



# 'Safe space' as counter-space: women, environmental illness and 'corporeal chaos'

FIONA COYLE

Agribusiness and Economics Research Unit, P.O. Box 84, Lincoln University, Canterbury, New Zealand (leadora2000@yahoo.com)

*Women constitute a disproportionate 80 percent of people diagnosed with environmental illness (EI), a contentious condition in which patients react adversely to everyday chemicals in the environment at levels politically conceived to be 'safe'. Whilst the diverse range of somatic symptoms constitutes a biomedical anomaly, in this paper I present an alternative means of conceiving environmentally ill bodies. Women (and environmental health practitioners at the Environmental Health Centre, Nova Scotia) have begun to view their bodies as complex systems that have been nudged into a state of 'corporeal chaos', in which minute quantities of chemicals trigger disproportionate somatic symptoms. This chaos extends into 'corporeal space' [Moss and Dyck (1999a)] as the diagnosis of environmental illness is experienced simultaneously through both material and discursive bodies. This diagnosis also carries with it a means to mitigate corporeal chaos through a series of body- and environment-based modifications that replace risky bodies with 'safe space'. As a discursive construct, safe space is associated with an absence of chemicals, and in order to mitigate chaos, should ideally be stable, predictable, controllable and communicative. I finalise this paper with some examples of body modifications and illustrate how safe space materialises in the home environment.*

*Les femmes constituent une majorité disproportionnée de 80% des personnes diagnostiquées comme ayant des sensibilités environnementales, condition controversée dans laquelle les patients réagissent à des niveaux politiquement dit 'pas dangereux' de produits chimiques communs dans l'environnement. Tandis que l'étendue des symptômes constitue une anomalie biomédicale, je présente dans cet article un moyen différent de concevoir les corps affectés par l'environnement. Les femmes (et professionnels de la santé au centre de santé environnementale de la Nouvelle Ecosse) ont commencé à voir leurs corps comme étant des systèmes complexes qui ont été poussés dans un état de 'chaos corporel', dans lequel des quantités infimes de produits chimiques déclenchent des réactions physiques disproportionnées. Ce chaos s'étend dans un 'espace corporel' [Moss and Dyck (1999a)] où le diagnostic de maladie environnementale est réalisé simultanément de façon à la fois matérielle et discursive. Le diagnostic s'accompagne également d'un moyen de mitiger le chaos corporel au travers d'une série de modifications du corps et de l'environnement qui remplacent le risque avec un 'espace sain'. En temps que construit discursif, l'espace sain est associé avec l'absence de produits chimiques, et afin de mitiger le chaos, il devrait être idéalement stable, prévisible, contrôlable et communicatif. Je termine cet article avec quelques exemples de modifications corporelles et illustre comment l'espace sain se matérialise dans l'environnement familial.*

We have made ourselves unsafe. Nothing we use does not give out something that's detrimental to the body. We are just flesh. (Gabriella, age: early seventies)

After recent debates in the geography of health and healthcare, three main avenues of exploration have emerged. Firstly, a number of researchers have developed a strong and flourishing interest in environmental health concerns and their relationship to risk (Dunn and Kingham 1996; Baxter *et al.* 1999; Garvin and Eyles 2001; Wakefield and Elliott 2000; Wakefield *et al.* 2001). Secondly, there was the emergence of the humanistic/structuralist concept of 'therapeutic landscapes' (Gesler 1990, 1993, 1998; Geores 1998; Williams 1998). These historical sites possess healing properties that have been utilised for the maintenance of health, at a time when the sterility of hospital settings is thought to be detrimental to personal well-being. Finally, after a series of theoretical debates in the mid-1990s (Eyles and Litva 1995; Kearns 1993, 1994, 1995; Kearns and Joseph 1993; Dorn and Laws 1994), an emphasis has been placed on the role of bodies and space. In particular, after the suggestion of Dorn and Laws (1994, 108) that there was a need for research on geographies of the 'deviant' or ill-body and its intimate relationship to space, a number of research papers were published on the experiences of women living with chronic illness, mental health issues and disabilities (Dyck 1995, 1998, 1999; Moss and Dyck 1996, 1999a, b; Moss 1997, 1998, 1999; Chouinard 1999; Butler and Parr 1999; Parr 1999; Davidson 2000a, b, 2001; Bankey 2001).

