Citation for published version:
Yu, B, Spiel, K & Watts, L 2019, Caring About Dissent: Online Community Moderation and Norm Evolution. in
Volunteer Work: Mapping the Future of Moderation Research - A CSCW '19 Workshop.

Publication date:
2019

Link to publication

University of Bath

Caring About Dissent: Online Community Moderation and Norm Evolution

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ABSTRACT

Care has a powerful influence on potentially disruptive social encounters because practising care means exposing a group's core values, which, in turn, has the potential to strengthen identity and relationships in communities. We use the ethical practise of care as a lens to explore normative processes in online community moderation, especially as disruptive actors become more and more challenging. Dissent is as inevitable in online communities as it is in their offline counterparts. However, dissent can be productive by sparking discussions that drive the evolution of community norms and boundaries. Different skills and methods of support are required, if moderators are to respond to dissent effectively. Our work draws on a long-term analysis of moderation practices in the MetaFilter community, focusing on cases of intervention and response. We address the relevance of care as it is evidenced in these MetaFilter exchanges, and discuss what it might mean to approach an analysis of online moderation practices with a focus on nurturing care. We consider how CSCW researchers might

make use of care-as-nurture as a frame to identify multi-faceted and nuanced concepts characterising dissent and to develop tools for the sustainable support of online communities and their moderators.

ACM Reference Format:

INTRODUCTION

Online communities provides spaces and channels for people to share and exchange thoughts, opinions and information. Participating members often have very diverse life contexts: with mixed cultural, temporal, geographical and technical backgrounds all converging on a public forum. Subsequently, dissent is omnipresent in online communities. One-dimensionally seen as threat, dissent might be easily misconstrued as destructive behaviour as it is often tied to situations in which members question aspects of the inner workings of a given community or reinforce a discourse that was once commonplace, but has since been collectively reevaluated as unacceptable. In other words, the content of postings is likely to be emotive, which complicates its differentiation from regular abuse or deviant behaviour [5]. When disruption occurs, (human) moderators may be called upon to intervene as arbiters within a given community, or proactively move to defuse potentially explosive situations. Moderation is a governance mechanism that structures participation in a community, with moderators enacting roles that are intended to facilitate cooperation and prevent abuse [15]. Hence, they often play a crucial role to safeguarding and mediating between members in online communities. In this paper, we consider moderation challenges around dissent and prospects for innovative design to assist in this volatile area of online community moderation.

Content moderation in online communities can take on many different forms, including automatic filtering or review by a human expert [15]. The examination of mediation and moderation in online communities comprises a highly active research topic [1] and, as can be seen by the organisation of this workshop, remains of high contemporary relevance. Attempts at understanding how communities negotiate and develop moderation practice, including the deployment of moderation skills around socially normative behaviour, are growing [22]. Due to the diversity that can be found within but also across online communities and their associated moderation practices, it becomes increasingly complex to identify undesired contributions, whether as new posts or comments. The fair and thoughtful process typically associated with human moderation goes well beyond the simple enforcement of community rules, e.g. topic drift within a thread. Rather, human moderation requires reference to the values of a given community, reflecting its ideals, and as such is an irreducibly *care*ful activity [14].

Previous work has mainly focused on how to handle undesired content in online communities [1, 3, 22]. To this, we offer an understanding of how moderation plays a part in online communities

Figure 1: Established themes from MetaFilter moderators' comments in 2016-2017

proactively shaping their community goals. We examined moderation on MetaFilter to better understand how using care as a nurturing attitude in online moderation can contribute to the development of sustainable online communities. In this paper, we draw on studies with MetaFilter to highlight several ways in how careful moderation on dissent in online communities could sustain communities and drive the evolution of community norms.

