

Of Mobiles and Menses: Researching Period Tracking Apps and Issues of Response-Ability

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ABSTRACT This article is an attempt to identify and reflect upon the accountabilities and practices that arise from my research on menstrual apps. Employing Haraway's concept of multispecies response-ability and drawing on the field diary that accompanied the research process, this text can be situated somewhere in between auto-ethnographical exploration and theoretical reasoning of how to determine responsibilities and implement ethical responses. After a short introduction of multispecies response-ability and period tracking apps, I pay close attention to my affective and sensory perceptions during the fieldwork. I then identify concrete practices of response-ability and acknowledge the limitations I have encountered in the field. Finally, I briefly draw on the figure of the cyborg to conceptualise the complex intertwinings of bodies and technologies.

INTRODUCTION

Period tracking or menstrual apps (applications) are software programmes that can be installed on mobile devices such as smartphones to track menstrual cycles and associated symptoms and signs. Researching period tracking apps means engaging with humans and mobile phones as well as with their respective blood and data flows. Since this represents an intimate endeavour, the article is an attempt to identify and reflect upon the accountabilities and practices that arise from my research on menstrual apps. Therefore I draw on Haraway's (2012) concept of 'response-ability' which I believe to be particularly useful for various reasons: first, it allows for a focus not solely on responsibilities but also guides the identification of practices of response. Second, my research is situated in a similar field, at the intersection of the biomedical/technological and the social sciences. Third, the concept of response-ability does not only support the bridging of disciplinary boundaries but also of national borders since my research takes places in Austria and Spain. Moreover, the concept helps to overcome binaries such as object/subject or physical/emotional divides that would hinder a more thorough conceptualisation of the interactions and accountabilities present in my fieldwork. Since Haraway's con-

cept focuses on processes, I understand and apply response-ability not solely as a theoretical framework but also as a methodological approach. As part of this approach, I try to follow the structures and styles of her essay. Thereby, the work I present here aims to be a story situated somewhere in between an auto-ethnographical exploration and theoretical reasoning and does not always follow the classical structure of an academic text. By doing so, I hope to make this article a little more accessible and thus a practice of response-ability.

My story starts with a description of Haraway's (2012) conception of response-ability and then briefly introduces my research. In the following sections, I try to identify response-abilities through two main approaches: first, I rethink and re-live through the research process and identify the main emotions and sensations I have encountered in order to grasp how relationships between the researched and the researcher are being established. Second, I focus on touch and how different types of touch are involved in the formation of bondings between menstrual app users, mobile phones and myself. Then I try to identify actual practices of response-ability as well as their limitations. Finally, I briefly draw on the figure of the cyborg to conceptualise the complex intertwinings of bodies and technologies. Following Haraway's un-

derstanding that our response-abilities are ‘permanently unfinished’, this text can only be uncompleted and hopes to invite its readers to further engage with the issues it rises (Haraway 2012: 311).

MULTISPECIES RESPONSE-ABILITY

In *Awash in Urine: DES and Premarin® in Multispecies Response-Ability*, Donna Haraway (2012) links personal experiences of using synthetically produced oestrogens with their history of scientific development and administration. Paying close attention to the different kinds of species involved in these processes and their intertwinings across spatial and temporal boundaries, she calls for ‘a praxis of care and response’ and elaborates the concept of ‘multispecies response-ability’ (Haraway 2012: 302).

The notion of response-ability can also be found in earlier works of the author as a result of her efforts to develop an alternative to conventional research ethics procedures and principles which usually pass on responsibilities to ethic committees and are often reduced to human centred practices such as signing of consent forms (Haraway 2008). In *Sharing Suffering: Instrumental Relations between Laboratory Animals and Their People* in Haraway’s book *When Species Meet*, response-ability emerges directly from research practice, from the relationship between the researcher and involved significant others of all kinds focusing on the performative, bodily-sensory, affective as well as intellectual nature of these interactions. For her, response-ability lies in ‘practices and imaginative politics of the sort that rearticulates the relations of minds and bodies’ of all kinds of beings and apparatuses involved in the research endeavours and at all times of the scientific undertaking (Haraway 2008: 89). Response-ability aims to be a species-inclusive, practice-based approach that gives researchers the possibility to identify their accountabilities and react to always specific situations. Rather than calling for an end of all suffering, it acknowledges the suffering of others as a result of our being but seeks for ways of minimising it.