Similar to other chronic illnesses, it has been suggested that the majority of those identified with environmental illness are women (Cullen *et al.* 1992; Heuser *et al.* 1992; Kipen *et al.* 1992; Gibson 1993, 171). This assertion implies that both sex and gender differences may play a role in determining who might be susceptible to such a condition. Through a series of surveys and personal interviews, Gibson (1997, 25) suggested that chemical sensitivity was more prevalent among women, due to 'gendered' exposures to cosmetics and household cleaners, and pink-collar exposures to photocopies fumes and pesticides. Furthermore, the different detoxification system in the female body (Rogers 1990), hormonal differences (Milne 1999) and a smaller mean body mass (Paulsen 1993) may play dominant roles in 'sexing' this illness.

Although sociologists have explored environmental illness and now it relates to bodies and degraded environments (Kroll-smith and Ladd 1993; Kroll-smith and Floyd 1997; Shriver *et al.* 1998; Murphy 2000), there has been no focused research on the topic of environmental illness within geography. Consequently, this paper attempts not only to 'bring the body back in' (Dorn and Laws 1994) but following Eyles (1997), to integrate environmental health concerns with recent theoretical trends in the discipline. It unpacks the complex relationships between bodies, environments and environmental degradation by focusing on how women with environmental illness conceptualise and create 'safe space'.

Undeniably, as its competing synonyms imply, environmental illness (EI), multiple chemical sensitivity (MCS) or environmental hypersensitivity (EH) is a complex issue. Its associated range of somatic symptoms confounds biomedical attempts to formulate a cohesive definition, aetiology (disease mechanism), series of diagnostic tools and effective treatment regimes. Indeed, numerous definitions have been recorded in the literature (Randolph 1965; Thomson *et al.* 1985; Cullen 1987, 1992; National Research Council, Board on Environmental Studies and Toxicology, Commission on Life Sciences 1992; Ashford and Miller 1992; Nethercott *et al.* 1993) for these 'bodies against theory' (Kroll-smith and Floyd 1997), but EI evades epistemological capture for there are always slight discrepancies among them. Consequently, according to Sparks *et al.* (1994, 728), 'MCS is rapidly becoming a politically defined illness in the vacuum created by a lack of data'. Indeed, this lack of solid data resulted in a paradigm clash between biomedicine, psychiatry and environmental medicine. Whilst clearly an important and contentious issue, I do not intend to resolve this messiness, but briefly focus upon the lived experiences of women whose lives are caught in between this clash of perspectives. As a result, I provide a more pragmatic definition of environmental illness that draws out a number of relevant points from the cacophony of definitions.

The environmentally ill are a group of individuals who experience adverse reactions to legally 'safe' chemical exposures, to the point that everyday space becomes disabling for them. Owing to the intermittent presence of fatigue and muscle pain, EI closely resembles both chronic fatigue

syndrome (CFS) and fibromyalgia (FM) (Buchwald 1994). Symptoms are manifold and include 'brain fog', headaches, nausea and vomiting, laryngitis, irritable bowel syndrome, sore throat, rashes, skin wheals, extreme fatigue, anxiety, depression and acutely heightened senses (especially smell). This diverse array of symptoms are thought to be related to dysfunction in the central nervous system (CNS) (Bell *et al.* 1992) and immune system (Meggs 1993), whose 'protective ordering functions' are 'present in every part of the body' (Martin 1998, 69). Whilst reactions to specific chemicals differ between environmentally ill bodies, the same set of symptoms will appear repeatedly in each individual. In the absence of standardised treatments for this elusive condition, large numbers of the EI population have turned to environmental health practitioners, whose arguably controversial remedies focus upon both the production of what they call environmentally safe space and the removal of toxins from body-tissue (see Rea 1992).