CARE-AS-NURTURE TO SUPPORT ONLINE COMMUNITY MODERATION

Care developed as a concept within healthcare research [28], reflecting values within healthcare that are essential for understanding the interlinked networks of formal and informal responsibilities constituting professional practice. The concept of care can also be of value in the investigation of other domains with strong human networks as care work can be articulated as a key driver for sustainability within maker communities, requiring collective effort to maintain the value of exchanges between members [27]. We have used a similar approach to understand some of the forces driving effective moderation practice. We have thematically analysed [4] moderated comments in a corpus of MetaFilter data spanning the years 2016 and 2017[1] and conducted additional interviews with current moderators. From our reading of MetaFilter moderator's comments (Figure 1), we found *care* plays an important role in their moderation strategy. Moderator treat their work as the matter of taking care of fruit trees and, in return, the community grows healthily and bears the fruites of engaging conversations (see Sidebar 2). We concluded that moderators of MetaFilter bring care as an attitude into their practices when engaging with the community. In this section, we unpack the layers of care on MetaFilter from two perspectives: pruning for reinforcing existing community norms, and fertilizing towards norms evolve.

MetaFilter Moderation

MetaFilter[2] is a *'community weblog'* founded in 1999. It is particularly known for creating an environment for positive engagement and high quality content[9, 23]. Its longevity presents the opportunity to expose and understand long-term online community processes. While all site content is free to read, members who want to contribute or participate in discussions, currently pay a $5 entrance membership fee to join the community. A small team of seven moderators ensures constant moderation through a 24/7 staffing rotation. Although paid, all moderators were already long-time members of MetaFilter before they were hired and are, hence, deeply immersed in community culture. While there is research about volunteer moderators from communities [10], and discussion about paid commercial moderation [9, 16], there are still many open questions about how moderation practices operate and evolve, and how those practices respect and incorporate changing attitudes of other community members through exchanges in a forum. We now illustrate in two vignettes how *care*-ful moderation occurs on MetaFilter and which broader implications this entails.

[1]In 2019, MetaFilter had many explicit discussions on oppressive systemic tendencies within the community. These are not part of our previous research, but will be investigated separately.

[2]https://www.metafilter.com

<Context: Response to a personal story of another member, Feb 2017>
"Both parts of this fall under the most charming things I have ever heard!" – M1

<Context: Discussion on loneliness, particularly as a phenomenon affecting predominantly men, August 2017>
"MetaFilter, like most other stuff, is what you make of it. For many people it may not mean that much besides a space to read things on the internet. For many people it means more. It's okay wherever you stand on that, but don't try to assume everyone else is wherever you are." – M3

<Context: Catch-All thread on US politics, excessive in-jokes on cheese puffs, April 2017 >
"[(…)Individually, it's totally fine, and we absolutely understand the urge, but in practice, more than two dozen jokes about cheese puffs is annoying for others to wade through after the fact.]" – M4

<Context: Discussion of a US rapper including a marginalised voice in their music, May 2017>
"Rachel Kaadzi Ghansah is a fantastic writer and Missy Elliott is my person of the year for now for hard-to-identify reasons… so this is very timely for me. Thank you for posting it." – M5

Sidebar 1: Examples for comments of moderators on MetaFilter

[3]the official moderation comment is appear [in small type, in square brackets] on MetaFilter

Taking Care of a Fruit Tree: Pruning for Reinforcing Existing Norms

Moderators on MetaFilter take careful measures to shape the discourse and content on the site and use multi-directional trust as their conceptual basis for moderation. Such initiatives actively shape site culture and establish as well as re-affirm the community-feel, but they also exhibit a notion of active care for the community. In our analysis, we found that moderators of MetaFilter bring care into their practices while pruning for reinforcing community norms, as an attitude towards the tone and intent of their interventions be they formally or informally framed. For example, praising and showing empathy to members reinforces the validity of their contributions or the concerns they raise. Moderators have several tools to allow them to quickly identify content they might want to censor or ban but those are only used in a few clear cut cases. In many instances, moderators put in proactive work to avoid such drastic measures or, in using them, additionally contact the member to explain the thought process behind the decision and point to potential alternative strategies. For example (Sidebar 1) M3 wrote in a comment to provide subtle guidance for the thread as a member, instead of using the established moderating format[3]. It shoes that activities as moderators are shaped by a fundamental trust in the member base, even when they encounter less ideal behaviour. Hence, moderators carry through their care by attending to the community and actively shaping it not only through the deletion of undesirable content (or removing harm), but also through the addition of desirable comments (or providing an opportunity for growth). Through these actions, their practices follow the normative goals of care ethics [19]. And this care is deeply in their community norms. Additionally, moderators take up a conscious stance by being involved in the site personally as well as professionally.

