

or matter at hand (the scientist's and perhaps also another person's body) is integral to processes of knowing. Body work, or kinesthetic knowledge production, is prevalent within both laboratory and lecture sites. Attending to the intuitive and tacit body experiments that are part of the "rhythm of communication among practitioners" (218), Myers illustrates the ways protein modellers transgress the limitations of scale, scaling up (or amplifying) molecular vision through bodily contortions. Yet, while seemingly integral to understanding, this body work is also subject to containment. Myers discusses in depth the tensions associated with bodily practices and statements perceived as anthropomorphisms, linking these to concerns about the ways a scientist's use of their body is read (as sexualisation, indulgence in leisure or unprofessional), as well as concerns about being associated with more Lamarekian, or non-normative, views of evolutionary progress.

Throughout the book, but most explicitly in Part 3, Myers challenges dominant mechanistic renderings of structural biology, which are produced both within and outside of the field. She returns throughout the book to a scene from her fieldwork recounted in the introduction, in which Edward, a post-doctoral researcher frustrated with what a computer program is delivering, demonstrates to Myers the animated nature of proteins. Myers writes, "Where the model on screen remained static, he relayed the qualities of his breathing molecule by wrapping his hands around an invisible, pulsing sphere" (3). His gestures seemingly counter the "mechanistic approach" to protein function that would be expected. Myers explores the ways the molecular machines of today, or mechanistic reasoning, is differently entangled with discourses of liveliness. The tensions surrounding the potential animation of molecular models draws attention to the historical and political contexts that give rise to distinctions between organisms and machines and related notions of objectivity and manipulability. Myers writes that "in spite of efforts to clamp down on the figure of the machine, modelers produce renderings of molecules that are undeniably *lively*" (199). Which epistemological possibilities emerge when borders between concepts such as *machinic* and *lively* are revealed as malleable? In my reading, drawing on critical thinkers in feminist science studies, Myers argues that this helps us to imagine and reimagine the relationalities of matter and of knowledge, both of which are politically significant.

Through its enactments of the affective and kinesthetic practices of protein modellers, *Rendering Life Molecular* asks readers to explore a field that has not yet "come of age" within science studies and general public knowledge, perhaps especially with regard to understandings of its potential social relevance (see Holmes et al. 2016). Although I am comfortable learning about sciences and technologies that are unfamiliar to me, I found myself struggling with sections on protein modelling. Perhaps ironically, I was frustrated at my inability to grasp (in a tactile way) the practices of modelling and molecular vision that Myers writes about. I turned to the "Protein Primer" in the appendix; I stared at the colourful pictures in the book; I watched *Naturally Obsessed*, the documentary that Myers both analyses and uses to exemplify and conjure particular imagery; I found myself rotating images of protein models on the Protein Data Bank; and, repeatedly, I gravitated to Parts 2 and 3 of the book, where analyses of modellers' kinesthetic practices, scientific truth formations, and intra-action are compelling but also much more familiar in terms of the theoretical frames within which they are situated. What types

of knowledge do readers expect and/or require in order to work within and across the fields of the histories of science and technology, science and feminist science studies, laboratory studies, and translational research? I imagine that some, or many, readers will find various parts of this book much more accessible than others. Yet, reading the parts of the book, which may contain familiar and unfamiliar content and/or approaches, in relation to each other is what highlights the book's offering to readers across disciplinary and interdisciplinary fields about the challenges of thinking through the policing of pedagogical practices, the tactility of vision, and the animation of mechanism. Perhaps one experiment would be to read/assign *Rendering Life Molecular* in collaborative transdisciplinary reading groups and classes, with access to, as Banu Subramaniam suggests, "labs of our own" (Bauchspies and Puig de la Bellacasa 2009, 8) to facilitate experimentation with protein modelling and protein folding in sync with discussions about the aesthetic and kinesthetic processes we might find ourselves engaging in to convey our emerging knowledge.

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Jain, S. Lochlann, *Malignant: How Cancer Becomes Us*, Berkeley: University of California Press, 2013, 304 pages.

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S. Lochlann Jain's ethnography/memoir *Malignant: How Cancer Becomes Us* is organised in a linear fashion, which gives the initial impression that the book follows an expected illness trajectory: diagnosis, treatment, recovery and the concomitant biographical interruption (Bury 1982). However, the book's contents are not linear, nor do they hinge on an individual narrative. Instead, the author deploys her own breast cancer experiences as an opening through which to explore knowledge production surrounding the cancer complex. As such, Jain traces "lines of knowledge" (155) relating to cancer causation, screening and treatment. Primary emphasis is placed on how uncertainty in these knowledge bases results in misdiagnoses and ineffective and unnecessary treatments. Jain states that "when nobody knows how to proceed (and nobody wants to admit that), certain kinds of knowledge claims come to seem most logical and therefore guide thought and action" (155).

Jain's goal is to destabilise knowledge stances, as "unraveling the guiding logics of these institutions enables us to better understand who claims knowledge about cancer, and how" (5). Without this critical approach, she argues, finding new directions for the cancer complex and its accompanying "cultural containment" (221) is not possible.

