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Something in the Air? A Review of *Allergy: The History of a Modern Malady*, *Breathing Space: How Allergies Shape Our Lives and Landscapes* and *Sick Building Syndrome and the Problem of Uncertainty*

Mark Jackson, *Allergy: The History of a Modern Malady* (London: Reaktion Books, 2006), ISBN 9781861892713

Gregg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes* (New Haven: Yale University Press, 2007), ISBN 9780300110357

Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty* (Durham: Duke University Press, 2006) ISBN 9780822336716

In 1994, historians Warwick Anderson, Myles Jackson and Barbara Gutmann Rosenkrantz issued a call to historians to produce more analytical and critical accounts of the history of immunology. Reflecting on the boast of pioneering immunologists and Nobel laureates, Niels Jerne (1911-1994) and Sir MacFarlane Burnett (1899-1985) that all the problems in immunology would soon be solved, effectively ending the history of immunology, the historians were more circumspect.<sup>1</sup> Perhaps with the recently-published *End of History and the Last Man* by Francis Fukuyama buzzing distractingly somewhere in their heads, they wondered why such pronouncements about immunology had been tolerated by historians.<sup>2</sup> Instead of delving into the social contexts and discursive processes within and through which the theories Jerne, Burnett and others had developed, historians had ‘worked largely within the conventional boundaries, or “invented traditions”, established by immunologists themselves’ and thus, had left unexamined how and why immunological theory had emerged as it did and what this meant for the treatment of immunological illness.<sup>3</sup>

Since 1994 there have been attempts to contextualise immunological knowledge, but as Thomas Söderqvist, Craig Stillwell and Mark Jackson suggested recently, critical explorations of immunology have not been particularly historical but, instead, rooted in

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<sup>1</sup> Warwick Anderson, Myles Jackson and Barbara Gutmann Rosenkrantz, ‘Toward an Unnatural History of Immunology’, *Journal of the History of Biology*, 27 (1994), pp. 575-9.

<sup>2</sup> Francis Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992).

<sup>3</sup> Anderson, Jackson and Rosenkrantz, pp. 575-9; Thomas Söderqvist, Craig Stillwell and Mark Jackson, ‘Immunity and Immunology’, in *The Modern Biological and Earth Sciences*, ed. by Peter Bowler and John Pickstone: *The Cambridge History of Science* (Cambridge: Cambridge University Press, 2009), forthcoming.

philosophy, in the case of Donna Haraway, Alfred Tauber and Pauline Mazumdar, anthropology, in the case of Emily Martin, and biography, in the case of Thomas Söderqvist's portrayal of Niels Jerne.<sup>4</sup> In 2006 and 2007, however, a trio of monographs emerged which examined how ideas about immunology have been unquestionably influenced by factors as disparate as race, geography, gender, technology, culture, politics and overarching trends in medical and environmental theory.

Gregg Mitman's *Breathing Space: How Allergies Shape Our Lives and Landscapes*, Michelle Murphy's *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* and Mark Jackson's *Allergy: The History of a Modern Malady* rewrite the end of the history of immunology by exploring some of the most controversial pathologies related to the immune system, namely, allergy, asthma and sick building syndrome.<sup>5</sup> In markedly different ways, and employing thoroughly engaging prose, each of these books demonstrates that the development of immunological knowledge has not been linear, progressive and positivistic, as Jerne and Burnett intimated, but, instead, characterised by fluidity. Fluctuating in response to the predominant technologies, political and philosophical ideologies, clinical and economic imperatives and, perhaps most importantly, theories about the environment's impact upon human health, immunological knowledge has also been hotly contested by physicians, politicians, activists and patients. Notably, as the reading of *Allergy*, *Breathing Space* and *Sick Building Syndrome* indicates, historians' depictions and analysis of the development of immunological knowledge has also been shaped by the roles they see themselves having in these debates.