In this paper, I focus upon how women with EI create safe spaces in their homes and everyday lives that allow them temporary relief from experiencing their symptoms. Namely, the production of safe spaces enables women to resist this debilitating condition. Strategies for constructing safe spaces are unique to each participant and based upon severity of symptoms, personal living conditions, social support and economic wealth. My conceptual framework draws upon both the work of Moss and Dyck (1999a) on corporeal space and that of anthropologist Martin (1994, 1998, 1999) who has taken a critical look at new ideas from science which suggest that the body itself is a complex system on the edge of chaos. This framework is used to support the assertion that environmentally ill women are in a state of what I call 'corporeal (embodied) chaos', both in terms of symptomologies and the socioeconomic consequences of these strange reactions. From this perspective, safe space emerges as one strategy to calm this chaos through the reproduction of safety in environments that must be understood in terms of risk. Whilst this concept is somewhat utopian (for environmental safety is always a negotiated process) some strategies to attain safety are outlined. Although undeniably intertwined, these strategies are divided into those that are body-centred and those that are environment-centred. However,

before I commence this exploration, I will briefly provide details of my methodological approach.

## Research Methods

This research project is based on a series of semi-structured and photo-elicitation interviews,<sup>1</sup> with a total of 18 women from Ottawa, Toronto and Halifax, that were conducted between February 2000 and August 2000. The research was not specifically focused upon women, but they were highly represented in this study (90 percent of my respondents). This is a typical gender split for people with environmental illness and supports the work of Gibson (1993), who suggested that 80 percent of those diagnosed with EI are women. These women were predominantly educated, middle-class and white (with the exception of 1 African Canadian woman) and their ages ranged from 22 to 72, the majority being in their forties and fifties. Respondents were either diagnosed with 'environmental illness' by environmental health practitioners or self-diagnosed. They ranged in severity of illness from mild sensitivities to severe EI and had experienced symptoms for 2 or 3 years to as long as 20. Nine out of 18 of these women were not working (whether retired, studying, unemployed or on disability), a notable half were government workers or university employees, who had initially been exposed to chemicals or moulds in the 'workplace' and the other half named their own homes as the determining factor in the onset of illness.

The environmental illness community I studied is fairly small and close-knit, yet spatially isolated (many women live on the margins of Ottawa) and politically fragmented (support groups often have conflicting agendas). Moreover, due to the societal stigmatisation of environmental illness, I suspected that not all members of this community would be willing to talk to a stranger. As a result, my methods of enlisting respondents reflect these characteristics. Whilst flyers posted around universities and healthcare centres failed to attract attention, 'snowballing' with the aid of two Ottawa-based support groups, the Allergy and

1 This included two small discussion groups. The first one was composed of the parents of one of my respondents, and they participated in the first interview. The second was a planned discussion group, organised through the Environmental Illness Society of Canada, comprised of three respondents, one of whom later volunteered to be interviewed.

Environmental Health Association (AEHA) and the Environmental Illness Society of Canada (EISC) proved to be more fruitful in recruiting respondents.

A series of in-depth, semi-structured interviews explored respondent's perceptions of body-environment relationships and safe space at the local, national and global levels. Twelve of the 18 women also participated in a two-step photo elicitation process specifically on the topic of safe space. Photo-elicitation is an approach drawn from visual sociology that usually involves taking photographic representations of particular locations and asking research respondents to discuss these images during a 'photo-elicitation interview' (see Harper 1988; Snyder and Kane 1990; Gold 1991; Norman 1991; Prosser 1996, 1998). It is a reflexive process, for the photograph provides a focal point for the mutual definition of meanings, attitudes and values (Harper 1988). The technique was adapted for my own purposes and involved a preliminary discussion of the term safe space as part of the first interview on body-environment relationships, during which I asked respondents to name some places that they associated with varying degrees of safety. In the interim period between this and the second interview, I took a series of black and white photographs of these places and had them processed. After a discussion of the meaning of safety during the subsequent interview, I used these photographs as a stimulus to elicit responses on more specific places and how respondents negotiated safety in these contexts.

