paraules clau

Infertilitat; Realisme agencial; Performatividad posthumanista; Síndrome de Mayer-Rokitansky-Küster-Hauser; Sterilització econòmica.

## Resumen

El enfoque actual de la literatura feminista sobre el funcionamiento de las nuevas tecnologías reproductivas ha eclipsado una conclusión que también se origina al abordar cuestiones relacionadas con las capacidades reproductivas corporales desde las ontologías relacionales como los nuevos materialismos feministas: *al igual que la fertilidad, la infertilidad no es una propiedad independiente, estrictamente biológica, inscrita, a priori, en los cuerpos humanos*, sino

que un fenómeno performativo que se produce a través de prácticas materiales-discursivas específicas. El presente artículo pretende profundizar este argumento. Para ello, realiza una lectura de experiencias encarnadas de infertilidad *a través* del realismo agencial de Karen Barad (2007) y su teoría de la performatividad posthumanista. El texto se estructura alrededor de fragmentos de entrevistas con mujeres diagnosticadas infértiles por el síndrome de Mayer-Rokitansky-Küster-Hauser y plantea demostrar cómo el cambio ético-onto-epistemológico de "cosas" a fenómenos materiales-discursivos abre posibilidades cruciales para el desarrollo de nuevas comprensiones de la infertilidad. Estas son capaces de superar las limitaciones de los abordajes biomédicos y sociológicos tradicionales.

**Palabras clave**

Infertilidad; Realismo agencial; Performatividad posthumanista; Síndrome de Mayer-Rokitansky-Küster-Hauser; Esterilización económica.

## Introduction

Infertility is not a new theme in feminist scholarship. Given the centrality traditionally ascribed to reproduction in normative models of femininity, several feminist authors (Thompson, 2002; Shanley & Asch, 2009; Guntram, 2018) have addressed the issue of involuntary childlessness over the decades, stressing, for example, how the essentialist notion of motherhood as necessary to womanhood characterises a source of particular suffering and stigma for women diagnosed as infertile. In recent years, however, issues of women's reproductive health have become increasingly prominent in feminist literature, particularly in the context of current debates about the political, economic, and cultural implications of the emergence of new reproductive technologies (e.g. Herrmann & Kroløkke, 2018; Schurr, 2018; Weinbaum, 2019; Lafuente-Funes, 2020). Some of these works have drawn on the contributions of feminist science studies and feminist new materialisms, exploring the multiple and complex consequences of these biotechnological apparatuses that hold the promise of techno-scientific "enhancement" of human reproductive functions (Adrian, 2015; Lam, 2015; Meskus, 2021; Helosvuori, 2021).

However, the strong focus of these studies on the workings of new technologies of assisted reproduction and on the transnational high-tech fertility industry developed around them has overshadowed a conclusion that, I argue, also follows directly from approaching questions related to bodily reproductive capacities from a perspective informed by the relational ontologies advocated by feminist new materialisms, namely: like fertility, *infertility is not an independent, strictly biological property inscribed a priori in human bodies*, but rather consists of a phenomenon performatively enacted through specific material-discursive practices.

With the aim of further exploring this argument and its rhizomatic reverberations, the present article proposes a reading of embodied experiences of infertility *through* Karen Barad's agential realism and *their* theory of posthumanist performativity (Barad, 2003, 2007). The text is structured around excerpts from interviews with women who have received a diagnosis of infertility associated with Mayer-Rokitansky-Küster-Hauser Syndrome (hereafter MRKH). The medical literature (Morcel et al., 2007; Friedler et al., 2015) defines MRKH as a rare condition of the female reproductive tract, characterised by the congenital absence of the uterus and of all or parts of the vagina, due to a failure in the development of the Müllerian ducts at the embryonic stage. The ovaries, external genitalia and secondary sexual characteristics are not affected by MRKH. The participants' accounts presented

here were produced in the scope of a doctoral research whose main objective was to interpellate the experiences of women with MRKH from a sociological perspective informed by feminist new materialisms. The empirical stage of this research involved semi-structured interviews with women with MRKH from three different nationalities (Brazilian, Portuguese, and Spanish) who were recruited from public groups and pages about the syndrome on social networks. The interviews were conducted online by the author through video calls between May and September 2020. The decision to conduct the interviews via video calls was based on convenience criteria as well as in response to the imperative of social isolation imposed worldwide by the COVID-19 pandemic. In this article we engage mainly with the testimonies of three of the participants: Marta, a 33-year-old Portuguese woman, and Larissa and Paula, two Brazilian women aged 34 and 46 respectively.[1]

The discussions I propose are animated by the central understanding that the ethico-onto-epistemological shift from "things" to material-discursive phenomena (Barad, 2007) opens up important possibilities for developing new understandings of infertility and human reproductive capacities that can overcome the limitations of both traditional biomedical and sociological approaches (Meskus, 2015; Helosvuori, 2021). In other words, I argue that agential realism, through its distinctive emphasis on entanglements and relationality over separability, provides a rich ontological framework and invaluable thinking technologies for the political-theoretical exercise of "thinking infertility otherwise".

The article is structured as follows: First, by evoking Paula's testimony as a point of departure, I seek to demonstrate how the traditional biomedical and sociologically informed positions on infertility, despite their seemingly irreconcilable differences, share a tacit affiliation to an ontology of the physical body that preserves spaces susceptible to appropriation by biological determinism. I also suggest that agential realism can be instrumental in complementing and advancing the post-structuralist critique of such previous approaches. Next, I propose a diffractive reading (Barad, 2007) of participant Marta's testimony through the quantum principle of ontological indeterminacy, from which I derive the foundations of an alternative way of thinking (in)fertility as a material-discursive phenomenon. The next section puts the previous theoretical formulations to the test through a detailed analysis of Larissa's accounts of her embodied experience of infertility associated with MRKH. At this point in the discussion, my efforts are devoted to exploring the complex material-discursive processes through which infertility in Larissa's accounts comes to matter in the double sense of becoming material and of ethico-political concern. Finally, the conclusion elaborates on the ways in which a reading informed by agential realism radically transforms widely shared understandings about what is "naturally" possible and impossible for bodies with MRKH.