Gregg Mitman's *Breathing Space*, for example, is a call for action. It begins with an account of how bronchial asthma came close to killing the author when he was a child, and concludes with an indictment of the close connection between medicine and

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<sup>4</sup> Donna J. Haraway, 'The Biopolitics of Postmodern Bodies: Determinations of Self in Immune System Discourse', in *Knowledge, Power and Practice: The Anthropology of Medicine and Everyday Life*, ed. Shirley Lindenbaum and Margaret Lock (Berkeley: University of California Press, 1993); Emily Martin, *Flexible Bodies: Tracking Immunity in American Culture from the Days of Polio to the Age of AIDS* (Boston: Beacon Press, 1994); Pauline H. Mazumdar, *Species and Specificity* (Cambridge: Cambridge University Press, 1995); Thomas Söderqvist, *Science as Autobiography: The Troubled Life of Niels Jerne*, trans. David Mel Paul (London: Yale University Press, 2003); Söderqvist, Stillwell and Jackson; Alfred I. Tauber, *The Immune Self: Theory or Metaphor?* (Cambridge: Cambridge University Press, 1994).

<sup>5</sup> Mark Jackson, *Allergy: The History of a Modern Malady* (London: Reaktion Books, 2006); Gregg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes* (New Haven: Yale University Press, 2007); Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* (Durham, NC: Duke University Press, 2006).

commerce, as well as modern medicine's failure to recognise the link between health and the environment.<sup>6</sup> Examining how allergy has not only shaped the lives of sufferers, but also left an indelible mark on the American landscape, Mitman argues that it is imperative for Americans to 'better understand how perceptions of environment and illness shape one another', and learn from the mistake of 'steadfastly ignoring the complexity of environmental interactions in the search for simple solutions' to allergic illness. The increase in incidences of allergy in the US during the twentieth century, according to Mitman, has been largely caused by ecological factors, some caused paradoxically by ill-conceived responses to allergic illness itself.

Mitman begins his study by exploring how Americans dealt with hay fever during the late nineteenth and early twentieth centuries. Although hay fever was a curse to many Americans during the summer months, it was also seen as a marker of high society, and a bond that linked sufferers to other members of the privileged class. The response to this aristocratic malady was also restricted to the upper classes, namely, annual escape from the city to areas such as the White Mountains of New Hampshire or the northern shores of Lake Michigan for months at a time. These 'hay fever holidays' not only reinvigorated sufferers, they also introduced tourism and conservation to regions whose previous forestry-based economies had been exhausted.<sup>7</sup>

Ironically, two of the major retreats for asthma sufferers slightly later in the twentieth century, Denver, Colorado and Tucson, Arizona, would not benefit in quite the same way from the influx of asthmatics who sought out their clean air and dry climate. By the 1950s, Denver's rapid population growth, combined with the city's reliance on the automobile, made the city 'become as famous for its "brown cloud" as it once had been for its "clear skies" and "fresh mountain air."' <sup>8</sup> Similar factors also deteriorated the air quality in Tucson, but also problematic was the introduction of foreign trees and grasses which caused the formerly pollen-free city in the desert to become a hay fever sufferer's nightmare; what had been a 'ecological haven had become an ecological hell.'<sup>9</sup> Despite the fact that the ecological health benefits of Denver and Tucson had been squandered, medicine remained an economic force, as both cities became home to world-renowned

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<sup>6</sup> Mitman, *Breathing Space*, pp. ix, 249-50.

<sup>7</sup> Mitman, *Breathing Space*, pp. 13-5.

<sup>8</sup> Mitman, *Breathing Space*, p. 123.

<sup>9</sup> Mitman, *Breathing Space*, pp. 127-8.

institutions for the biomedical study and treatment of respiratory and allergic disease. As such, Denver and Tucson provide ideal lenses through which to view how asthma, once thought to be an ecological problem requiring ecological solutions, became a disease of the individual, a problem that required the individual, rather than the environment, to change.

The second half of *Breathing Space* provides more specific examples of how, despite evidence to the contrary, medical responses to asthma have ignored the social, economic and political circumstances in which the disease has thrived. Asthma became endemic, and more dangerous, in the urban slums during the 1960s and 1970s and, as such, affected African Americans and Latinos disproportionately in cities such as New York and New Orleans. Focussing instead on the notion that asthma was 'symptomatic of the damaged black psyche', epidemiologists overlooked the environmental inequities facing African Americans and Latinos, as well as their lack of medical care.<sup>10</sup>