Alongside this focus on patient experiences, I also interviewed 8 health professionals at the Environmental Health Centre, Nova Scotia (EHCNS), the only research and treatment centre for environmental illness in Canada. All interviews and the two discussion groups were tape-recorded and relevant sections 'analytically' transcribed.<sup>2</sup> Resultant data were grouped into a number of themed, but overlapping sections and sub-sections. Themes included 'places', symptoms

2 Since my focus was on the detection of relevant, hence, geographic themes that emerged from the dialogue, I decided to employ a technique known as "analytical transcription". Analytical transcription focuses the researcher on listening to their data, playing the tapes until suitable themes come to light. Only at this point, should this selected, relevant data be transcribed, in combination with notes on the general progression of the interview. This technique saves time and effort, yet also enhances the attention paid to verbal cues (tone of voice, hesitations, silences).

and their links to environments, history of illness, theories on illness, coping methods and the meaning of safe space. These emerged from my emphasis on body-environment relationships and safe space, the initial structure of interviews and a series of participant agendas that arose during conversations. From the analysis of these data and subsequent confirmation from selected respondents, environmentally ill women describe their bodies as responding in a chaotic manner to environmental stimuli. Whilst they express their experiences in a deliberately materialist way in order to validate their illness (see also Murphy 2000), embodied chaos also permeates social space. In the following section, I will explore the interactions between embodied and social chaos.

### **Environmental Illness: Bodies in Chaos**

For environmentally ill women, minute chemical exposures produce disproportionate corporeal reactions. These manifest as a volatile constellation of symptoms that may shift between organs, spread throughout the body and/or magnify through time. Many respondents also experience what they call an inexplicable 'tremor', 'shaking on the inside' or feelings of being 'on edge' and 'fried' or 'falling apart inside'. Such experiences often confound attempts by MDs to diagnose a problem, for they lie outside the confines of the biomedical model that focuses on the identification of recognisable patterns of symptoms. Instead, practitioners at the Environmental Health Centre, Nova Scotia, see complexity theory as an alternative epistemological framework from the biomedical model through which to explain the myriad of unstable symptoms that their patients experience. Namely, whilst EI disturbs the structured regularity of the biomedical model, its volatility slides comfortably into the diversity of chaos.

Via a series of interviews, Martin (1994, 1998) found that people have begun to see their bodies as dynamic, complex systems on the edge of chaos. Namely, as embodied subjects, we recognise that corporeality involves experiences of unpredictability, discontinuity, irregularity and at times, turbulence (Briggs and Peat 1989; Hayles 1990, 1991; Thrift 1999). Complex systems are embedded with certain epistemological assumptions

that include the existence of critical thresholds, non-linearity, self-organisation, sensitivity to initial conditions, self-similarity between scale levels and feedback (Hayles 1990, 1991; Wieland-Burston 1992). This emphasis means that bodies can be conceived as dynamic aggregates that can evolve over time (Coveney and Highfield 1995, 425). The non-linearity associated with complex bodies also means that they are flexible to the point that they can adjust to discord (illness) in one locale by re-adjusting another (Martin 1994, 125).

However, non-linearity can lead to unforeseen consequences, and 'because small initial changes can have large effects... sudden, catastrophic eruption or collapse can, and indeed eventually will, occur' (Martin 1994, 125). Minute changes can precipitate the onset of chaos in bodies that appear to be relatively stable, in a process known as the 'Butterfly Effect' (Morrow and Morrow 1993, 60). Namely, although bodies can be 'flexible' or 'plastic' in their resilience to environmental perturbations, like plastic they have certain limits to their malleability. In this case, when nudged over their 'plastic limit', bodies can literally break down into a state of what I call 'corporeal chaos', as respondents in this study and researchers at the EHCNS have begun to realise.<sup>3</sup>