Multispecies response-ability can be seen as a further development of response-ability, extending the scope from laboratories to a wider context including private realms, thus addressing bigger audiences. As mentioned above, the

concept recognises the manifold linkages and intertwinings of different beings not only across spatial but also across temporal boundaries by being attentive to their stories and histories. However, its emphasis does not lie on the overwhelming amount of questions and interrelations that are likely to result from this extensive examination but on the details of such stories because ‘[t]he details link actual beings to actual response-abilities.’ (Haraway 2012: 312).

In particular, Haraway traces the urine spots of her dog back to the origins of the synthetically produced oestrogens Diethylstilbesterol (DES) and Premarin. The exploration starts when Haraway’s twelve-year-old dog receives DES for treatment of urinary leakage. As a result of the ambiguous situation of bringing into compliance feminist aspirations with physiological states and associated societal norms, the author experiences what she calls ‘acute DES anxiety syndrome’ (Haraway 2012: 303). This leads her to investigate the history of the compound and to identify the beings involved in its scientific development, production and application. Haraway maps out scientific negotiations on the effectiveness and field of application of DES, its paths from non-human beings to human beings and back, and points out the structural and affective contexts of this story of genetic engineering and exploitation. Throughout this journey, she visibilises the manifold kinships that result from these processes as well as the resulting response-abilities.

Urine is also the critical liquid concerning the second oestrogen the essay focuses on: Premarin. Extracted from the urine of pregnant mares, Premarin is a mix of oestrogens often used to treat symptoms during menopause, for which it has also been used by Haraway herself. This time it is the feeling of shame for not having been aware of the related suffering of horses that leads her to explore the history of Premarin and her accountabilities. Premarin’s story is in some ways similar to the one of DES, since it is also a story of genetic engineering, exploitation and resistances of human and more-than-human bodies.

For Haraway, ‘accountabilities are extensive and permanently unfinished’ (Haraway 2012: 311). Response-abilities should be viral in the sense that they spread changes in practices across species in order to initiate an ‘epidemics of multispecies recuperation’ that represents the

process of utopia the author imagines (Haraway 2012: 311).

MENSTRUAL APPS

Period tracking applications or menstrual apps are new technological developments that encourage their users to regularly engage with their periods via smartphones or other mobile devices such as tablets. They do not solely represent digital versions of menstrual calendars but support observation, analysis and interpretation of a plethora of physical and mental states as well as behavioural patterns associated with menstrual cycles. Among the symptoms and signs that can be tracked via these apps are menstruation dates, mood swings, pain, sex life, intake of medication and contraceptives, vaginal discharge, food cravings and exercise. Moreover, some apps provide medical information and facilitate interaction between users and healthcare professionals, other users or partners. Based on the data entered by large numbers of users, they create individualised menstrual histories and predict future menstruation dates and fertile windows.

Menstrual apps are a subgroup of health-related applications and thus form part of one of the most dynamic and rapidly growing developments within the healthcare area (Research2 Guidance 2016). In 2016, as many as 200 million downloads of period tracking apps were estimated (Dreaper 2016). Tracking periods via smartphone apps is not a novel development but rather represents the latest innovation in a long series of (self-)monitoring of menstrual cycles which included tools such as paper calendars, cycle calculation and conception discs, birth control chains and first computerised personal fertility advisors¹. However, given the specificities of mobile phones and apps, some considerable differences to earlier monitoring devices and methods arise. Following Goggin (2011), it can be argued that the ubiquity and intimacy of mobile phones and thus also of menstrual apps, supported by their relative affordability (apps can be downloaded at no or low cost once you have a mobile device such as a smartphone or tablet) and easy handling, incisively broadens access for people at both, spatial as well as temporal scales (Goggin 2011). Through the social competences of period-tracking apps, such as the possibility provided by some apps to share and

compare menstrual cycles, menstrual data are rendered accessible to larger and different groups of people. This ubiquity and intimacy enables new levels of (self-)control and (self-)surveillance (Lupton 2015). The digitisation of periods via menstrual apps also fosters the collection of big menstrual data. This might lead to changes in how we conceptualise and research menstruation, who is investigating and who participates in these studies (boyd and Crawford 2012). Thus, while menstrual cycles might become more visible and more thoroughly studied, pre-existing structural inequalities are likely to be reinforced and new disparities such as the digital divide concerning technological access and knowledge as well as availability of the collected information might increase.