Reluctant to view the environment as an aetiological factor, physicians turned to various technologies in an effort to protect individuals, those who could afford such measures, from common allergens. From portable air filters and special vacuum cleaners to antihistamines and inhalers, the technological fixes were not only varied, they were also profitable. Although some allergists called for a more holistic approach to allergic disease, the discovery of immunoglobulin E (IgE), 'the holy grail of allergy, the molecular key that might unlock the biochemical mystery of the allergic body' in 1967 by Kimishige and Teruko Ishizaka pushed research even more to technological, rather than ecological, solutions. Although the drugs that would emerge out of immunological research helped sufferers, such as Mitman, cope, they also masked the underlying ecological and socio-economic issues which caused such suffering in the first place. For Mitman, allergic disease must not be seen as an issue relating solely to 'the body within', it is much more so a product of our relationship to the environment and the political, social and economic factors that shape that relationship.<sup>11</sup>

Although Michelle Murphy's *Sick Building Syndrome* also questions the biomedical orientation of modern medicine, she focuses more on how understandings about sick building syndrome (SBS) have developed over time. SBS was first conceptualised during

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<sup>10</sup> Mitman, *Breathing Space*, pp. 146-7.

<sup>11</sup> Mitman, *Breathing Space*, pp. 249-53.

the 1980s as a mysterious and disabling, yet highly contentious, occupational health problem faced by office workers, typically women, working in office buildings constructed with a plethora of new synthetic materials and sealed airtight for the sake of energy efficiency following the energy crisis of the early 1970s.<sup>12</sup> Although it is clear that Murphy views her subject as a legitimate, worrying and perplexing phenomenon, a health problem symptomatic of an increasingly chemicalised indoor environment and one warranting political and medical action, the reality of SBS is not Murphy's chief concern.<sup>13</sup> Instead, she is interested in 'the practices by which chemical exposures were granted or not granted existence' and, especially, how the different histories of chemical exposures rendered SBS as a phenomenon characterised by uncertainty.<sup>14</sup> Indeed, when the concept of SBS was put to occupational health investigators during the late 1970s, 'their equipment almost never registered a chemical exposure'.<sup>15</sup> Nevertheless, Murphy implies that just because it was difficult to detect such substances and that such exposures were 'materialized as uncertain events',<sup>16</sup> this does not mean that the chemicals to which office workers were exposed were imaginary or harmless. For Murphy, it is ultimately power, wielded by corporations, governments, or even organised groups of office workers, which renders such exposures legitimate or not. In other words, 'exposures are made to matter'.<sup>17</sup>

Murphy begins by tracing the emergence of the two protagonists in her story: the modern office building (and, particularly, its ventilation system) and the modern office worker. In many ways, the two went hand in hand; office buildings were built to provide a standardised environment for workers whose bodies were also expected to be

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<sup>12</sup> Murphy, *Sick Building Syndrome*, p. 2. Mark Jackson also describes how the proliferation of chemicals in the indoor environment was linked to increases in allergy. Jackson, pp. 166-7.

<sup>13</sup> Indeed, in a separate publication on multiple chemical sensitivity (MCS), Murphy states how the subject is a difficult one for her to conceptualise as a social historian, since 'the tools of social constructivism and cultural studies will not always perform in the interest of those with whom my political sympathies lie'. In other words, a typically constructivist approach might question the reality of MCS because MCS involves a multitude of symptoms and causes and, thus, appears to be particularly socially contingent. Michelle Murphy, 'The "Elsewhere within Here" and Environmental Illness; or How to Build Yourself a Body in a Safe Space', *Configurations* 8 (2000), p. 88.

<sup>14</sup> Murphy, *Sick Building Syndrome*, p. 7.

<sup>15</sup> Murphy, *Sick Building Syndrome*, p. 3.

<sup>16</sup> Emphasis in original. Murphy borrows this term from Judith Butler's book, *Bodies that Matter: On the Discursive Limits of "Sex"*. She depicts 'materialization as the effect of power as exercised through the concrete arrangement of objects, actions, and subjects'. In a way, materialisation can be seen as a more robust version of social construction, where non-human, indeed, inanimate actors such as buildings, chemicals and even ventilation systems are employed to give a concept structure and fixity à la Bruno Latour and actor-network theory. Murphy, *Sick Building Syndrome*, pp. 7, 181; Bruno Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge, MA: Harvard University Press, 1987).