Whatever happens to the body, I think it just breaks down. (Shannon, age: late sixties)

That sort of made the glass overflow and from that moment on, everything went really fast, the symptoms, one after another... from ninety-six to ninety-seven, I went from two allergies to about fifty. (Siobhan, age: late forties)

What I envisage actually happens to people is that, it doesn't matter what the stimulus is, is that the person goes from an orderly balanced state into chaos. When the nervous system goes out of balance and is dis-regulated, you can get all kinds of bizarre reactions and that person is just totally out of balance. (Healthcare Professional, EHCNS)

Whilst bodies attempt to adapt to environmental and physiological stress, unchecked positive feed-

back between complex systems such as the immune system, central nervous system and other organs may reach a point of instability in which one small exposure to pesticide may precipitate a tumult into environmental illness (see Coyle 2002, 221–222). In heightened states of sensitivity, theoretically safe exposures may then provoke disproportionate corporeal reactions, as the body hyperreacts to environmental stimuli.

This focus on complexity theory also allows a conceptual link to be made between sick bodies and degraded environments, for the body itself can be re-conceived as a 'blurrily bounded complex system' (Martin 1998, 64–65) that flows easily into spaces beyond the skin. This body 'positively reaches out into the world and takes it in, continuously changing its state to a constantly changing environment' (Martin 1998, 70). Kroll-Smith and Floyd (1997, 105) proclaim that the environmentally ill would 'argue for the legitimacy and the complementarity of a version of the body as a porous surface, absorbing the environments it touches' and storing small quantities of chemicals in body tissues. According to respondents, it is the bioaccumulation of these chemicals, usually in combination with a 'trigger event' that nudges bodies over their 'plastic limit' and into a state where noticeable symptoms emerge. Thus, the bodies of women with environmental illness become fractal, fuzzy and leaky in a frighteningly material sense: one that invokes in many respondents, a sense of dread.

Whilst environmentally ill women emphasise the materiality and physicality of their experience as a means to legitimise their symptoms (Murphy 2000), these bodies do not just blend into an exclusively physical world, but are lived through both a material and discursive environment that is laden with power relations. According to Elizabeth Grosz, we can conceive ourselves as a 'concrete, material, animate organisation of flesh, organs, nerves and skeletal structure, which are given a unity, cohesiveness and form through the psychical and social inscription of the body's surface' (Grosz 1995, 104). To be diagnosed with environmental illness not only means that your body is sickened by an unstable, unpredictable series of vague, somatic symptoms. It is also indicative of a series of broken marriages and alienated relatives, for corporeal chaos diffuses into social relations as family members and peers come to be perceived as

3 Due to the limitations of this paper, a thorough justified explanation of this reasoning is limited, but has been covered elsewhere (see Coyle 2002, 187–240).

chemically 'unsafe' (Gibson *et al.* 1998). When 'automobiles, schools, community organisational meeting places, friends, corner stores and other dwellings' (Moss 1997, 24) become a source of threat, women's lives can shatter, because these spaces and agents constitute what Moss (1997) calls 'home'. They represent a sense of belonging to a secure social structure, from which women with EI become excluded. Environmental illness is known by many respondents as the 'lonely disease'.

Whilst women can react so violently to the world at large, their suffering may not always be apparent to onlookers, and EI has also been called an 'invisible disability' (Gibson 1993). Although respondents may deliberately avoid social interaction, friends, family and co-workers may also reject these women, and the stigma attached to their controversial condition and questionable symptoms. The emotional stress of this rejection can feed back into the corporeal experiences of environmentally ill women, further intensifying their turbulent symptoms. As a result, I contend that corporeal chaos extends beyond the mere physicality of the body and out into the space of social relations. When social relations also become progressively more chaotic, body and space become intertwined in a downward spiraling feedback loop as respondents' lives become increasingly more unpredictable and turbulent.