## The limits of biomedical and social model-based readings

Paula, a 46-year-old Brazilian woman, recalls the moment when, as a teenager, she received the news of having MRKH. Interestingly, the focus of her story is not on the newly discovered rare congenital condition, but on the diagnosis of infertility that accompanied it:

> [i]t changed everything, everything, everything... [...] I wanted to get

[1] To ensure anonymity, participants were given fictitious names. All study participants provided written informed consent, and data processing was conducted in accordance with the General Data Protection Regulation (European Union Regulation 2016/679).

> married, I wanted to have children, and then, when you find out that you are not going to live these normal processes of everyone... Wow, that was death for me! God, infertility was the worst thing for me.
>
> *[Interviewer]* Infertility played an important role then...
>
> Very much so! It threw me to the ground! It was what made me suffer the most and from time to time it [*still*] makes me suffer […] How does a girl not cry when she finds out she can't be a mother? (Paula, personal communication, June 1, 2020).

This account exemplifies the dominant tone that permeates the interviewees' remarks about the reproductive limitations associated with the syndrome. Majoritatively signified as a source of profound suffering, infertility is also repeatedly understood by the participants as a fundamental obstacle to the establishment of lasting relationships and as an impediment to leading a "normal life" (Paula, personal communication, June 1, 2020).

Let us look closer at how medical discourse addresses the relationship between MRKH and reproductive capacity. Biomedical approaches focus on abnormalities of the female reproductive organs and identify women with MRKH as suffering from *absolute uterine factor infertility* (Heller-Boersma et al., 2009; Richards et al., 2019; Herlin et al., 2020), defined as "a form of infertility whereby conception and/or maintenance of pregnancy is impossible owing to uterine absence or dysfunction" (Jones et al., 2021, p. 138). Such an understanding is evident in the words of another participant who, at the age of 17, after an ultrasound scan, reports being told by a doctor "you don't have a uterus and you will never be able to become a mother" (Clara, personal communication, June 8, 2020). The same fatalistic tone is found in the account of yet another interviewee, a nurse with MRKH who refers to infertility as "that for which there is no solution" (Maria, personal communication, June 19, 2020).

From these statements, it is clear that the biological perspective that underpins medical discourse considers the reproductive capacity of bodies of women with MRKH in strictly causal, deterministic and universal terms: since the uterus is one of the main organs of the female reproductive system, and since women with MRKH have no uterus, it follows that women with MRKH are invariably infertile. Put differently, by defining the essence of infertility (the absence of the uterus), biomedicine defines infertility as an essence – as a biological limitation intrinsic to such bodies in all spaces and times, and responsible for condemning these women to the shared experience of "never be[ing] able to become a mother" (Clara, personal communication, June 8, 2020).

A sociologically informed analysis, in turn, would be devoted to considering the complex ways in which different sociocultural formations signify women's reproductive capacity, defining socio-historically particular ways of experiencing it. Such an approach, by "[focusing] on the productive intervention of cultural interpretation and the difference that context makes" (Kirby, 2017, p. x), would emphasise the inadequacies of strictly biological readings of infertility, accusing them of carrying out an undue universalisation of the condition and falling prey to pernicious biological reductionisms and essentialisms.

From the late 1960s and early 1970s, theorists and activists began to develop interpretations that, influenced by contributions from fields such as sociology, anthropology, and political sciences, sought to denaturalize and politicize the experiences of restriction and suffering traditionally conceived by medical discourse as immanent to certain bodily and biological attributes (Fontes & Martins, 2016). Among these proposals, the British social model of disability (henceforth "social model") has been particularly influential (Union of the

Physically Impaired Against Segregation, 1976; Finkelstein, 1980; Oliver, 1990). It offers insights that enable us to formulate a more complex and socially informed understanding of infertility, representing a powerful alternative to biomedical approaches both theoretically and politically.

A key feature of the social model of disability is the shift in focus it promotes: from corporeal traits to the social, political, and cultural aspects of constructions of health and disability, including the social norms that define certain physical characteristics as indelible marks of inferiority and abnormality (Minich, 2016; Geerts et al., 2022). One of the defining elements of this model is the influential distinction it makes between impairment and disability. Analogous to the sex/gender distinction of early second wave feminisms, the social model contrasts impairments, understood as natural and objective characteristics of individual bodies, with disability, defined as the social, environmental, and attitudinal barriers that prevent individuals with impairments from fully participating in society and relegate them to positions of abnormality and stigma (Shakespeare, 2004). Proponents of the social model will argue that a fundamental aspect of disability is the socially constructed meanings attributed to impairments, which underpin dynamics of social oppression and psychological suffering (Shakespeare, 1994; Barnes, 2012).

This analytical framework provides valuable starting points for non-essentialist approaches to the experiences of infertility of women with MRKH. Drawing on the social model and its distinction between impairment and disability, we can clearly see that the suffering and the psychological and social costs so present in our interviewees' accounts of being diagnosed as infertile are not natural and inevitable products of functional limitations per se, but rather the effects of social norms. Normative models of femininity promulgate motherhood and reproduction as the foundations of normal and desirable female subjectivity, thus relegating women with MRKH to the position of incomplete individuals. These normative models are responsible for converting a natural expression of human biological diversity (the impairment) into a "pejorative difference" (Braidotti, 2006, p. 130). The focus of political struggle, therefore, would be to transform these social norms, in order to change the current situation whereby women who do not conform to this reproductive imperative are considered abnormal. In other words, the social model of disability highlights that there is no necessary causal connection between the natural impairment present in the bodies of women with MRKH and the way infertility is socially experienced as a burden and a source of stigma.