<sup>17</sup> Murphy, *Sick Building Syndrome*, p. 18.

standardised and immutable. As Murphy describes, 'the office building's cool, comfortable air was the material manifestation of a historically specific, gendered, and raced way of apprehending the relationship between office workers' bodies and the spaces that ordered their labor.'<sup>18</sup> The buildings built during the boom of the 1950s symbolised many of the features of the US during the period. Buildings were designed to control completely the indoor environment against the perils of the outdoors, much like the sprawling suburbs were intended to shield their residents against the threats posed by urban slums. While inside, the white, middle class members of this 'corporate utopia' were afforded "space age" comfort, 'a workplace that could painlessly extract labor from bodies.'<sup>19</sup> Following the energy crisis of the 1970s, such buildings were hermetically sealed so as to increase energy efficiency, and to protect the newly introduced information technologies, such as computers, from external grit and grime. Although Murphy does not describe it so, such buildings can also be seen as a type of immune system, protecting capitalism, rather than workers, from interference from the outside world and worker inefficiency.

Women office workers, as Murphy explains, were also conditioned for productivity. For Murphy, however, the comfortable office was also the means by which employers could exploit women workers and, as the possibly pathological side effects of the perfect indoor environment started to be recognised by the increasingly feminised labour force of the 1970s, 'the office was rematerialized as a site of oppression and pathology.'<sup>20</sup> Conceptualising the office as such required not only the workers' articulation of symptoms, ranging from headaches and dizziness to rashes and immune system problems, it also required political organisation, provided in this case by the nascent women's office movement. Seen 'as a practical extension of the larger women's movement into the lives and concerns of working-class women', groups such as 9to5, formed in 1972, took up issues such as the 'toxic office', and were indispensable in materialising SBS.<sup>21</sup>

Once the volume of complaints from women workers, expressed first in the form of protest and later captured by surveys, was enough to warrant attention, two competing

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<sup>18</sup> Murphy, *Sick Building Syndrome*, p. 19.

<sup>19</sup> Murphy, *Sick Building Syndrome*, pp. 27-34.

<sup>20</sup> Murphy, *Sick Building Syndrome*, pp. 57-8.

<sup>21</sup> Murphy, *Sick Building Syndrome*, pp. 61, 65-71.

groups of experts contested the validity of SBS. While industrial hygiene experts rooted their understanding of chemical exposure in terms of levels of toxicity determined by laboratory investigations, popular epidemiologists, who could be laypeople, activists or sympathetic scientists, gathered information about chemical exposure by mapping the distribution of health problems in relation to the location of suspected pollutants.<sup>22</sup> These differing ways in which to detect and interpret the effects of chemical exposure come to the fore in Murphy's case study of SBS during the 1980s at the US Environmental Protection Agency's (EPA) headquarters in Washington, DC.

Although Murphy contends that the manufactured comfort built into the office buildings of the Cold War period was actually an instrument of capitalist coercion and discipline, there is a distinct irony that such measures contributed to the emergence of SBS; not only did the imposition of comfort paradoxically lead to illness, such illnesses also resulted in unintended absenteeism and un-productivity. It is in the chapter about SBS at EPA headquarters at Waterside Mall, however, where these ironies, heretofore simmering close to the surface of Murphy's story, boil over into near absurdity. In a book situated on the borderlands of immunology, such irony is appropriate. Immunology, as conceived by Jerne and Burnet, is a logical system which distinguishes external friends from foes; self is defended against non-self. But when immune systems in individuals go awry, and bodily defences are rallied self-destructively against seemingly harmless external substances, such as peanuts, or, even more alarmingly, internal tissues, as with autoimmune diseases, the logic of the system disintegrates. If the office buildings of the post-war period can be conceived as a type of immune system protecting capitalism from outside threats, then SBS can also be seen as a kind of autoimmune disease, an overreaction to substances (carpets, photocopier fluid, cleaning products) intended to benefit the system. When this metaphor is set aside, however, it becomes more difficult to understand why chemical exposures in the workplace could not be unequivocally identified as being harmful, particularly at a place such as the headquarters of the EPA. According to Murphy, such inconsistencies had a great deal to do with disempowerment, caused by corporate interference, entrenched racism and technological limitations.

