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## gut feminism

Elizabeth A. Wilson, Duke University Press, Durham and London, 2015, 328pp., ISBN: 978-0-8223-5970-8, \$23.95 (Pbk)

## rendering life molecular: models, modelers, excitable matter

Natasha Myers, Duke University Press, Durham and London, 2015, 240pp., ISBN: 978-0-8223-5878-7, \$26.95 (Pbk)

Natasha Myers' *Rendering Life Molecular* and Elizabeth A. Wilson's *Gut Feminism* both make critical and multifaceted—political, ethical, epistemological and aesthetic—contributions to feminist theory and science studies through the emerging field of new feminist materialism (NFM).<sup>1</sup> Both books are new feminist materialist works. Each attends in different ways to a tense magnetism between different objects related to the unquestioned and uncontested necessity and usefulness of knowledge, and the necessity to recognise that knowledge practices are not detached from the world(s) in which they take place. Each book in its own way addresses how knowledge practices touch and are touched by their contexts in multifaceted and multidimensional ways—ways that are partial and, thus, contingent in that they are always and only political, ethical, plural and entangled to inherited (contextually and historically) pretexts. This review first presents an overview of Wilson's *Gut Feminism* and examines its contribution to NFM and feminist science studies. It then turns to Myers's *Rendering Life Molecular*. In the final section, this review creates a dialogue between the findings and methods of the two thinkers, which is then opened up to considerations in current NFM studies.

*Gut Feminism* reads recent developments in biology through a new feminist materialist approach. Specifically, it attends to the multidimensional processes where drugs are designed, developed and used on bodies of othered Others (e.g., women, people of colour). The 'gut' is called to play a special role in this analysis. The book begins with an acknowledgement of the absence of a strong feminist contribution to the field of biology. Wilson criticises the failure of feminist readings of biology to take seriously, with rigour and commitment, the 'matter' of biology. Recent developments in biology seem to open up how matter is encountered, approaching it less as an immutable, inert 'object' that can only be known, and more as dynamic, complex and relational processes that emerge perhaps solely in *intra*-action (Barad, 2007). According to

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<sup>1</sup>New feminist materialism (NFM) comprises contributions in feminist science studies and technology studies that intervene concomitantly in the humanities and philosophy by putting forth a new conception of ontology as open, dynamic and relational. See Haraway (1997, 2008); Wilson (2004, 2008); Barad (2007, 2010, 2012); Alaimo and Hekman (2008); Puig de la Bellacasa (2011); Dolphijn and van der Tuin (2012).

Wilson, feminist contributions would strengthen the scientific rigour, ethical stance and political capacity of both feminism and biology, and this is what she sets out to achieve through her book. At the same time, Wilson presents *Gut Feminism* as a call to action for other feminists to also turn to biological 'lively matters'.

Wilson makes another provocative, and perhaps more surprising, proposition in her book: she hypothesises that what she identifies as an incapacity of feminists to seriously engage with biology on its own terms may be viscerally engrained in feminist practices and the result of the materialisation—or 'crystalliz[ation] biologically' (p. 9)—of feminism's history into its 'guts'. Feminism is unapologetically critical, and it is through criticality that feminist organisation and practices are carried out. Wilson acknowledges that feminist 'misreadings' of biology, which she surveys in her introduction and in Chapter 1, are to some extent inevitable; however, and more importantly, she suggests that these misreadings may result from the same aspects that make feminist theory 'so smart' (p. 30). According to Wilson, feminism's critical approach to social life (e.g., knowledge, science, politics, education, care, reproduction), which has enabled feminist theory to become so astute—its visceral hatred of feminism toward patriarchy, phallogentrism, oppression and lack of reflexivity—has concomitantly generated a concrete 'vile bile' that now acts as the 'pharmakon' of feminism, at once its fertile soil and its irremediable poison. This vile bile is far from merely figurative to Wilson, for whom the history of feminism and its achievements has, in effect, participated in the creation of a concrete, tangible matter—an organic matter that is damaged at its core, a 'gut' affected from hatred and vile bile that has acquired volition and agential capacity; thus, Wilson tackles, responds and explores (feminist) responses to this 'matter'.<sup>2</sup>