However, despite its merits, such a reading does not seem to be radical enough in its effort of denaturalisation, in the precise sense that (to briefly refer to the famous Marxian definition of radicalism) it does not reach the roots or foundations of the problem it seeks to overcome, namely biological essentialism. This approach remains grounded in a dualistic mode of thinking, assuming a rigid separation between the natural and the social. Indeed, by focusing primarily on the norms that convert natural difference into social inferiority, the social model relegates organic properties and corporeal attributes to the condition of pre-existing, stable, and independent biological spontaneity, as opposed to the constructed, variable and relational character attributed to the historically specific structures of intelligibility that signify these bodily characteristics and shape the particular ways in which they are experienced in each context. That is, socially constructed infertility, on these readings, retains an ontological status apart from its construction, one that resides beyond the critical-analytical reach of the social model.

In recent decades, theorists influenced by post-structuralist perspectives have offered critical insights into the social model. These critiques have highlighted that the model's

dualistic and foundationalist character has left untouched the metaphysical underpinnings that sustain the biological determinism it initially aimed to challenge. Michel Foucault's work on the productive nature of power and its inseparability from practices of knowledge production has been particularly important in these efforts (Anders, 2013; Feely, 2016). Shelley Tremain (2005; 2015) uses Foucault's work to argue that impairment itself "is not a 'natural' (i.e., biological), value-neutral, and objective human characteristic or aspect of human existence that certain people possess or embody" (Tremain, 2015, p. 31), but rather is socially constructed; it is "the naturalised and materialised outcome of a classification initially generated in certain culturally- and historically- specific medical, administrative, and juridical contexts to facilitate normalization" (Tremain, 2015, p. 31). Drawing on Foucault's theorisations of the contemporary workings of biopower regulatory apparatuses (*dispositif*)[2] (Foucault, 1978) and Judith Butler's insights on how purportedly objective discourses about an ahistorical and pre-discursive biological body contribute to the performative materialisation of the very bodily 'facts' they claim to represent (Butler, 1993), Tremain (2015) advocates for a historicist and relativist feminist theory of disability. This new approach focuses on destabilising the premise that there is a pre-discursive bodily materiality beyond the reach of socio-political operations of power. Building on this reading, the author collapses the distinction between impairment and disability, affirming that

> [t]he idea that there is an ahistorical and prediscursive materiality of the body – that is, the very idea of a natural, material human body that exists apart from, and prior to, history and linguistic and social practices and policies, a body that can be immediately and transparently experienced – is itself the product of a certain historically-specific discourse about the human being (Tremain, 2015, p. 33).

The readings I propose in this article are intended to engage affirmatively with these previous post-structuralist contributions through the characteristic new materialist gesture of saying "yes, *and*" (Dolphijn & Tuin, 2012, p. 89). I believe that the insights of Karen Barad's agential realism, particularly its emphasis on the material dimensions of regulatory practices and their performative effects, can complement and advance the post-structuralist critique of previous biomedical and social model-based approaches.[3] This will allow for the realisation, within the context of a (new) materialist analysis of infertility, of Foucault's own objective of "show[ing] how deployments of power are directly connected to the body – to bodies, functions, physiological processes, sensations, and pleasures" (Foucault, 1978, p. 103). More specifically, I believe that agential realism can contribute to the effort of materially adjectivising post-structuralist arguments concerning the relational and historically constituted character of bodies and their properties, thus pointing directions for the

[2] Michel Foucault (1980) defines dispositif, often translated as apparatus, as a heterogeneous assemblage of practices responsible for subjectifying and subjecting individuals, placing them simultaneously in a field of intelligibility and in a matrix of power. In an often-quoted passage from a 1977 interview, Foucault characterises the concept as "a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions—in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements" (Foucault, 1980, p. 194).

[3] For detailed critical discussions of post-structuralist approaches within the field of critical disability studies from a new materialist perspective, see Siebers (2008) and Garland-Thomson (2011).

construction of a political-theoretical framework that enables us to understand the *matter* of infertility (i.e., reproductive capacities "themselves", and not only their meanings and cultural representations) as "always already an ongoing historicity" (Barad, 2003, p. 821).

With this in mind, I next undertake a diffractive reading of the remarks of a woman with MRKH *through* the quantum notion of ontological indeterminacy as theorised by Karen Barad (2007). A diffractive reading consists of a process of "reading insights through one another" (Barad, 2007, p. 25), which seeks to break the chain of repetition of "sameness" that pervades traditional processes of scientific knowledge production informed by the optical metaphor of reflection (Haraway, 2018). For Barad (2007), the most important aspect of the physical phenomenon of diffraction to be preserved by situated analytic practices concerns the co-constitutive nature of the movement of waves when they overlap or encounter an obstacle, giving rise to new combinations of waves – constructive and destructive patterns of interference. In the same way that waves do not mechanically reproduce "the same" when they interfere with each other or with obstacles, but relationally materialise something new (i.e. produce new combinations and patterns of diffraction), a diffractive reading promotes interferences between multiple ideas, data, and theoretical concepts, with the aim of observing how new insights emerge from these entanglements. Thus, by reading the remarks of participant Marta and the quantum notion of ontological indeterminacy *through one another*, I draw the basis of an alternative way of thinking about (in)fertility as a material-discursive phenomenon whose technological, political, economic, and social complexity makes any kind of biological determinism unsustainable.

## Theorising (in)fertility *through* agential realism

Marta, a 33-year-old Portuguese woman, was diagnosed with MRKH at the age of 17. She states that the most difficult aspect of the syndrome for her to accept – in her own words, what characterised the "greatest pain" (Marta, personal communication, May 30, 2020) – was the reproductive restrictions associated with the condition. In recounting her story, and that of other women living with the diagnosis of infertility, she makes a claim that seems to challenge widely held beliefs about the reproductive capacity of women with MRKH:

> [i]n cases of Rokitansky – it is a curious thing – we are infertile, but at the same time we are not (Marta, personal communication, May 30, 2020).