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<sup>22</sup> Murphy, *Sick Building Syndrome*, pp. 81-110.

Symbolising the lack of respect given to the EPA during the Reagan administration, Waterside Mall was said to resemble a 'Third World public hospital', but it was not until the administration provided some superficial renovations, including new carpet, that the EPA scientists began to suspect that it was a 'sick building'.<sup>23</sup> Suffering from an array of symptoms, the scientists acted through their union, Local 2050 (which had been formed by the scientists in 1983 in an effort to protect themselves against corporate influence), to turn their gaze towards their own workplace. But in an even more ironic twist, the scientists' very own testing procedures proved incapable of detecting a causal relationship between the building and their illnesses. Unwilling or, perhaps, epistemologically unequipped to question the manner in which they determined the presence of environmental hazards, EPA scientists unwittingly demonstrated how chemical exposures could be rendered imperceptible.

Race also played a role in the EPA saga. While the predominantly white, middle class scientists of the EPA envisioned Waterside Mall as a neutral space in which their work as witnesses for nature could go unhampered, they failed to recognise the broader social context in which such activities took place, that is, in a city marked by racial divide, and in an agency where whites stood above black workers in the organisational hierarchy. More insidiously, when the EPA was successful in suing an industrial polluter, it tended to be those located near white, middle class neighbourhoods that were targeted; as a result, polluters increasingly engaged in practices of 'environmental racism', locating toxic sites in disadvantaged areas where disenfranchised groups were less likely to resist.<sup>24</sup> When African-American EPA employees organised 'EPA Victims against Racial Discrimination (EPAVRD)' in response to a number of cases of workplace discrimination, the parallel was drawn: how could a racist environmental agency overcome environmental racism?<sup>25</sup> The story of Waterside Mall illustrates neatly how understanding of SBS has been influenced more by extenuating factors, such as entrenched technologies, ideology and discriminatory practices, than by the experiences and thoughts of those who claim to suffer from it.

The final chapters of *Sick Building Syndrome* continue in this vein, concentrating on how different parties, ranging from tobacco companies to the advocates of clinical ecology,

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<sup>23</sup> Murphy, *Sick Building Syndrome*, pp. 113, 123.

<sup>24</sup> Murphy, *Sick Building Syndrome*, pp. 113-8.

<sup>25</sup> Murphy, *Sick Building Syndrome*, p. 128.



have tried to conceptualise the health risks posed by chemical exposure. While tobacco companies quite successfully depicted SBS as a being caused by nebulous, transient chemicals whose causal links to health problems were highly disputable, therefore rendering accountability for the syndrome nigh impossible, clinical ecologists envisioned multiple chemical sensitivity (MCS, or environmental illness, a broader term which incorporates SBS) as a phenomenon against which action could be taken. Unfortunately for clinical ecologists, however, because ‘individualized reactions are difficult, if not impossible, to objectify with conventional biomedical techniques and because they are elicited by low, subatomic, supposedly safe levels of common, unrelated chemicals, the very existence of MCS was highly controversial’.<sup>26</sup> MCS, as Murphy describes, was ‘abjected from biomedicine as a condition outside of “disease” – that is, as an invalid bodily state.’<sup>27</sup> Although the shift from SBS to MCS is slightly jarring, and a somewhat odd capstone to Murphy’s story, since it introduces debates about allergy and immunology that could alone warrant a monograph, and adds patients’ perspectives largely missing from the rest of the book, it provides a more protracted and compelling case study of how the legitimacy of illness can be elusive in modern medicine. Because of this, Murphy urges individuals to take agency over their own bodies, to become ‘an expert on your body’s rebellions’ and to accept health paradigms that suit their personal circumstances.<sup>28</sup>

For Murphy, the history of SBS demonstrates that both its proponents and detractors have relied on technology, ideology and politics to make their case for its authenticity. Her account of ‘how to build yourself a body in a safe place’, however, demonstrates that, despite the materialised or constructed nature of any conceptualisation of SBS, individuals have to make choices about what to believe, and that her instinct is to distrust those who have had the power to force their versions of SBS upon others. To give the benefit of the doubt to those at the impotent end of a ‘distinctly uneven world’ may be laudable, but it creates an uncomfortable dichotomy for the historian of medicine. The truth, reality or facts about SBS and chemical exposures might not reside with one construction of SBS or another, but somewhere in the middle.