*Gut Feminism* is organised in two parts, subdivided into six chapters, with an introduction and a conclusion. In Chapter 1, Wilson engages critically with feminist scholarly encounters with biology and biological objects. In Chapter 2, she introduces psychologist Sandòr Ferenczi's notion of the 'biological unconscious' to argue that biology can support feminist investigation and feminism itself, specifically in responding to the negativity, i.e. bile, that inevitably appears in feminist queries and practices and which cannot be ignored or denied. In Chapter 3, Wilson performs a rereading of the notion of 'melancholia'. Drawing on the work of Melanie Klein, Wilson disputes Eve Kosofsky Sedgwick's (2003) reading of paranoia and 'paranoid' readings of scholarly critical inquiries, and counters proposals for 'reparative readings' by shoring the limits of reparation in melancholia. Using a new feminist materialist approach to matter as agential, the author also explores in this chapter the effects of the materialisation of paranoid/traumatised 'organic' matter and how one can respond emphatically to 'damaged' viscera as endowed with agential capacity.

The second half of the book consists of three chapters that explore specific scientific engagements in biology and their materialising and 'mattering' effects on organic matter. Chapter 4 examines the contribution of the gut as agential companion to the metabolisation of anti-depressant drugs. Chapter 5 explores the uncanny and lively matter of placebos and the key role they play in the design and effectiveness of anti-depressant drugs. Finally, in Chapter 6, Wilson works with Michel Foucault's notion of the 'pharmakon' to examine how poison can be part of the essence of cure, and how attempts to destroy poison can have fatal outcomes for the object one aims to protect. Equipped with this understanding of the pharmakon, Wilson confronts the impetus of feminist scholars and activists, such as

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<sup>2</sup>On matter as agential and endowed with agency, see Barad (2007).

Sedgwick (2003), to wholly neutralise the bile that is present in many feminist projects. Wilson argues that this matter, which is material (as in materialised) and agential, is not going anywhere, and it is solely in *how* one responds and inherits this damaged matter that determines whether or not more livable and sustainable feminist practices can emerge. The book ends with a reflection on how feminists can accept, embrace and respond to the seemingly irremediable negativity of feminism.

Natasha Myer's *Rendering Life Molecular* moves us into another register: the unfamiliar world of protein crystallographers who build three-dimensional models of protein molecules as part of a sub-branch of biological research. Protein crystallography models are used for various purposes in medical advancements and drugs developments. They are not static, fixed representations; rather, they are dynamic, open and always changing enactments (see also Barad, 2007, 2010, 2012). The rendering of these molecular models requires a careful and caring tailoring of the *modeler's* body: it is only through a process of making her body available and sensitive to the protein molecules, which thus entices their emergence, that the protein crystallographer can render a lively model. This refining transforms and makes the scientist (her body, her mind) inasmuch as it makes the protein. It is the performative ways in which the bodies of the protein crystallographers are called upon to do this unique crafting scientific work, 'giving themselves to' (p. 30) rendering, that interests Myers.

Guided by her key concept of 'rendering', the book is divided into three parts, each consisting of three chapters, with an introduction and conclusion. Part 1 takes place in protein crystallographers' laboratories. In Chapter 1, examining the techniques of attention used to render the protein molecules into models, Myers explores specifically the process of 'purification' used to generate the lively representational models. Chapter 2 examines the tools used to generate the models, and how protein crystallographers interact with the molecules and models and through this process become wholly part of this intra-active space. Here, Myers examines more specifically how technology plays an intricate role in the process of rendering, and how it too becomes entangled with the molecule, the model and the scientist. Chapter 3 delves into the scientist's hard work of making sense of her data.