At first glance, this statement seems rather puzzling. After all, the biomedical understanding of the infertility of bodies with MRKH as an objective and empirically verifiable biological "fact" leaves little room for any attempt at relativisation, which gives the comment a paradoxical and counterintuitive character, something that Marta seems to recognise by qualifying it as "curious". Let us diffractively read Marta's statement *through* one of the pillars of agential realism, the quantum principle of ontological indeterminacy.[4]

In the realm of quantum mechanics, physical entities can display variable characteristics and properties depending on the experimental circumstances to which they are subjected. In the famous double-slit experiment, for example, electrons sometimes exhibit wave-like and sometimes particle-like behaviour, alternating their status according to the modifications made to the

[4] For a detailed account of the distinction between Werner Heisenberg's uncertainty principle (fundamentally an epistemic principle) and Niels Bohr's indeterminacy principle, see Barad (2007, pp. 115-118 and 261-269).

apparatus mobilised to observe them (Barad, 2007, pp. 97-106). Drawing on the earlier theorisations of Niels Bohr, Barad (2007) points out that such experimental results denounce the insufficiencies of classical individualist metaphysics, which postulates the existence of autonomous entities with inherent and observer-independent attributes and properties. For Karen Barad, "there are no inherently bounded and propertied things that precede their intra-action with particular apparatuses" (Kleinman, 2012, p. 80) – that is, the determination of the nature of an entity depends on the specification of the apparatuses used in the act of its apparent observation. The physical arrangements that characterise each experimental context play a productive role – or as Barad (2007, p. 31) puts it, a proto-performative role – vis-à-vis the objects they would purportedly only observe from a position of exteriority. Therefore, according to the indeterminacy principle, entities do not possess essential, stable, and pre-existing properties independent of their contexts; rather, the apparatuses at work in each particular context are responsible for locally resolving the ontological indeterminacy of objects.

By alluding to a certain ontological ambiguity of the bodies of women with MRKH, claiming that they are both *infertile and not infertile*, Marta points to the fact that bodily attributes and capacities are relational realities that take on variable configurations according to the contexts in which they are embedded, rather than inflexible pre-existing essences. In this framework, reproductive capacities and context are not seen as establishing a relationship of rigid exteriority. The former is inextricably entangled with their social surroundings and only reach their particular instantiations through intra-actions with socio-material agencies and practices that *prima facie* appear rigidly extracorporeal, such as technological, political, economic, and cultural factors. According to agential realism, such contextual factors are "apparatuses of bodily production" (Barad, 2007, p. 140), that is, in similarity to the experimental arrangements in the double-slit experiment, they consist of agencies that situatedly and temporarily resolve the ontological indeterminacy of bodies with MRKH, performatively materialising them as capable or incapable of reproduction. While the constitutive apparatuses at work in each context are not specified, such bodies cannot, strictly speaking, be unequivocally defined as fertile or infertile. To put it in distinctly Baradian terms: prior to the specification of context, *(in)fertility is an im/possibility of all bodies, a bodily virtuality on the verge of becoming/mattering.*

In short, what emerges from the exercise of reading Barad's theorisations and Marta's commentary *through one another* is an invitation to resist the temptation to ascribe to bodies properties that remain immutable, universal, and independent of the contexts and of the material-discursive apparatuses that produce them. Since bodies are always already part of/in changing contexts, their attributes will also be in permanent transformation, according to the intra-actions that are established in different circumstances. In this sense, attempts to identify their eternal essences (characteristics that would be common to them in all spaces and times) are seen as efforts limited by classical individualist metaphysics and its illusory belief in the ontological independence of the entities of the world. The reading conducted points to the fact that reality is not composed of individually determinate entities, but of phenomena, where "phenomena" are the "ontological inseparability of objects and apparatuses" (Barad, 2007, p. 128). Determinate entities (e.g. bodies and their predicates) do not precede relations, but emerge through and as part of relations.

With the aim of "weav[ing] flesh onto these theoretical bones" (Tuana, 2008, p.194) and testing the political-theoretical potentialities of these formulations, I proceed to analyse in detail the account of Larissa. My reading is animated by the following question: how

infertility in Larissa's accounts comes to matter in the double sense of becoming material and of ethico-political concern? To answer this question, the analysis attends to some of the material-discursive apparatuses – and their often overlooked lineages – that intra-actively produce the participant's body as incapable of reproduction, while also illustrating how new meanings, interrogations, and ethico-political implications emerge from these constitutive intra-actions. To put the point in another way, in what follows I attempt to show how the material existence of infertility (infertility "itself") is intra-actively enacted through the workings of material-discursive apparatuses of bodily production.

## Bodies (not only) of flesh and bones: doing infertility

Larissa, a 34-year-old Brazilian woman from the city of São Paulo, discovered she had MRKH in her teens. At the age of 15, her mother took her to a gynaecologist because of constant cramps and the absence of menstruation. That first visit was followed by three more, with different specialists, until ultrasound scans revealed the characteristic malformations of the syndrome. In line with many of the other interviewees, Larissa, while recalling the moment she received her diagnosis, emphasises how infertility became the main and most enduring source of suffering associated with MRKH:

> I could even "take" the syndrome, but the part of the doctor saying "You won't be able to conceive, you won't be able to have children" was the worst news I had. It was the biggest shock of my life! It is still the worst news. Just today I martyred myself. I said, "My God, why was I born this way? Why did God choose me to be born this way? Why did it have to be me?" (Larissa, personal communication, September 17, 2020).