Caring in reinforcing existing community norms does not refer to a single action, or even an area of responsibility: it inhabits a super ordinate layer of concern permeating every decision moderators make even in, for example, giving compliments, praising content and providing comfort to members (see more examples in Sidebar 1). The idea of visibly demonstrating or modelling norm-appropriate behaviour is echoed in our analyses. Here, moderators can be seen to be encouraging their members to take care of each other by modelling care themselves, explicitly demonstrating the broader sense of care in posts and commentaries for other members to see. The main focus and indeed their self-image of moderator activity is devoted to preventing malicious confrontations from happening in the first place. In online-communities, a caring attitude encourages committed engagement and can positively contribute to the reinforcement of norms by regulating what is appropriate and inappropriate for a given online community [21, 24]. So we further position our notion of care in moderation as a matter of nurture because the sustainability of any online community requires attention to growth and change in the membership base.

"Rhetoric gets sharper and hotter faster. People get visibly more angry, quicker, in conversations and arguments." – cortex

"I felt like people needed a positive outlet because there was so much politics ugliness, and I love threads that are like 'show us your desk!' or 'show us your purse!' so I started doing those."– Eyebrows McGee

"[T]he metaphor would be taking care of a fruit tree. You want it to grow and bloom and bear fruit, so one of the things you have to do is prune it to keep it healthy, but you also have to water it and protect it feed it and so on. (...) It also means you aren't JUST reactive, you're also proactive, and you think about how the forum you're creating will help or hinder the community. "– Eyebrows McGee

Sidebar 2: Quotes from interviews with moderators on MetaFilter

[4] A few months before writing this piece, MetaFilter has decomissioned these "mega-threads". See https://metatalk.metafilter.com/25265/Decommissioning-the-US-politics-megathreads

Taking Care of a Fruit Tree: Fertilizing Towards Norms Evolve

Moreover than the moderation on MetaFilter actively shapes the content and discussion culture on the site, their careful attitude also help in the growth of the community. For example, moderators identified the need for more positive banter for their members through a large-scale change of tone after the 2016 elections in the United States of America, where the site is hosted and where most members are located. Very contentious, extensive and rapid discussions on daily political developments had increased moderators' workload substantially and began to dominate their work (see Sidebar 2). They decided to schedule weekly social threads around light topics such as local foods, uncommon habits on MetaFilter's associated MetaTalk site. In this case then, MetaFilter moderators carried through their care by attending to the health of their community by action aimed at integration[4]. Hence, active care can been seen not only in practices surrounding the removal of undesirable content not capable with existing community norms, but also in actively providing the ground for desirable alternative engagements. This case illustrates a conscious stance of moderators towards the health and growth of the community. It also speaks to the relevance of their awareness of existing tensions of which they are often aware through their direct personal involvement, as well as by virtue of their status as moderators.

Care provides a meaningful framing concept as a pro-active stance; exhibiting care in moderation practices then means acknowledging how maintenance, health and protection are inadequately safeguarded by purely reactive work. This is a key issue because it suggests that designers should turn their focus away from supporting moderation by detecting and somehow flagging, hiding or removing undesirable actions when or soon after they have occurred. Hence, we see care-as-nurture in highlighting desirable emergence and expansion of member exchanges, particularly in complex situations that require nuance, finesse, tact and, well, care. Caring for something entails a normative notion of supporting growth and development, including removal of obstacles for growth and provision of nourishment in whatever form is required [19]. Suppression of dissent can itself be seen as an obstacle to growth and takes away attention to efforts focused on engaging, contributing and maintaining a community [8, 21]. However, to support effective moderation aimed at recognising that actions are need both to encourage dissenting, often otherwise marginalised, perspectives as well as to reinforce norm-aligned conduct. It is likely that moderators' awareness and skill in navigating these tensions productively depends on an atmosphere of mutual respect and trust as core qualities of interaction between all members, including moderators [20]. Nurturing care as an attitude for all participants therefore speaks powerfully about active maintenance. The long-term viability of a community requires initiating and supporting the growth of online communities.