Part 2 delves into the ontological and epistemological considerations that Myers hints at in Part 1: she explores 'how modelers know what they know' (p. 31) by examining how their renderings (i.e. models) relate to the molecules in perpetual motion. Chapter 4 attends to representational critique in a context where molecules are never static but dynamic enactments, meaning that the models themselves must be lively in order to be considered accurate representations. Turning her attention to the place and 'rendering' of objectivity in the world and work of protein crystallographers, in Chapter 5, Myers explores the politics of sharing and dissemination of models amongst scientists. She highlights the role that policing and shaming of the modelers by other scientists in the field plays in these spaces, and their effects on the scientists, the science, the telling of narratives and the building of models. According to Myers, the practices of policing, even of shaming, fellow modelers arises because of the entwinement of the modelers' work and their corporeal becoming. Using one's body, amplifying one's own embodiment as porous and performative, and relying on corporeal processes to generate models of the molecules are all processes that continue to be viewed suspiciously by other scientists as lacking seriousness and scientific validity. This exposed vulnerability always carries the risk of the modelers' transgressing or digressing from the mainstream narrative of the 'good scientist' that the field hopes to, or believes it must, maintain to ensure scientific validity and recognition.

Part 3 attends to the life forms that emerge from the work done by the protein crystallographers: machinic life (Chapter 6), lively machines (Chapter 7) and molecular calisthenics (Chapter 8). In each of these chapters, Myers attends to the narratives of a range of scientists (e.g., researchers, trainees, laboratory directors, biological engineers, protein crystallographers) and how they make sense of the proteins and their models. In each narrative, Myers exposes the central, albeit different, role affect plays in generating models of protein molecules, and how the bodies of scientists entangle with the protein molecules in ways that entice, invite and fashion the scientist's bodily aptitude for attention.

For this anthropological-ethnographic study of protein crystallographers' work (p. 32), Myers immersed herself in the laboratories of protein crystallographers. She conducted countless hours of interviews with individuals and learnt their stories. Through a methodology of 'affective readings' (Hustak and Myers, 2012; Myers, 2015), Myers amplifies that which is too often tuned down or out in researchers' narratives and self-narratives and the portrayal of their research: the affect of bodily engagements between modelers and molecules and the 'affective entanglements' (p. 38) that render both protein molecules *and* researchers in what Myers describes as 'ontological choreographies' (p. 156). Protein crystallographers come to feel for their molecules, the book reveals, often referring to the protein molecules (albeit never without many precautions, hesitations and nuance) as 'lively ... renderings' (p. 29) and 'breathing entities' (p. 3).

Ontologies-in-the-making is a fundamental concern of NFM (Haraway, 1997, 2008; Wilson, 2004, 2008; Barad, 2007, 2010, 2012; Puig de la Bellacasa, 2011); therefore, it comes as no surprise that it is a core concern of Wilson and Myers in their respective books. Both authors tell stories that matter—figuratively and concretely—and their emerging matters are lively, active and agential, not only partaking in the world and knowledge practices but also in the making of them (Barad, 2007).

Both contributions take different epistemological approaches to explore how particular bodies come to life, live and what they can do (Myers, 2015, p. 208)—in other words, how they come to matter. Bodies—subjects and objects—do not preexist their encounter; rather, as Myers (*ibid.*) puts it (inspired by Chen, 2011), there is 'intra-animacy': a meeting space where each entity that was not yet thus configured before the encounter, emerges and becomes. Both Myers and Wilson argue and illustrate ways in which bodies are 'excitable' tissues (Myers, 2015, p. 211) that can be affected and are affectively entangled, involved, touched and marked as a mode of being in shared worlds. Each author also offers a novel way of understanding and apprehending affect, accounting for its presence and effects, and responding to it. Finally, both Myers and Wilson speak about and to the prospects, capacities and possibilities of making knowledge; the politics of knowing how, where and what; and the politics of who can know.

*Gut Feminism* and *Rendering Life Molecular* are strong, promising and joyful projects that are carefully researched and informed; at the same time, each author acknowledges and addresses the dangers in carrying out her respective work. Myers's and Wilson's books show how the world is diverse, nuanced, composed of many shades and necessarily so; that encounters mark and make irrevocable traces; and that agency is found in what and how one engages with, and responds and feels obliged to, encounters. Not only suggesting but also demonstrating that there is no such thing as detached and unresponsive knowledge—and that to frame knowledge as such is irresponsible and unethical—each author, in her own way, calls for more corporeal availability towards a will to affect and invites vulnerability. Ontological-

making projects in and of themselves, both Myers's and Wilson's books show how a feminist approach to scientific matters—and the matter of the sciences—can *matter* more ethical and livable ways.

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<https://doi.org/10.1057/s41305-018-0141-8>