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<sup>26</sup> Murphy, *Sick Building Syndrome*, p. 151.

<sup>27</sup> Murphy, *Sick Building Syndrome*, p. 152.

<sup>28</sup> Murphy, *Sick Building Syndrome*, p. 175.

Indeed, Mark Jackson is consistently critical in his history of allergy. For Jackson, the many meanings of allergy that have emerged during the twentieth century have been shaped and reshaped not simply by clinical and laboratory science, but also by contemporary medical philosophies, such as the mid-century interest in psychosomatic medicine, 'the global economy of allergy' and anxieties about 'the distinct health hazards supposedly intrinsic to modern Western lifestyles'.<sup>29</sup> Allergy, according to Jackson, has increasingly been considered 'an archetypal disease of modern civilization', a disease indicative of 'progressive ecological imbalances'.<sup>30</sup> In this way, allergy can be understood as a critique of modern culture as well as a clinical and laboratory phenomenon, just as Thomas Beddoes (1760-1808) and George Beard (1839-1883) interpreted consumption and neurasthenia, respectively, as being symptomatic of their pathological societies.<sup>31</sup>

Having established this theme, Jackson proceeds to explore the origins of allergy, a term coined in 1906 by Austrian paediatrician Clemens von Pirquet (1874-1929) 'to denote any form of altered biological reactivity'.<sup>32</sup> Jackson emphasises how early twentieth century notions of allergy emerged out of both laboratory and clinical investigations into hypersensitivity, the phenomenon describing when immune responses in individuals are pathologically excessive. Von Pirquet's interest in such reactions, for example, were influenced not only by his knowledge of contemporary research into hypersensitivity in laboratory animals, most notably the experiments conducted by Charles Richet (1850-1935), Paul Portier (1866-1962) and Maurice Arthus (1862-1945), but also his observations of serum sickness in children vaccinated against scarlet fever and diphtheria in Viennese clinics.<sup>33</sup> Although the benefits of such immunisation campaigns in reducing rates of infectious disease were clear, the emergence of serum sickness soon after they commenced provided an early example of how allergic disease could be associated with progress, in this case, advances in medical practice.

Jackson further explores the clinical and laboratory origins of allergy by describing early allergy practitioners in Britain, particularly Leonard Noon (1877-1913) and John Freeman (1876-1962), who focussed primarily on hay fever. Noon and Freeman worked at St. Mary's Hospital in London, and developed techniques for desensitising patients against

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<sup>29</sup> Jackson, *Allergy*, pp. 45-52, 72-102, 103-4, 149.

<sup>30</sup> Jackson, *Allergy*, p. 12.

<sup>31</sup> Jackson, *Allergy*, pp. 13-5, 29.

<sup>32</sup> Jackson, *Allergy*, p. 10.

<sup>33</sup> Jackson, *Allergy*, pp. 31-7.

hay fever by injecting them with pollen extracts, otherwise known as immunotherapy. The application of immunotherapy to clinical allergy relied not only on careful clinical observations of the effects of extracts produced in the laboratory, but also the development of commercial arrangements between allergists and pharmaceutical companies, such as Parke, Davis & Company, which marketed and sold the extracts refined by allergists.<sup>34</sup> Such collaborations also emerged in North America, and clinical allergy expanded considerably during the inter-war period. Despite successes with desensitisation, allergists had difficulty establishing themselves as a distinct and legitimate medical profession. Such difficulties were partly due to ‘anxieties about the style of clinical medicine practised by allergists, about the safety and efficacy of desensitisation, and about the potential for profiteering’, but also because of jurisdictional conflicts.<sup>35</sup> Allergists, especially in North America, struggled with paediatricians, dermatologists and, following the development of psychosomatic theories of allergy following the Second World War, psychiatrists over the treatment of allergic patients.