To some, the fatalistic tone that permeates the interviewee's statements about the reproductive constraints associated with the syndrome may seem unjustified. These readers may point out that technological developments in recent decades have made it possible *for all women with MRKH* to achieve biological motherhood, thus overcoming an organic limitation that was previously thought to be inescapable. As Jones et al. (2021) put it, while "women with AUFI [*absolute uterine factor infertility*] who seek parenthood have – until recently – had no option but to change their reproductive plans and either accept involuntary childlessness or acquire parenthood through adoption" (p. 139), technological developments in reproductive medicine now offer these women the opportunity to have genetically related offspring through reproductive arrangements such as gestational surrogacy (an embryo is created through *in vitro* fertilisation using the intended mother's eggs and then transferred to a surrogate, who carries the pregnancy) or, more recently, uterine transplantation.

It should be stressed, nonetheless, that such a reading is not only marked by an unrealistic belief in the absolute efficacy of existing assisted reproductive technologies (a belief that is called into question by the modest overall success rates of these procedures)[5], but is also based on the assumption that they are equally available to all individuals. This view obscures the heterogeneity of the positions occupied by women diagnosed as infertile in different historical and socio-geographical contexts, which give rise to different conditions of access to infertility treatments. As Adamson (2009) points out,

[5] For example, a study of the outcomes of gestational surrogacy in Australia and New Zealand in 2014 indicated significantly low success rates: clinical pregnancies were achieved in 29.9% of the 157 gestational carrier cycles conducted that year, and live births occurred in only 22.9% of cases (Harris et al., 2016).

although around 9% of the world's population experience some form of reproductive restriction, only a small portion of this group have access to current conceptive technologies due to barriers arising from a wide range of factors, extending from religious and cultural issues to government regulations.

Therefore, although the technological conditions exist for women with MRKH to achieve biological motherhood, the mobilisation of these technologies does not depend on the voluntarism of a supposedly autonomous and omnipotent human Subject (such a humanist figure is inconceivable in Karen Barad's radically relational and posthumanist theoretical framework); on the contrary, a myriad of contextual forces operate in such a way as to create enormous obstacles to access to such technologies for large groups of people who could benefit from their use, thus directly affecting the real chances of these individuals to reproduce.

Informed by the agential realist conception that entities do not possess essential, stable, and ontologically isolable properties from the material-discursive agencies that define their situated conditions of possibility, I suggest that these restrictive contextual factors are best understood as apparatuses of bodily production that *situatedly and temporarily* resolve the ontological indeterminacy of bodies with MRKH, materialising them as incapable of reproduction. From this perspective, I propose to suspend the widely held belief that infertility is an essential characteristic of bodies with MRKH, in favour of a new reading that underlines the ways in which such a supposedly natural fact is produced through a wide network of material-discursive practices. More specifically, I claim that the infertility experienced by Larissa, far from being a fixed and non-relational biological essence determined by the congenital absence of the uterus, is a *socio-material phenomenon* – that is, it consists of a relational reality that is performatively and iteratively enacted through socio-historically specific intra-actions involving a multitude of heterogeneous agencies and practices.

A brief clarification of the particular conceptualisation of performativity to which I refer is essential at this point. On the one hand, I engage with Judith Butler's (1990) notion of performativity by affirming that infertility, like gender, is not a natural quality, but a reality that only comes into being to the extent that it is enacted through various practices (practices that claim to establish a relationship of rigid exteriority with an alleged "essential truth" to which they would report). On the other hand, I move away from poststructuralist linguisticism by emphasising that the productive potentials of performative practices are not limited to the level of epistemic structures of social intelligibility, but reach the bodies and their predicates in all their ontological dimensions – that is, the inability to have children is itself produced, and not merely its cultural meanings. Yet another departure from poststructuralist theorisations of performativity lies in the fact that I understand the agency involved in the processes of constituting bodies and their capacities as emanating from both human and nonhuman actants, thus overcoming the anthropocentrism that permeates, for example, Butler's gender performativity theory (Butler, 1990), in favour of a new materialist and posthumanist conception of performativity (Barad, 2003, 2007).[6]

[6] Karen Barad (2007, 2003) offers a "sympathetic but critical reading of Butler's theory of performativity" (Barad, 2007, p. 34). On the one hand, Barad credits Judith Butler for her proposal of a fruitful notion of performativity that "links gender performativity to the materialization of sexed bodies" (Barad, 2007, p. 34), which marks an important effort to "return to the notion of matter" (Barad, 2007, p. 61) in a theoretical context dominated by a pervasive tendency to attribute conceptual privilege to the discursive. On the other hand, Barad (2007) argues that the Butlerian elaboration of the notion of performativity (Butler, 1990, 1993) is limited in important ways by a certain anthropocentric bias, expressed in a focus given only to the processes of materialisation of

Having presented my theoretical premises, I proceed to illustrate such positions by analysing some of the material-discursive apparatuses responsible for producing the condition of infertility experienced by Larissa. In fact, one of the main aspects rendered invisible by discourses that uncritically celebrate an imagined universal availability of new reproductive technologies is the fundamental economic barriers that condition access to such techniques. Because they require multiple highly specialised health professionals, expensive drugs, and sophisticated laboratory infrastructure, medically assisted reproduction procedures tend to be extremely expensive, a factor that excludes economically disadvantaged groups from the possibility of benefiting from them (Shanley & Asch, 2009). At a global level, this is clearly expressed in the fact that poor and racialised women in the Global South are the least likely to access new reproductive technologies, despite having the highest rates of infertility due to factors such as disproportionate exposure to environmental pollutants and malnutrition (Weinbaum, 2019).

Larissa, who currently dreams of the possibility of achieving biological motherhood through assisted reproductive techniques, talks about the many difficulties she is facing as she tries to initiate a process of gestational surrogacy. In her testimony, she attributes fundamental importance to economic barriers:

> [t]his financial side is a huge obstacle for me [...]. At the moment we [*Larissa and her husband*] are struggling. I'm running an online fundraising campaign and looking for donations. We're trying to do that because we have nowhere else to get [*money*] from. We only have his salary. And we pay rent (Larissa, personal communication, September 17, 2020).