VIRAL RESPONSE-ABILITY: ON BEING INFECTED

The research I draw on here focuses on the use of menstrual apps. From a feminist perspective and employing qualitative interviews in Austria and Spain, the project aims to better understand period tracking app users' experiences, opinions and expectations and to investigate how related discourses and practices influence the conceptions of menstrual cycles, (digital) bodies and gendered identities.

Employing Haraway's concept of multispecies response-ability, I want to identify and reflect on the accountabilities that arise from the research I am carrying out on menstrual apps. In order to do so, I let myself be infected by the 'bodily ethical obligations' pointed out by the cyborg author (Haraway 2012: 311). Drawing on the field diary that accompanies the research process, I start by paying attention to my sensory and affective perceptions during the interviews. Then, I focus on the practices I have employed to get in touch with my research participants. This includes thinking about relevant connections to beings from 'out-of-the-way places' and exclusions I have created (Haraway 2012: 311).

While urine connects all kinds of actors and stories in Haraway's essay, the liquid of choice in this paper is menstrual blood containing pieces of uterine lining, a sometimes viscous, sometimes runny fluid no less stigmatised. Oestrogens do play a role in my research too, since

they are often employed – in combination with other hormones (such as progestins) – as substances for controlling, regulating and shutting down the blood flows so important to me. However, the focus here is on menstrual apps, which also often serve to control blood leaks but provide options for joyful self-exploration at the same time.

FLOWS OF DATA, BLOOD AND FEELINGS

After a short but intense initial phase of identifying my research interest and reading the important but scarce literature that has been published in the context of feminist mobile app investigation, I start the fieldwork. As a trained molecular biologist, most of the practices I carry out are completely new to me. However, my supervisor, who is a senior researcher, guides me safely through the process.

Before my first field trip to Vienna, Austria, I have to get the permission of my university's ethics committee and to comply with the norms of the GRACE project² I am part of. It irritates me that a university in a specific place (that is, the University of Granada) can actually approve research somewhere else (in this case, Vienna). However, my irritation is soon overpowered by feelings of stress and fear of failure: the fear not to find participants for interviews on menstrual apps in time or not at all, the fear to forget to ask important questions, the fear of not being prepared sufficiently, the fear of silences and the fear to interrupt them. Stress is holding tight my chest, climbing up my throat, opening my eyes in the middle of the night. At the same time, I am excited to go to the city where I have been living for a decade, the place that feels most like home to me. Eager to start the interviews, to listen to my participants, to get a kind of confirmation that there are answers to my research questions out there, I leave Granada and fly to Austria. Being there feels familiar and strange at the same time. Often, when I come back to places that I know well, I realise that something has changed, but I am unable to tell whether it is the place or me that has changed, or both of us. It feels like almost coming home. Like a beloved person who I have not seen in a while, Vienna seems to be an excellent replicate of what I used to know. I go to my flat which I have left behind as if I had gone on a weekend trip instead of moving to another

country, dirty dishes in the sink. I try to strip off all the Andalusian habits I have acquired through hard work in the preceding four months (look long into the eyes of your interlocutor, kiss everyone on the cheeks to say hello and goodbye, touch them occasionally, never criticise the Spanish cuisine etc.) and get back into my Austrian version (do not look too long into people's eyes, do not touch anything or anyone just like that, shake hands and wait if the person comes closer for a kiss on the cheek, say 'maybe', 'probably' and 'rather' as often as possible etc.).

During the following days, I manage to conduct the first qualitative person-to-person interviews with menstrual app users I have recruited via social media platforms. After the first interview I am impressed by the amount of intellectual and emotional labour it requires. The unfamiliarity of the situation, the hot and moist summer climate, the insecurity of some of the interviewees makes me sweat, feel uncomfortable, feel insecure myself. Conducting interviews seems to imply having to build a bond within minutes, being verbally intimate for about an hour and then let go again.