FUTURE WORK: MODERATION FOR DISSENT IN METAFILTER

Through our study with MetaFilter moderation, we see that one of main challenges for online community moderators is how to deal with dissents, in a way to balance between reinforcing existing norms and also nurture the evolution of norms carefully. Early papers on online communities in CSCW, even when predominantly concerned with behaviours labelled as flaming or trolling, acknowledged the vital role that disruption plays in forming and establishing communities that create a positive point of identification by association for its members [5]. Nevertheless, disruption and dissent has mainly been approached as a problem to be solved. Bruckman et. al. define behaviour as "deviant" if it is not in accordance with community standards [5–7], while Kirman et. al. describe those who break the social contract in online community as being invested in "mischief and mayhem" [17]. Sternberg uses expression such as "misbehaviour", similar to "misconduct" to refer to content that does not conform to norms [25]. However, conflicts and dissent are not per se undesirable instances of engagement, rather it depends on how they are handled and how different perspectives are valued or dismissed (see, in different contexts, the relevance of decidedly agonistic design particularly in the context of marginalised stakeholders [2, 12]). Wikipedia shows a little more nuance: the idea of an ad hominem attack can be used to differentiate undesirable behaviour from legitimate dispute. Some mediators have worked to help conflicting parties to express, recognise, and respond positively to their personal and substantive differences [1]. Some (parts of) online communities are explicitly designed around dissent, for example, the subreddit ChangeMyView[5] [26] or the discussion platform Kialo [6]. These communities encourage constructive dissent with the goal to guide people in the process of understanding complex issues from a range of varied perspectives. They explicitly foster a "mindset of conversation" to online exchange, instead of zero-sum debate and without a tolerance of hate speech. Future research could investigate forms of guidance that help to create more inclusive outcomes, by identifying occurrences in which dissent arises, and shape community norms that welcome productive dissent.

From our previous analysis, we see that moderators on MetaFilter try to encourage different perspectives in their community, although some members described the style of the moderation is "heavy handed". In our future studies, we are going to look at how cases of dissent in MetaFilter are treated by the moderators, and how applying careful moderation may drive dissent to actively shape their community norms, particularly with recent discussions on issues of race[7] and ableism [8] within the community. We intend to use a mixed method approach to investigate how dissent, moderation, and community norms interplay on MetaFilter, as to inform the design of care-oriented tools encouraging dissent.

[5]https://www.reddit.com/r/changemyview/

[6]https://www.kialo.com

[7]e.g., https://metatalk.metafilter.com/25222/Is-it-time-to-retire-outragefilter-as-deletion-reason

[8]e.g., https://metatalk.metafilter.com/25272/Anxiety-depression-ADHD-autism-bipolar-and-other-neurodivergences-on-MeFi

CONCLUSION

Through our study with MetaFilter, we could identify how nurturing care shapes moderation on the platform and supports the maintenance as well as growth and development of the community. This stance is the key to the motivation of members to commit to the community. Therefore, practices in moderating online content go beyond "commenting promotion, deletion, and control" [13]. Moderators are not just acting as "custodians" of a community [14], but instead comprise an integral aspect of forming, shaping, developing and negotiating its identity.

Currently, we are collecting further moderation strategies and accounts of moderators and members, to generate an integrated account of moderation practice, informed by the concept of care. Particularly, we are assembling new data on recent developments on MetaFilter with the community working together to establish guidelines that are more welcoming to marginalised communities. We argue that care is a layer of concern on most of the moderation activities in MetaFilter. However, it is still unclear how new designs of moderation tools might best support the development of careful moderation in online communities that encourages dissent as a form of constructive disagreement. We argue that nurturing an online community with care has far-reaching functional consequences for the technical mechanisms moderators wish to deploy as part of their work. This is analogous to the sustainability argument made previously for maker communities [27].

In summary, the opportunity to freely express opinions constructively as is desired in many online communities is as much an outcome of caring moderation, as it could be affected by the technical means used to compose and submit content or comments on different platforms[18]. Norms themselves should be curated with care, not within the rigid self-interest of a clique of an implicitly established few, if communities are to continually welcome new members and to grow alongside them. That means acceptability of behaviour cannot simply be established by understanding how they align or misalign with a given norm, but also need to be reflected on whether a challenge to the norm reflects a potentially desirable change.