The second half of *Allergy* shifts focus from the establishment of allergy as a concept and a medical discipline towards the post-war emergence of allergy as a major cultural phenomenon. As the incidence and prevalence of allergy increased rapidly, allergic disease was seen not only as a threat to health, but also as an economic opportunity and a symptom of pronounced ecological problems. On the one hand, numerous companies, representing the pharmaceutical, cleaning, cosmetics and food industries, ‘responded to and, in some cases fuelled and exploited, escalating fears of allergic diseases.’<sup>36</sup> On the other hand:

as civilization had progressed, so to had a widening range of substances capable of provoking allergies; by the end of the twentieth century, the human (and indeed other animal) populations of most developed countries were thought to be floating in an expansive ocean of allergies, spawned particularly by the processes of industrialization and urbanization.<sup>37</sup>

The most radical expression of such concerns was to be found in ‘total allergy syndrome’, a condition in which patients were allergic to numerous chemical by-products of modern domestic and occupational environments.<sup>38</sup> Although the syndrome, and its

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<sup>34</sup> Jackson, *Allergy*, pp. 75-6.

<sup>35</sup> Jackson, *Allergy*, pp. 76-7, 90.

<sup>36</sup> Jackson, *Allergy*, pp. 103-4.

<sup>37</sup> Jackson, *Allergy*, p. 151.

<sup>38</sup> Total allergy syndrome is another term for Multiple Chemical Sensitivity, discussed in Sick Building Syndrome. Jackson, *Allergy*, 181-3.

main proponent, the newly emergent clinical ecology movement, were often the subject of ridicule, its sufferers could also be perceived in a similar light as patients battling other escalating modern ailments, such as cancer, diabetes, heart disease, obesity and less controversial allergies.

The emergence of allergy, therefore, can be interpreted in many different ways, making it difficult to decipher why it became such a pervasive disease. Reflecting on Ulrich Beck's assertion that ubiquitous late twentieth century health risks were both real and imagined, Jackson raises the possibility that contemporary concerns about the proliferation of allergy had as much to do with fears about the health risks associated with modern Western civilisation as they did with increasing numbers of allergens.<sup>39</sup> Once 'indicative of a self-destructive pathological process, allergy was adopted as a suitable metaphor for the self-inflicted damage being wrought by Western civilization and as a symbol of radical endeavours to resist the commercial values and biological hazards propagated by modern society'.<sup>40</sup> For Jackson, 'allergy is a malady of our own creating', not only in the sense that it is a real reaction to the stresses of modernisation, but also in that it is a manifestation of deep cultural anxiety about such modernisation. In order to understand how our understandings and experiences of allergy have changed over time, it is imperative to conceive of the cultural and biological aspects of disease as not being separate entities, but as linked, interdependent features of a broader and more holistic notion of illness and health.

Despite the differences in their approaches, Mitman, Murphy and Jackson all demonstrate how immunological knowledge has been shaped by a wide range of scientific, technological and social factors. Although this may be news to some immunologists, it is certainly not a surprise to most historians of medicine. When compared with one another, however, each of these captivating books suggest that, even when the construction or materialisation of knowledge is taken for granted, there are many different ways of interpreting this process and, more importantly, applying it not only to other aspects of medical history, but also to medical practice. For Mitman, modern medicine's focus on the allergic body, rather than the allergenic environment, has been shaped by economic, political and cultural factors, and has largely been misguided. On balance, Mitman's assessment is accurate, but it is also important to

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<sup>39</sup> Jackson, *Allergy*, pp. 179-80.

<sup>40</sup> Jackson, *Allergy*, p. 215.

recognise that theories which consider health in ecological terms are also influenced by cultural trends, ideology and history. Murphy appears more willing to acknowledge that all scientific ideas are materialised, but also makes a conscious choice to throw her support behind those theories of SBS that, whilst bound up in certain metaphors, histories and even myths, are not inextricably entangled with the imperatives of capitalism, gender politics and a racially inequitable society. Jackson, on the other hand, is more even-handed in his assessments of how competing theories of allergy have developed. As such, it may be argued that the prescriptive element in *Allergy* is less pronounced than that of *Breathing Space* and *Sick Building Syndrome*. Such is not quite the case. While it is true that Jackson is least explicit about how modern medicine should tackle allergic illness, he provides the most nuanced way in which we might understand the phenomenon in spite of its epistemological messiness, and this is likely an even more valuable lesson.

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