As a human being interviewing human beings, I am engaging with my own kind here. As menstruators we seem to share similar experiences, we appear to be close. And still, there are so many differences between us, little details and larger events that divide us. Often, we find a common language that helps to bridge the gap between us. Together we identify menstrual stories that most of us menstruators have experienced in one way or another: stories and family histories of pain, anecdotes of leakage and shame which we cover with loud laughter. Laughter eases the burden, takes away the pressure of being in this unequal situation of the interviewer and the interviewee. And then, suddenly, it returns: my authority as the biologist, the researcher, the one who is supposed to know. Is their menstrual cycle is 'normal', they ask, talking to the supposed expert for menstrual apps and periods. In these moments my words feel inappropriately heavy, often I escape by changing the subject. Then, afterwards, I am insecure if I have done the right thing. On occasion, I tell them my own story with the attempt to turn the interrogation into a conversation. Sometimes my significant other is surprised, other times they do not have time or interest, often they have

come to tell their stories and not to listen to mine.

A couple of months later, I return to Vienna. This time my former flat is rented out, the dishes are clean and stored away. After having transcribed the first interviews I am confident. I have smelled blood, and I want more. Before arrival, I have put several adverts on social media sites, student platforms and I have asked most of my Viennese friends to help me track down more app-using menstruators. I feel more experienced, and the joy of hearing all those different and somehow intertwined stories outweighs the stress and work this approach entails. At times, participants seem to want to tell me a different story, one of a loss or one of disease. I am not sure whether it is more difficult to listen to those stories or to try to get them to answer my questions, thus not giving them the space and time they are asking for. Within these intimate conversations from menstruator to menstruator I find it difficult to draw a clear line between me and the significant other.

In autumn of the same year I am ready to continue my fieldwork in Granada, Spain, which is the city of extremes to me: the city of cold winters and relentlessly hot summers, the city of the smell of orange blossoms and leftovers from bachelor ette parties, the city with an impressive history where many young people are afraid of their futures. My supervisor helps me to identify participants and the fear of failure returns with the first meeting arranged: fear of not speaking Spanish well enough, fear of not understanding what interviewees say or what they mean, fear of cultural differences that might make it impossible to establish the one-hour-relationship that I need so urgently. During my first interview I am stuttering, fighting my way through grammar and vocabulary. My first counterpart is supportive, comforts me, repeats the parts I have not understood the first time. Again, we try to find a common language. With every interview the stress decreases, I try to dig deeper, to carefully explore the limits of my participants. In later interviews, other doubts arise: interviewees tell me of severe symptoms they experience and of incidents of violence. In these moments, I feel overwhelmed, caught in between the urge to get involved, the fear of not having the means to help, the wish to protect myself and the concern not to respect their resistances by medicalising their experiences.

Following Haraway (2008, 2012) and her conceptions on ethical research practice, it is the affective as well as corporeal sensations that lead me to identify my accountabilities here. Like the fictional animal caretaker who puts his arm into the laboratory rat's cage or Haraway herself who describes the feelings associated with oestrogen intake, my attempt is to determine and name the feelings that make me accountable and link them to practices of response. Fear, doubt, stress, irritation, pain, insecurity, joy and shame are the most relevant sensations for me. As Blackman, Ahmed and other affective turn scholars have pointed out, affects circulate between bodies and worlds (Blackman 2012; Ahmed 2004). I want to argue here that affective-corporeal sensations are transmitted between me and my counterparts to help establish menstruator to menstruator kinships. However, they are not the only elements that flow from being to being. Exploring the relationship between material and data-generated bodies, Smith combines conceptions of embodiment and datafication with affective turn literature (Smith 2016). For him, digital data flows embody the character of affect precisely because they pass from body to body, being 'created by and creators of embodied/unbodied affects.' (Smith 2016: 113). Thus, I believe that just like affective-corporeal sensations, data flows holding information on blood flows circulate from menstruators to menstruators to menstrual apps to menstruators and strengthen our multispecies kinships.

GETTING IN TOUCH

In *Awash in Urine*, Haraway mentions touch as one of the acts or even connection states between beings to establish and spread processes of response-ability (Haraway 2012). The exploration of touch and its consequences also plays a significant role in former works of the author (Haraway 2003, 2008). In *When Species Meet*, Haraway examines what it means to touch her dog and - in a similar manner to the oestrogen intake in *Awash in Urine* - the act of touching leads her to explore stories of co-evolution, animal testing and bioengineering (Haraway 2008, 2012). For the author, touch is a practice that 'ramifies and shapes accountability.' (Haraway 2008: 36). By establishing meaningful connections between kinds, touch shapes obligations and opens up possibilities for response.