As this account suggests, environmentally ill women experience both their symptoms and the social consequences of these symptoms simultaneously. This simultaneous experience of the material and discursive body takes place in what Moss and Dyck (1999a) call corporeal space. It is composed of,

... context, discursive inscriptions, material—economic and matter-based—inscriptions, the biological, and the physiological... These spaces are fluid, congealing from time to time around the body, only to be destabilized with new boundaries forming when any part of the context, the discourse, or the materiality shifts. (Moss and Dyck 1999a, 389)

This conceptualisation allows the body to be understood as a discursive and material construction, yet one that operates within a set of material and social constraints. What this means is that

women with environmental illness 'embody both the corporeal experience of illness and the discursive definitions of being ill' at the same time (Moss and Dyck 1999a, 386). Their experience is inscribed by a diagnosis of environmental illness that suggests that their body behaves as a complex, ecological system that has been stretched past its 'plastic limit' and that there are certain social and material restrictions imposed by this state. Yet a diagnosis of EI also imprints upon respondent's unpredictable, shifting constellations of symptoms a sense of meaning, and instructions about how to cope with this condition. These instructions come in the form of a treatment regime.

According to Martin (1998, 73), if we see the body itself as part of a complex system that includes the environment, 'the focus in treating allergies [and EI] could shift from moderating the immune response within the body to moderating what crosses into the body from the outside'. It follows that the diagnosis of EI carries with it a set of embodied and spatial therapies to resist corporeal chaos and replace it with environmentally safe space. In theory, spatial practices can act upon the body to defuse the intensity of symptoms and reproduce safe bodies that are able to successfully adapt to environmental change. Thus, the equation of complexity theory with EI provides the basis for a practical and material performance that feeds back into the very physicality of the bodies of environmentally ill women. That performance is the 'search for "safe spaces" within which their bodies will not react' (Murphy 2000, 104).

## A Response to Chaos: 'Safe Space'

The construction of safe spaces is frequently prescribed by environmental health practitioners, whose mindset employs an ecological model of health in which we are intertwined with our environment (Randolph 1962; Moeller 1992; Rea 1992). The term is well-known to the EI community and as I argue, the construction of safe space is an attempt to control and mitigate the chaos in their bodies and everyday lives in order to promote healing. But what exactly is safe space? How is it discursively constructed?

Traditionally, the term was associated with sanctuary; a secure holding ground such as a church to flee from a death threat or physical harm (Cox

1911). Indeed, today it is commonly associated with a fear of crime whether it is physical violence or emotionally abusive relationships (Pain 1997; Koskela and Pain 2000; Pain and Townshend 2002). Vulnerable populations such as children (Valentine 1997), the elderly (Pain 1995; Decalmer and Glendenning 1997), the disabled (Galey and Pugh 1995; Pain 1997) and women (Guberman and Wolfe 1985; Macleod 1989; Tomoko and Tharp 1998) have been targets of unmitigated attacks, both physical and emotional. In all these cases, the common factor is that the source of danger is embodied in other people, whether it is 'stranger-danger' in small rural villages (Valentine 1997), the abusive relative (Crawford 1994; Johnston and Valentine 1995) or the mentally ill (Parr and Philo 1995; Parr 1998). Spaces of fear include the home, isolated rural areas and crowded city streets (Pain 1997, 2000). More recently, in the context of health geography, Davidson (2000a) touched upon this topic in relation to women with agoraphobia. In this perspective, the term, safe space was not so much a response to violence, as a response to the dissolution of body-boundaries—an attempt to alleviate a sense of ontological insecurity.

In this particular study, albeit an emphasis on material security, the term safe space involves the intertwining of emotional, material and cognitive safety. Namely, it is a form of 'corporeal space' in which these forms of security are simultaneously experienced. For instance, as Yaffa relates, 'if I'm physically safe, then I'm psychologically happy'. Although it was acknowledged that safety itself is a complex and dynamic concept, an overarching desire among environmentally ill women was to return to a state of pre-defined 'normality'; to be able to relax their vigilance on the environment and their bodies.