In this excerpt, we observe the interplay of several economic factors that reduce the interviewee's chances of initiating a gestational surrogacy procedure and, consequently, of achieving her dream of biological motherhood. Larissa is currently unemployed, so her husband's salary is the family's only source of income. The couple's financial difficulties are exacerbated by the fact that they live in a rented apartment, which leaves them with little surplus to pay the expensive fees charged by fertility clinics. In this context, motivated by her unwavering desire to become a mother, the interviewee resorts to third-party donations – which have so far proved insufficient.[7]

Later in the interview, Larissa emphasises:

> I have normal ovulation and so do the other girls [*with MRKH*]. We can have our biological child, [*but*] we can't afford it (Larissa, personal communication, September 17, 2020).

With this statement, Larissa promotes an important shift in relation to biomedical discourses that identify the determinants of infertility in anatomical-physiological

human bodies and to forms of human agency. But the agential realist proposal of a materialist and posthumanist notion of performativity is not limited to the obvious additive move of simply expanding the domain of possible agents of performative practices to include non-human agency. Karen Barad's approach is attentive to the fact that the very boundaries that separate the categories of "human" and "non-human" are performative, that is, they are contingent effects of iterative intra-actions (Barad, 2007). In this sense, Barad ultimately proposes a reworking of Judith Butler's concept of performativity "from iterative citationality to iterative intra-activity" (Barad, 2007, p. 208).

[7] Another Brazilian participant, who underwent a gestational surrogacy procedure in 2014, reported that the total cost of the procedure was 25,000 Brazilian reais. To put it in the context of the Brazilian economic reality, compared to data for the same year, this amount was 34 times higher than the minimum wage and more than 20 times higher than the monthly household income *per capita* of the country's population (Institute for Applied Economic Research, n.d.; Brazilian Institute of Geography and Statistics, 2015).

dimensions, pointing out how financial barriers play a key role in the materialisation of the reproductive restrictions of bodies with MRKH. Here, far from being a natural inevitability, infertility takes the form of an economically induced condition.

Such positions invite us to reconsider common understandings of the reproductive restrictions experienced by women with MRKH. Instead of biologised conceptions of infertility that define it as a monolithic and pre-existing natural fact, we are invited to consider the reproductive capacities of these bodies as relational realities that are inseparable from economic dynamics and class structures. Women with MRKH at the lower end of the socio-economic pyramid are significantly less likely to have children than more affluent women, not because of any anatomical-physiological characteristic that would "organically" differentiate them from the latter, but because they are less financially able to access medically assisted reproductive procedures. In the case of Larissa, unemployment, the accelerated impoverishment of the working class, the continued deterioration of wages and the rarefied prospects of stable employment are important material-discursive apparatuses that contribute to the iterative production of infertility. In other words, informed by a diffractive reading of agential realism's relational ontology *through* Foucauldian theorisations of the contemporary dynamics of biopower, it is possible to affirm that Larissa and many other women with MRKH who occupy disadvantaged positions in a matrix of socio-economic inequality are not, after all, naturally and irremediably infertile, but rather *economically sterilised.*

It should be noted, however, that the recognition of this important constitutive role played by economic forces in the relational dynamics that ensure specific conformations to the reproductive capacities of bodies with MRKH does not imply the identification of economic inequality as the sole and determining cause of the phenomenon of infertility. To do so would be to fall prey to the very same deterministic and monofactorial logic that characterises the biomedical readings that we set out to challenge in the first place. For Barad (2007), "causality is an entangled affair" (p. 394), a matter of how multiple intra-active apparatuses contingently stabilise the phenomena of which they are also a part; in short, it is a relational problematic that does not presume singular causes or determinisms. Let us analyse how such a model of complex and multifactorial causality is evidenced in Larissa's interview:

> [*surrogacy*] is very expensive. So, it's difficult for those who cannot afford it [...] And health insurance does not cover it, the Brazilian Unified Health System [*Sistema Único de Saúde, or SUS*] does not provide it – it's all an obstacle (Larissa, personal communication, September 17, 2020).

According to the interviewee, her dream of having a biological child is hindered by the combined action of several factors (e.g. financial constraints, lack of health insurance coverage and lack of availability of conceptive technologies in the public system), and not by any of these agencies taken in isolation. We thus perceive how economic variables do not exhaust the broad material-discursive apparatus at work in the case of Larissa, but rather intra-act with other socio-material forces and practices in complex ways. Borrowing Andrew Pickering's (1995) formulation, we see that infertility emerges from complex "dances of agency" in which no single actant "dances" alone.

Nonetheless, our reading would succumb to what Karen Barad (2003) calls a pervasive tendency towards "thingification" (p. 812) – the reduction of complex relations to things – if we were to analyse the apparatuses listed by the interviewee in the previous excerpt as mere fixed objects with self-evident limits. In order to move away from this reifying

simplification, in what follows I illustrate how the constitutive entanglements that instantiate the reproductive constraints experienced by women with MRKH involve a profusion of open-ended practices that extend far beyond any obvious boundaries. To do so, I start from an analysis of one of the actants mentioned by Larissa, the Brazilian Unified Health System (SUS).

The Brazilian Constitution of 1988 recognises that family planning, including access to conception assistance, is a right of every Brazilian citizen and a duty of the State, as part of a broad public health policy based on the tripod of universality, integrality, and gratuity (§ 7° of art. 226 of the Brazilian Constitution, clauses 1 and 3).[8] Nevertheless, several studies show that this right is limited to the formal level in the country. In practice, there are numerous factors that prevent women with MRKH who cannot afford the procedures in private clinics from accessing medically assisted reproductive techniques, such as gestational surrogacy, through the Brazilian public health system. These include: the public offer of a small number of techniques and limited to those of lower complexity, usually excluding *in vitro* fertilisation (Alfano, 2014); the existence of long waiting lists that can extend over several years, frustrating the needs of older women (Souza, 2014); the fact that, due to lack of resources, in the few public hospitals in the country that have the technical conditions to perform *in vitro* fertilisation cycles, it is often necessary to pay privately for the expensive drugs used (Souza, 2014; Corrêa & Loyola, 2015), etc.