Malignant begins, in Chapter 1, with the author's own diagnosis and survival prognosis. Chapter 2 centres upon maintaining one's "poker face" (46) – whether it be a "game face" (52), as in the portrayal of Lance Armstrong as a survivor in an American advertising campaign for an investment firm, or a "straight face" (65) – following diagnosis. This occurs while mediating one's own feelings of shame, confusion and fear, in addition to the expectations of the "sick role" (Parsons 1975, 257) that are thrust upon those grappling with cancer. Chapter 3 digs deeper into the cancer experience as Jain explores what it feels like to negotiate her sense of identity as a self-described "cancer butch" (67) who has undergone mastectomies to remove both breasts and decides not to have reconstructive surgery. Shortly after her last surgery to remove the remaining breast, Jain removed her shirt in a yoga class. As she strives to derive meaning from this act, she explains:

Perhaps my display was a call not for, but *to*, attention: a call to consider cancer as a communal event. It put into the public domain what every dimension of the cancer complex had told me should be kept private. And not public as in a magazine image – a staged photo that can be cropped, moved around, published, stared at, censored, discussed, and debated, an object that takes on its own life – but a person in a room with other people. (77; original emphasis)

This act of "stripping" works as a metaphor for the book: S. Lochlann Jain is trying to get us to pay attention to the cancer complex, including corporate pinkwashing practices and how companies involved in these campaigns often create products that produce or contain carcinogens. This is exemplified by BMW's promotion of the "Pink Ribbon Collection" of logoed merchandise, all while gasoline and the manufacturing process of producing plastic car parts are known to emit carcinogens. Companies like BMW, while purporting to raise money for a "cure," are indeed potentially making us sick. This chapter also details successful ACT UP campaigns, which were carried out in the 1980s to bring policy change to HIV/AIDS issues in the United States. ACT UP activists were not "cheerful" or "hopeful," as pinkwashing campaigns promote that those with cancer should be; they were angry. They advocated for access to antiretroviral medication, adequate housing and medical insurance for those suffering from AIDs. They were unapologetic and made headlines with public acts such as pouring ashes on the White House lawn. As Jain puts it, "they unleashed power" (87).

In Chapter 4, *Malignant* delves into medical mistakes and legal malpractice frameworks in the United States. Jain's breast cancer was initially missed by doctors, and this experience, along with the ensuing lawsuit, provides a backdrop to the chapter. Medical malpractice law is guided by the concept of "lost chance" (102), the missed opportunity of catching a cancer early, which could mean less rigorous treatment and

improved prognoses. Lost chance is difficult to prove, as medical errors are often left undiscussed, let alone acknowledged. Jain argues that medical malpractice law could provide an information-gathering framework through which to assess and improve medical error and provide a space where physicians could learn from this data to prevent such occurrences in the future. Instead, states are diminishing malpractice law by minimising damages that may be awarded, narrowing statutes of limitations and placing blame on hospitals rather than viewing medical error as a systemic problem.

Chapter 5 centres upon randomised controlled trials (RCTs), which research cancer-related chemotherapy, pharmaceuticals, surgical techniques and radiation. Considered the gold standard of evidence-based medicine, RCTs are predicated upon comparing the results of different treatments, procedures, drugs or surgery among various groups of individuals. Beyond the possibility of introducing "treatment injury" (126) to participants, RCTs have not necessarily produced solid evidence bases through which to improve cancer treatment or survival rates. Indeed, RCTs for drugs are now increasingly conducted abroad, as Americans generally take too many drugs to constitute viable test cohorts. As a result, drugs that are tested in a "treatment-naive population" (114) do not necessarily have the same effectiveness on American patients. Thus, Jain argues, "RCTs present a bumpy route – often taking decades, mistaking diagnostic categories and groups, causing patients undue suffering, and rendering highly debatable results of unclear clinical value. In other words, cancer's default line offers no clear path toward conquest" (126–127).

In Chapter 6, the author ponders whether or not the *in vitro* fertilisation (IVF) process she underwent led to her breast cancer. The infertility industry in the United States does not inform women of the potential risks of IVF procedures; this stems from a lack of data on the potential linkage between infertility treatment, which relies on hormones, and cancer. In short, the absence of data is taken as an absence of risk. Carrying on with the theme of ephemeral knowledge, Chapter 7 addresses screening. Highlighted is the fact that screening does not prevent cancer but rather alerts the bearer to its presence and, hopefully, within a timeframe in which the disease is treatable. Jain maintains that two questions underscore screening debates: 1) What is being found in screening procedures? 2) How do we know if it's cancer? The author asks whether standard treatment courses for pre- and early-stage cancer are effective. Considering the toll these therapies take and as many cancer treatments that are ineffective, how do we know if those being screened are being well served? Screening protocols are developed as a result of RCTs, but they do not take into account "more expansive studies of doctor-patient interactions, examining the quality of screening equipment and technician skill, and understanding how multipronged approaches to cancer detection might work together" (155). Concentrating on "what we don't know" (156) instead of creating knowledge that hides what we do not understand could improve cancer outcomes, but this will take a paradigm shift.