Touch plays an important role in the research and conceptualisation of interactions between humans and mobile technologies. Based on theories of embodiment, affect and video ethnography, the authors of *Tactile digital ethnography: Researching mobile media through the hand* develop an ethnographic approach that understands the use of mobile devices as an affective and corporeal, sensory undertaking (Pink et al. 2016). As a crucial element in our everyday lives with mobile media, Pink et al. conceptualise the hand as a research tool that allows us to better grasp users' experiences. However, hands are not the only organs with haptic qualities, relating to the sense of touch, the authors point out that eyes also serve as organs of touch, a feature termed '*haptic visuality*' (Pink et al. 2016: 243, italics in original).

In the interviews I carry out with menstrual app users, I can identify many moments and different kinds of touch. In almost all of the cases, I contact participants via digital media, i.e. WhatsApp or Facebook messages, thus establishing first interactions via interviewer-mobile phone - mobile phone - interviewee connections.

When I touch my mobile phone with my hands and eyes in order to get in touch with potential interview partners and they manually and visually touch their devices to respond, we establish an affective as well as sensory, bodily connection. Following Lupton, who argues that digital technologies and users are mutually constituted and who understands contemporary bodies as digital data assemblages, I want to argue here that my ties to my interviewees are direct, fleshy ones, since the borders between our bodies and mobile phones are fluid (Lupton 2017).

In case that the participants and I decide to meet in person for an interview, additional linkages through touch add to the existing ones. Depending on the sociocultural context and individual preferences, we touch cheek-to-cheek, hand-to-hand, eye-to-eye, hand-to-shoulder when we meet. Drawing on Haraway's concept of companion species, Lupton suggests the application of the multispecies ethnography approach developed by Kirksey and Helmreich in order to research the intertwinings of co-evolving humans and digital technologies (Lupton 2016). Following Lupton, I ask the interviewees to show me (that is touch or even more intimate, let me touch) their mobile phones with the at-

tempt to interview them as the human - technology - digital data assemblages they are for me (although interviewees might disagree).

Interestingly, on the interview recordings that I transcribe, human voices are not the only ones to be heard. Since participants' mobile phones are often close to the audio recorder, interfering noises that drown parts of the human to human conversations are common results of machine-to-machine talks taking place during the interviews. I understand them as important elements of the interviews, as they acoustically prove the presence and agency of data flows or mobile devices.

Frequently during the interviews and even more intensely during transcription and analysis, another form of touch comes into play. Whilst most participants might not think much of the interviews anymore, I get in touch with them again through paying close attention to their stories. This time it is a kind of intellectual touch, I am touched by their choice of words and language, by their voices, by their experiences and creativity. In *When Species Meet*, Haraway speaks of cognitive touch and points out her interest in 'language touching human and non-human animals.' (Haraway 2008: 234). In my case it is the language of humans and digital devices that touches me, another human.

There is one more point of contact that I have yet to explore. Through the academic articles and more-than-academic interpretations I am working on, I hope to get back in some kind of touch with at least some of the participants and hopefully other significant beings. Depending on the format of these productions, this will hopefully include affective, visual, intellectual and maybe even olfactory forms of touch.

Going back to Haraway's conceptions, I believe that it is all these kinds of being touched by and touching of significant others that make me as well as others involved accountable here, although not to the same extents depending on our differences (Haraway 2012).

PRACTICES OF RESPONSE

If I am accountable, what do practices of response-ability look like? In the two previous sections, I have tried to identify the affective and sensorial perceptions which give rise to accountabilities. Here, I want to focus on how these feelings and sensations lead to practices of response-abilities.

Irritation about the process of ethical approval at the University of Granada leads me back to the insufficiency of institutionalised moral standards. The stress and fear of failure I felt reminds me of the place and time I am part of: the university and thus a place of knowledge production and power within a neoliberal context where time seems to have become a scarce resource. Being understood by the participants as an expert or authority mirrors the specific power positions the medical and natural sciences adopt within these networks. All these sensations help me to maintain a certain scepticism towards the machinery I am more and more part of with every day that passes, the system that feeds me and that gives me so much pleasure.