Following Karen Barad's assertion that "intra-actions iteratively reconfigure what is possible and impossible" (Barad, 2007, p. 177), it can be argued that a precarious public health system is a socio-political force that composes the intra-actions that currently limit the horizon of what is possible, in reproductive terms, for many Brazilian women with MRKH. In the light of agential realism, long lines, poor hospital infrastructure, and scarcity of medical resources are not mere material realities completely detached from a body endowed with pre-existing reproductive characteristics, but rather actants that intra-act with economic and biological agencies so as to actively and repeatedly perform infertility as a natural attribute of Larissa's body.

However, as pointed out earlier, we cannot isolate the apparatuses of bodily production from the broad socio-material forces that locally conform them in particular ways – otherwise we would fall into reifications that would lead us back into the territory of classical individualist metaphysics. We must keep in mind that apparatuses are "themselves" material phenomena "produced and reworked through a dynamics of iterative intra-activity" (Barad, 2007, p. 230). Indeed, for agential realism, the apparatuses of bodily production are not only *material* in the sense that they have a concrete presence, but also because they are socially conditioned, always "reliant on a complex network of social and ideological practices" (Žižek, 2012, p. 935). In this respect, it is worth noting that the Brazilian Unified Health System is a complex relational entity (composed of buildings, medical equipment, information technologies, professionals of different fields and specialties, public policies, legislation, current medical knowledge, etc.), whose present configuration is woven by the workings of a wide network of social practices, ideological discourses and (bio)power dynamics.

For instance, it's possible to consider how the current precarious provision of reproductive

[8] The Brazilian Constitution states that it is a duty of the State to ensure that citizens have access to "all methods and techniques of conception and contraception that are scientifically accepted and do not endanger human life and health, with freedom of choice being guaranteed" (§ 7 of art. 226 of the Constitution, Clauses 1 and 3).

technologies in the Brazilian public health system locally crystallises a process of dismantling of the welfare state that has been promoted around the world by neoliberal political rationality over the last three decades (Brown, 2019). Through measures such as draconian austerity policies that limit state investment in public services, this rationality has rendered health systems in developing countries "moribund for the majority of their populations" (Wilbert, 2006, p. 3), paving the terrain for processes of marketisation.[9] As a result, health care, formally conceived as a fundamental social right, is turned into a commodity – "an area of private investment that must be managed to generate maximum profit for investors" (Sousa Santos, 2020, p. 20). In practice, this politically induced precariousness of public health systems – which goes hand in hand with the growth of lucrative health insurance markets and private fertility clinics – disproportionately penalises poor and racialised women with MRKH, depriving them of their only chance of accessing assisted reproductive technologies.[10]

But to adequately understand the complex intertwining of biopolitics, racism, and the current poor provision of assisted reproduction procedures in the Brazilian health system, we must travel more deeply into Brazil's and Latin America's history. Informed by what Nancy Tuana (2019) calls a "genealogical sensibility" (p. 3), this movement will enable us to attend to the lineages of values, concepts, and practices that ground present realities. In this sense, it is worth noting that the extremely precarious provision of assisted reproductive technologies in the Brazilian public system contrasts sharply with the extensive offer of contraceptive methods and technologies through SUS family planning programmes.[11] This contraceptive bias that structures Brazilian public policy related to reproductive health instantiates efforts that, especially since the mid-1960s (Scavone, 1998), have sought to prevent a feared "demographic explosion" in the country (Pereira, 2011, p. 61). This kind of biopolitical practice was not restricted to the Brazilian context; in fact, as the Cold War unfolded, and especially after the victory of the Cuban Revolution in 1959, various international institutions began to study the demographic situation in Latin American countries and to propose measures to control population growth (Felitti, 2008), motivated by the fear that an uncontrolled

[9] In Brazil, this type of neoliberal austerity policy has recently reached its paroxysm. In December 2016, a few months after the controversial impeachment of centre-left president Dilma Rousseff, the Brazilian Congress approved a constitutional amendment that imposed a ceiling on public expenditure for a period of two decades (Constitutional Amendment 95/2016, the "Expenditure Ceiling"). In real terms, government spending "was frozen (except for inflation indexation) for 20 years" (Grigoryev & Starodubtseva, 2021, p. 261). One year after the adoption of the constitutional cap on public spending, reports already indicated the severe impacts of austerity on basic social and economic rights in the areas of health, food security, and education, as well as its exacerbating effects on gender, racial, and class inequalities (Center for Economic and Social Rights et al., 2017).

[10] The entanglements of racism and poverty in Brazil are made clear in recent statistics: in the country, the average income of whites is at least twice that of blacks (Osorio, 2021). Although black people account for slightly more than 56% of the country's population, they represent 74.8% of those in the bottom 10% by income (Brazilian Institute of Geography and Statistics, 2022).

[11] The SUS currently offers a broad variety of contraceptive methods and technologies, ranging from the simplest (spermicides, diaphragms, male and female condoms, emergency pills, etc.) to more complex and/or invasive methods (copper intrauterine devices, etonogestrel subdermal implants, combined oral and injectable contraceptive hormones, progestin-only contraceptives and medroxyprogesterone acetate injections, female sterilisation and vasectomy) (Rodrigues & Carneiro, 2022). Regarding the sources of the various contraceptive options, while private pharmacies are the main source of hormonal methods (pills and injections) and condoms, the SUS health services are the main providers of more complex and invasive methods, such as sterilisation and copper intrauterine devices, which are used respectively by 21.8% and 1.5% of the total Brazilian female population aged 15-49 (Brasil, 2010).

demographic explosion in the region could lead not only to negative economic and social consequences, but also to the creation of "a fertile field for communist agitation" (Pedro, 2003, p. 242).