[It is a] comfortable, neutral feeling. That EI isn't an issue when you're in that space, it sort of means that you're not a sick person, when you're in a 'safe space'. You're like anybody else. (Jacqueline, age: mid-forties)

Finally there is a place where I can be and feel relaxed and not be constantly complaining about not being able to breathe. Just to be myself—the non-environmental illness person. The person with this label now. (Heloise, age: mid-thirties)

Whilst the term 'normality' is a problematic concept for respondents, it is highly individualised, referring to a relatively non-reactive state of embodiment where corporeal chaos and the diagnosis of EI do not dictate their lives. Yet the interdependence of material, discursive and emotional safety cannot be untangled, and in the following discussion, I unpack the more detailed responses of environmentally ill women by making reference to the discursive construction of safe space and its four entwined components: purified air, control, stability/predictability and communication.

### Women Defining Safety

For all of the women in this study, the term safe space primarily refers to the relative absence of offending airborne irritants and odours and the relative presence of clean air or oxygen. This consensus of opinion is related to the ever-present threat of the bioaccumulation of chemicals in vulnerable body-tissue or as Siobhan states, 'something invading you'. These inert spaces are marked by their relative size, air circulation, relative humidity, a lack of offending odours and the concentration and frequency of exposures. Although there was a unanimous consensus on the importance of 'clean' and 'natural' air, respondents failed to come to an agreement on its relative composition, for when bodies are bio-chemically unique complex systems, what is safe for one woman, may not be for another.

Environmentally ill women experience a large proportion of their lives as 'out of control', both in terms of their unpredictable reactions to safe exposures of chemicals and their relative lack of control over public spaces, workplaces and sometimes even their own homes.

I'm not in control anymore, the chemicals are in control or the reactions to the chemicals are in control. (Nyree, age: mid-fifties)

I guess its control versus non-control and that's what it comes down to. If I've got control over my environment, I feel safer. And that's what this is all about. (Rebecca, age: mid-forties)

Provoked by the unpredictability of space and their own bodies, respondents feel that in times of threat, they need to exert control over space in

order to re-secure stable and predictable environments and hence reduce corporeal chaos. Whilst there is some disagreement over the particular degree of control required (Siobhan, for instance prefers the lack of control she experiences in 'nature'), all women concur that to maintain control over their deviant bodies, they need to make material modifications to their environment to reproduce safe space. By controlling space through the identification and elimination of 'toxins', environmentally ill women hope to overcome a feeling of 'powerlessness' through their attempts to 'effect change' (Breeze). Moreover, like agoraphobic women and those with chronic illnesses, they try to reproduce a stable, predictable space over which they have a certain degree of control (see Moss and Dyck 1996; Davidson 2000a).

When environmentally ill women physiologically, cognitively and emotionally respond to environmental stimuli, these reactions diffuse into their sense of ontological security. According to Giddens, this is 'the confidence most human beings have in the continuity of their self-identity and in the constancy of the surrounding social and material environments of action' (Giddens 1990, 92). To counteract a feeling of hyper-communication between mind, body and environment, safe spaces should ideally reproduce stability and hence, predictability. Correspondingly, they should be physically negotiable, as expressed in the following comments.

Safe space is somewhere that's the same, each time. Not a space that is being renovated or depending on who used it last, it has paints or different things in it that will make it unsafe this time, while last time it was okay. So, stability. (Jacqueline, age: mid-forties)

Constancy feels [is] safe to me. When I was brought up, I was always walking on tender hooks and I never knew where was a 'safe place' because of my background, my family. So I like 'safe spaces'. (Nyree, age: mid-fifties)

The coalescence of stability and predictability allows environmentally ill women to regain a sense of ontological security. Namely, when chaotic bodies are immersed in stable, predictable spaces, these environments can promote the return of a basic sense of 'trust'. This trust in safe

space helps to calm the emotional reactions that can intensify corporeal chaos, for the central nervous system—thought by researchers at the EHCNS to be responsible for some of this embodied turbulence—is also able to relax. The creation of spaces of communication also performs the same function.