This implies that delegated as the responsibility of a small group of powerful key players, care by itself cannot be a productive stance [27]. Taking care implies taking active responsibility for initiating and also maintaining caring activities [11], which overlaps with the mission of moderators in online communities: taking care of the community as a whole, stimulating healthy discussions and maintaining a positive environment for constructive exchange. Critiques of online moderation models and suggestions for improvement have been made previously [20], but little is known about the care-ful practices of moderation nurturing positive and constructive engagements. Identifying such practices provides the opportunity to deliver an understanding of moderation that is not narrowly concerned with removing undesired content or members who violate community standards, but involves thoughtful decisions and active support for the entire community. Individual and communal

action by moderators around problematic contributions can reveal fundamental stances within a community towards its evolution, and future viability, if they are situated in caring practices.

REFERENCES

[1] Matt Billings and Leon A. Watts. 2010. Understanding Dispute Resolution Online: Using Text to Reflect Personal and Substantive Issues in Conflict. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '10)*. ACM, New York, NY, USA, 1447–1456. https://doi.org/10.1145/1753326.1753542

[2] Erling Björgvinsson, Pelle Ehn, and Per-Anders Hillgren. 2012. Agonistic participatory design: working with marginalised social movements. *CoDesign* 8, 2-3 (2012), 127–144.

[3] Lindsay Blackwell, Jill Dimond, Sarita Schoenebeck, and Cliff Lampe. 2017. Classification and Its Consequences for Online Harassment: Design Insights from HeartMob. *Proc. ACM Hum.-Comput. Interact.* 1, CSCW, Article 24 (Dec. 2017), 19 pages. https://doi.org/10.1145/3134659

[4] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3, 2 (2006), 77–101. https://doi.org/10.1191/1478088706qp063oa arXiv:arXiv:1011.1669v3

[5] Amy Bruckman, Pavel Curtis, Cliff Figallo, and Brenda Laurel. 1994. Approaches to Managing Deviant Behavior in Virtual Communities. In *Conference Companion on Human Factors in Computing Systems (CHI '94)*. ACM, New York, NY, USA, 183–184. https://doi.org/10.1145/259963.260231

[6] Amy Bruckman, Catalina Danis, Cliff Lampe, Janet Sternberg, and Chris Waldron. 2006. Managing Deviant Behavior in Online Communities. In *CHI '06 Extended Abstracts on Human Factors in Computing Systems (CHI EA '06)*. ACM, New York, NY, USA, 21–24. https://doi.org/10.1145/1125451.1125458

[7] Amy S. Bruckman, Jennifer E. Below, Lucas Dixon, Casey Fiesler, Eric E. Gilbert, Sarah A. Gilbert, and J. Nathan Matias. 2018. Managing Deviant Behavior in Online Communities III. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18)*. ACM, New York, NY, USA, Article panel02, 4 pages. https://doi.org/10.1145/3170427.3186319

[8] Brian Butler, Lee Sproull, Sara Kiesler, and Robert Kraut. 2002. Community effort in online groups: Who does the work and why. *Leadership at a distance: Research in technologically supported work* 1 (2002), 171–194.

[9] Eshwar Chandrasekharan, Mattia Samory, Anirudh Srinivasan, and Eric Gilbert. 2017. The Bag of Communities: Identifying Abusive Behavior Online with Preexisting Internet Data. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17)*. ACM, New York, NY, USA, 3175–3187.

[10] Bryan Dosono and Bryan Semaan. 2019. Moderation Practices As Emotional Labor in Sustaining Online Communities: The Case of AAPI Identity Work on Reddit. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*. ACM, New York, NY, USA, Article 142, 13 pages. https://doi.org/10.1145/3290605.3300372

[11] Berenice Fisher and Joan Tronto. 1990. Toward a feminist theory of caring. *Circles of care: Work and identity in women's lives* (1990), 35–62.