This understanding of Latin America as a demographic bomb (Pedro, 2003) is in turn aligned with broader discursive framings that locate lack of fertility in the Global North and hyperfertility in the Global South, whose roots date back to colonial biopolitics (Schurr, 2017). As Edward Telles (2014) puts it, since colonial times, elites in Latin America have been preoccupied with the idea that their often large, non-white populations could impede national development, an imaginary fed largely by "contemporary scientifically endorsed ideas of biological white supremacy" (Telles, 2014, p. 17). These racist imaginaries have proved resilient to the decline of colonialism as a socio-economic form in the region, and are incorporated into a variety of contemporary institutions and material-discursive practices: from speeches by then-congressman Jair Bolsonaro in the 1990s and 2000s, advocating "strict birth control" to prevent the proliferation of the poor in Brazil,[12] to the aggressive campaigns of forced mass sterilisation in Peru between 1996 and 2001, targeting poor, rural, indigenous Quechua-speaking women (Carranza Ko, 2020). Interweavings of here and there, now and then, deciding which bodies matter and which bodies should not come to matter; entangled processes of *infertility-and-race-and-colonialism-and-MRKH-and-geopolitics-and-neofascism-and-genocide-in-the-making*.

Thus, an agential realist perspective, by attending to the material-semiotic entanglements responsible for weaving the precariousness that characterises the current public offer of new reproductive technologies in the Brazilian context, allows us to visualise how global political-economic dynamics and historical biopolitical processes, seemingly external to the embodied experiences of women with MRKH, intra-act locally and contribute to the materialisation (and iterative re-materialisation) of the reproductive restrictions experienced by Larissa and other women with MRKH.

Furthermore, this tracing of the paths that materially connect the currently hegemonic political-economic rationality and the reproductive capacities of situated bodies creates the epistemic conditions for the formulation of new interrogations that, I believe, can contribute to efforts aimed at challenging the ongoing neoliberal destruction of public services that are vital to subalternised populations in countries around the world. I suggest that at a time like the present, when a global pandemic is dramatically revealing the catastrophic effects that decades of neoliberal hegemony have had on public health systems all over the world (Sousa Santos, 2020), questions such as "how does neoliberalism differentially inscribe marks on gendered and racialised bodies?" or "what are the bodily effects of fiscal austerity policies?" are not only theoretically provocative, but also politically urgent. In this sense, I suggest that the contributions of agential realism complement previous theorisations by enabling us to think of neoliberalism not only as a set of economic policies, a hegemonic ideological project (Harvey, 2005), a political rationality (Brown, 2019), a form of governmentality that underpins contemporary processes of constitution of subjects (Foucault, 2008) and psychic suffering (Safatle, 2022), but also as a material-discursive apparatus of bodily

[12] As a congressman in 1992, Bolsonaro declared: "We must adopt a strict birth control policy. We can no longer make demagogic speeches, just demanding government resources and means to assist these miserable people who proliferate more and more throughout this nation." More than a decade later, in 2008, he added: "There is no point in even talking about education because the majority of the people are not prepared to receive education and will not be educated. Only birth control can save us from chaos" (Paula & Lopes, 2020, p. 38).

production.

## Conclusion

Based on the diffractive reading of the interviewee's testimonies *through* agential realism, it is possible to claim that infertility does not exist in bodies with MRKH as a brute fact independent of social relations. Indeed, in the course of our analytical-argumentative trajectory, we observed that the reproductive restrictions experienced by the study participants cannot be reduced to a mere monolithic biological facticity – as defined by biomedical readings and implicitly endorsed by traditional sociological readings based on the social model – but rather must be understood as a practice. In the light of agential realism, the infertility experienced by Larissa and many other women with MRKH takes the form of a complex socio-material phenomenon that is iteratively performed as essence by contextual intra-actions established between a variety of heterogeneous material-discursive agencies, including unemployment, long-standing structures of economic inequality, class asymmetries, state neglect, neoliberalism, austerity policies, precarious public health systems, racism, and biopolitics.

Fundamentally, this new relational and processual understanding of reproductive capacities rearranges the horizons of what is traditionally considered "naturally" possible and impossible for bodies with MRKH. The "natural" is conceived here as a realm with viscous and porous borders (Tuana, 2008), which relates to and transforms itself with other human and non-human elements. The natural no longer denotes given, fixed, and ahistorical realities, but ontological conditions that are temporarily established through various intra-actions. Such intra-actions, involving multiple material-discursive apparatuses of bodily production, are implicated in the enactment of agential cuts responsible for differentially demarcating the natural from the constructed, the essential from the contingent. In this framework, the perpetuation of the infertility of a body with MRKH is seen as dependent on its constant iteration, which takes place through the action of a specific set of apparatuses of bodily production. This fundamental iterability, as in Judith Butler's (1990) theory of gender performativity, creates an opportunity for rupture and transformation.

Thus, since infertility is not a biological inevitability, it is worth asking: what practices, concepts, power structures, discourses, and histories are responsible for the production and reproduction of infertile bodies?

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## Author information

**Caynnã de Camargo Santos**
ORCID: 0000-0003-4069-1363
caynnasantos@ces.uc.pt

Caynnã de Camargo Santos holds a PhD in Sociology from the University of Coimbra (Portugal) and a Master's degree in Philosophy (obtained in the Cultural Studies program) from the University of São Paulo (Brazil). Currently, he is a researcher at the Centre for Social Studies of the University of Coimbra, where he is involved in the project "ENGENDER: Gender mainstreaming in curricula and pedagogical practices in Portuguese Public Universities". His research interests include poststructuralist feminist theories, sociology of the body, feminist new materialisms and agential realism.