Chapter 8 takes a deep look into the potential environmental causes of cancer. It is difficult to prove that exposure to a specific toxin causes a particular type of cancer and, as the author asserts, "this latency partly accounts for cancer's everywhere- and nowhere-ness" (184). Nevertheless, European countries have introduced environmental regulations for chemicals

with “initial evidence of toxicity” (188), whereas the United States does not regulate such chemicals until evidence of harm is available. This absence of responsibility in the United States being placed upon corporations who produce carcinogenic products and governments who do not adequately regulate ensures that cancer remains a private, individual event, “rather than a communal effort and responsibility” (199). Chapter 9 marks the denouement of the book and covers the author’s post-patient life:

The whole experience of cancer – attending the Look Good workshop, wearing the wig and not wearing the wig, having the port put in and having it taken out, trying on the prosthetic breast and taking it off – was a process of figuring out how and where and when to pass within a slew of identities and communities. (212)

Though Jain has critiqued the “face” that cancer patients are expected to wear, she ends *Malignant* without judgment, acknowledging that we all need to feel as though we belong to social groups.

Jain’s mention of ACT UP’s activism in the book is a small thread, but this begs the question: Where is this anger and power for demanding cancer-free environments and more effective treatments today? *Malignant* has provided us with questions to generate meaningful knowledge going forward, and it is time to start asking them.

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Satsuka, Shiho, *Nature in Translation: Japanese Tourism Encounters the Canadian Rockies*, Durham, NC: Duke University Press, 2015, 263 pages.

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In the intriguing ethnography *Nature in Translation: Japanese Tourism Encounters the Canadian Rockies*, Shiho Satsuka explores the ways that Japanese tour guides in Banff, Alberta, translate culturally situated knowledge about nature for tourists and for themselves. Satsuka traces the lives of several guides who emigrate from Japan in search of Canada’s “majestic nature,” often represented in the Japanese media as idyllic. Inevitably fraught with tensions and contradictions, the practice of cultural translation is shown by Satsuka to entail frustrations and misunderstandings that entangle the guides in larger webs of political, economic and historical currents, shaping and reshaping their experiences and perspectives.

Banff National Park is Canada’s eldest and one of its most revered protected areas. Established in 1885, the park now

attracts close to 5 million visitors annually, some of whom come from Japan to experience a piece of Canada’s seemingly endless “wilderness.” The job of the guides is to translate concepts authorized by the park’s governmental representatives into terms that their customers can appreciate and take some enjoyment in. For many of the guides, success means easing the tension inherent in cross-cultural translation; Satsuka details how the guides describe their concerns and the troubles associated with learning concepts that were foreign to them at first. A successful guide makes the effort seem effortless and translates ideas in exciting and interesting ways using stories and their personal images as tools of the trade.

“Landscape” (28–29) is one such concept, which had no counterpart in Japanese until its introduction during the 1890s by philosophers influenced by Western thought. The introduction of the concept of landscape in Japan ran parallel to the introduction of other concepts such as freedom and subjectivity, which remained marginal in Japanese culture until recently but provide a constellation of meanings often employed by the guides in their translations. Satsuka deftly describes how ideas such as subjectivity percolate into the language and behaviour of those who become guides and visitors to the park through their encounter with Canadian norms and ideals of nature interpretation. Many of these concepts are now a part of popular culture in Japan, expanding hand in hand with the growing popularity of international tourism and adventure tourism. While they are used often in conversation, however, these concepts lack stable definitions, and people’s understandings often differ from one another’s, leading to misunderstandings and, at times, conflicts.

To provide some background, Satsuka explores the beginnings of Japanese mountain climbing traditions and how ideas about nature became entangled with notions of individuality. These became expressed in newly adopted Western concepts as climbers attempted to summit the world’s highest peaks, travelling internationally and returning with new ideas. The important role played by borrowed Enlightenment concepts (such as subjectivity and individuality) in popularizing mountain climbing in Japan during the early twentieth century is juxtaposed with the corporatism of Japanese culture. The juxtaposition exposes the guides’ views of Japanese life as stifling individuality, and of life in “majestic nature” as more authentic and free. The guides often explain their move to Canada in terms that echo the words of Ohashi Kyosen, a Japanese pop culture icon who is largely credited with the promotion of travel as a middle-class endeavour and as a goal of retirement. In his television programs and at his store in Banff, where Japanese tourists are welcomed and catered to, Satsuka explores Ohashi’s promotion of what she calls “populist cosmopolitanism” (67). This form of populist cosmopolitanism circumvents ethno-nationalist sentiments and instead encourages people to free themselves from bonds to corporation and family, which prevent the feeling of independence, and encourages, as well, the desire to become “[someone who] stands on [one’s] own feet” (64). The sense of freedom as a form of self-actualization that spread during the 1990s is closely linked to Enlightenment values and stands apart from traditional Japanese notions of interconnection and communitarian values (117). Nevertheless, it is this sense of freedom as an expression of individual liberty that the guides search for in the vast landscapes of the Canadian Rocky Mountains.