[12] Christopher Frauenberger, Katta Spiel, Laura Scheepmaker, and Irene Posch. 2019. Nurturing Constructive Disagreement-Agonistic Design with Neurodiverse Children. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. ACM, 271.

[13] Eric Gilbert, Cliff Lampe, Alex Leavitt, Katherine Lo, and Lana Yarosh. 2017. Conceptualizing, Creating, & Controlling Constructive and Controversial Comments: A CSCW Research-athon. In *Companion of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17 Companion)*. ACM, New York, NY, USA, 425–430.

[14] Tarleton Gillespie. 2018. *Custodians of the Internet: Platforms, content moderation, and the hidden decisions that shape social media*. Yale University Press.

[15] James Grimmelmann. 2015. The virtues of moderation. *Yale JL & Tech.* 17 (2015), 42.

[16] Alex Hern. 2019. Revealed: catastrophic effects of working as a Facebook moderator. Retrieved September 12, 2019 from https://www.theguardian.com/technology/2019/sep/17/revealed-catastrophic-effects-working-facebook-moderator

[17] Ben Kirman, Conor Lineham, and Shaun Lawson. 2012. Exploring Mischief and Mayhem in Social Computing or: How We Learned to Stop Worrying and Love the Trolls. In *CHI '12 Extended Abstracts on Human Factors in Computing Systems (CHI EA '12)*. ACM, New York, NY, USA, 121–130. https://doi.org/10.1145/2212776.2212790

[18] Travis Kriplean, Jonathan T. Morgan, Deen Freelon, Alan Borning, and Lance Bennett. 2011. ConsiderIt: Improving Structured Public Deliberation. In *CHI '11 Extended Abstracts on Human Factors in Computing Systems (CHI EA '11)*. ACM, New York, NY, USA, 1831–1836. https://doi.org/10.1145/1979742.1979869

[19] Tove Pettersen. 2011. The Ethics of Care: Normative Structures and Empirical Implications. *Health Care Analysis* 19, 1 (2011), 51–64.

[20] J. Preece and B. Schneiderman. 2009. The Reader-to-Leader Framework: Motivating Technology-Mediated Social Participation. *AIS Transactions on Human-Computer Interaction* 1, 1 (2009), 13–32.

[21] Yuqing Ren, Robert E. Kraut, Sara Kiesler, and Paul Resnick. 2012. Encouraging Commitment in Online Communities. *Building Successful Online Communities: Evidence Based Social Design* 3 (2012), 77–124.

[22] Joseph Seering, Robert Kraut, and Laura Dabbish. 2017. Shaping Pro and Anti-Social Behavior on Twitch Through Moderation and Example-Setting. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17)*. ACM, New York, NY, USA, 111–125. https://doi.org/10.1145/2998181.2998277

[23] Leiser Silva, Lakshmi Goel, and Elham Mousavidin. 2009. Exploring the dynamics of blog communities: the case of MetaFilter. *Information Systems Journal* 19, 1 (2009), 55–81.

[24] Christine B. Smith, Margaret L. McLaughlin, and Kerry K. Osborne. 1997. Conduct Control on Usenet. *Journal of Computer-Mediated Communication* 2, 4 (1997), 0–0.

[25] Janet Sternberg. 2000. Virtual Misbehavior: Breaking Rules of Conduct in Online Environments. *Proceedings of Media Ecology Association* 1 (2000), 53–60.

[26] Chenhao Tan, Vlad Niculae, Cristian Danescu-Niculescu-Mizil, and Lillian Lee. 2016. Winning Arguments: Interaction Dynamics and Persuasion Strategies in Good-faith Online Discussions. In *Proceedings of the 25th International Conference on World Wide Web (WWW '16)*. International World Wide Web Conferences Steering Committee, Republic and Canton of Geneva, Switzerland, 613–624. https://doi.org/10.1145/2872427.2883081

[27] Austin L. Toombs, Shaowen Bardzell, and Jeffrey Bardzell. 2015. The Proper Care and Feeding of Hackerspaces: Care Ethics and Cultures of Making. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15)*. ACM, New York, NY, USA, 629–638.

[28] Joan C Tronto. 1993. *Moral boundaries: A political argument for an ethic of care.* Psychology Press.