However, more important to me here are the feelings I shared with my participants: menstrual shame and pain, fears of bloody leakage as well as joy and fascination for our bodies. In *Affective Economies*, Ahmed argues that 'emotions play a crucial role in the "surfacing" of individual and collective bodies through the way in which emotions circulate between bodies and signs.' (Ahmed 2004: 117). Coming from a marxist, psychoanalytic perspective and drawing on Judith Butler's concept of performativity, Ahmed points out that emotions 'create the very effect of the surfaces or boundaries of bodies and worlds.' (Ahmed 2004: 117). The author analyses different examples of hate narratives in contemporary British society and demonstrates how certain political groups and individuals use discourse of hate to mobilise their society against immigration: 'Together we hate, and this hate is what makes us together.' (Ahmed 2004: 118). As mentioned above, I want to claim here that feelings, both sensory and affective, can circulate between beings. They make us touch each other and thus create collective bodies or kinships that mobilise in ways that are based on accountabilities and practices of response. Together we leak blood and data and this leak is what makes us together and accountable.

Focusing not solely on my response-abilities, the interview questions aim to infect my counterparts, raising awareness on power relations, (gender) inequalities as well as to encourage them to reflect on their agency and limitations concerning menstrual app use. Amongst other questions, they are asked to think about data sharing and associated issues of privacy and security as well as processes of normalisa-

tion, medicalisation and resistances they might be part of. I also ask for the time my partners required to enter and track menstrual data which sometimes leads to reflections on digital unpaid labour. Further, questions on wider contexts of mobile phone production cycles, trying to track blood and data flows to out-of-the-way places of ecologically harmful practices of extraction, exploitative working conditions and shameful waste management are included.

Asking my significant others for feedback and documenting their contacts to send future articles of the research to those who are interested, represents another practice of response-ability to me. With the aim to go beyond academic outputs, I recycle the interview transcripts to write poems and shoot short films which hopefully will find their audiences³. The field diary that turns out to be an important document for the writing of the present article, also appears to be crucial for tracking changes in my perspectives and practices through the beings I encounter. It helps me to better understand my processes of 'becoming-with' as a researcher and accountable being amidst my menstruating kin and to be more transparent concerning my ideologies and techniques and developments (Haraway 2012: 303).

MENSTRUATING CYBORGS

Reflecting on my sensations as well as the ones of significant others during the research process and trying to identify moments and possibilities of touch, the attempt of the present paper is to determine accountabilities and practices of response-ability. For that purpose, I draw mainly on my field notes and affective, intellectual and corporeal memories. Although I try to reach beyond human-human relationships in order to identify multispecies response-abilities, the accountable actors and practices that I manage to define are limited. The present paper largely does not pay attention to the material and ideological origins of menstrual apps and mobile devices. Although I agree with Haraway that specificities are essential, I am convinced that asking the big questions, that might lead to 'more and more openings and no bottom lines', matters (Haraway 2012: 312). Being response-able includes the identification of other beings' obligations, such as the accountabilities of hardly tangible coders, developers and designers in this

specific case. Moreover, I struggle with the task of assigning accountabilities to non-humans or my barely delimitable non-human parts. In many situations, I feel human only and alone with all my responsibilities. I assume that the main task is to pay attention to how our co-evolution with beings of all kinds continually influences accountabilities and asks for rethinking our practices of response. In my utopia, multispecies are human-mobile device-digital data assemblages, tightly interwoven through affective and corporeal blood and data flows. As response-abilities evolve over time, so does Haraway's concept of the cyborg, which she no longer describes as machine-organism hybrids but as 'imploded entities, dense material semiotic "things" - articulated string figures of ontologically heterogeneous, historically situated, materially rich, virally proliferating relating of particular sorts' (Haraway 2012: 301). Her cyborgs go through menopause and take oestrogens. Thus, they might as well menstruate and engage in period tracking. For me, the strings of cyborgs are made out of menstrual blood, data, affect and uterine lining and link all kinds of beings.

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NOTES

- 1 For a first impression of devices for menstrual tracking, visit the webpage of the Museum for Contraception and Abortion: <http://en.muvs.org>
- 2 This research is funded by the Horizon 2020 Marie S. Curie GRACE project: <http://graceproject.eu>

- 3 Visit <https://hannayvel.wordpress.com> for poems and still images.

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