Any space that is to be conceived as safe for environmentally ill women should not merely be free of chemicals but provide a sense of emotional buffering, characteristic of therapeutic landscapes (Gesler 1990, 1993). Namely, it should be communicative. Whilst not all women explored these interconnections, as I stated earlier, many respondents testify to stressful rebuffs from family, friends and colleagues at work. As Jacqueline asserts, emotional stress increases the reactivity of her body, changing her brain chemistry and magnifying the physical reaction she experiences. Consequently, any safe space has to be one of trust, confidence and co-operation, in order for environmentally ill women to openly communicate their experiences.

Emotional safety would mean that there was some acceptance and understanding of the illness and people would work toward supporting an individual with environmental illness, as opposed to fighting them or telling them they're crazy or its all in your head. (Rebecca, age: mid-forties)

Corresponding to work in psychotherapy, safe space also has to be transformative; a transitional zone where positive changes and re-empowerment can occur (Winnicott 1971, 108; Havens 1989; Meissner 1998, 34; Bondi 2003).

When women's bodies are nudged into a state of corporeal chaos, it is not surprising that safe space is associated with the presence of inert air, control, predictability and communications networks. To respondents, the more immutable the space, the safer it is perceived to be. Nevertheless, as some respondents' comments reveal, whilst the term safe space is part of the discourse of the environmentally ill, it is acknowledged to exist only as an ideal, but never fully attainable situation. Echoing all respondents, Siobhan concedes, 'I don't think there's such a thing as total safety'. Instead, women with environmental illness are left to negotiate dynamic, risky spaces whose relative status is reliant on the shifting boundaries



between volatile bodies and toxic environments. Safety becomes dependent on seasonal shifts in the environment (summer allergens, pesticide spraying regimes, blankets of snow), the intermittent intrusion of scents and cigarette smoke<sup>4</sup> and the bio-chemically unique bodies of the environmentally ill. In the next section, I will explore how the discursive construction of safe space manifests in 'corporeal space' as a set of material practices, suggested by both the diagnosis of environmental illness and this particular conceptualisation of safety.

### The Practice of 'Safe Space'

You just have to withdraw, retreat, take care of yourself, find 'safe space', get strong, get healthy and find neutral ways in which you can, well, I wanna say 'fight back'. Yeah, fight back. (Rebecca, age: mid-forties)

Following recent work in health geography on women with chronic illness (Dyck 1995; Moss and Dyck 1996; Moss 1997), a variety of complementary and overlapping techniques were practiced by the women in this study in order to produce a corporeally based 'safe space' in their everyday lives. Some of these are body-based strategies, and others spatial; methods of creating them are diverse, reflecting the individual circumstances of environmentally ill women. They include breathing techniques, the purification of a biochemical 'body-space' (Parr and Butler 1999, 13), the construction of disembodied communications networks (telephone and Internet become safe spaces), mapping bodies to 'dangerous' spaces, pre-planning daily routines, the fortification and purification of private space, risk-taking in public spaces and spatial manoeuvres such as repositioning, retreat and speedy movements to minimise contact time with potentially harmful chemicals.

Respondents do not necessarily incorporate all of these strategies into their daily lives, but each woman is selective in the methods she employs. Rebecca epitomises her peers when she states, 'so I take what I like and I leave the rest'. These techni-

<sup>4</sup> This reference to smokers and perfume-wearers is not intended to be offensive, but merely states one major concern of respondents.

ques can be conceived as an attempt to re-establish order to bodies in a state of corporeal chaos and hence become ordering principles for the performance of everyday life. I now focus on some body-centred approaches before briefly outlining three environment-centred approaches (fortification, purification and communication) as they manifest in the 'home environment' (Moss 1997).

### Body-centred techniques

Bodies themselves necessarily become a 'site of resistance' (Moss and Dyck 1996) in the production of safe spaces, for how can any space be safe when the body itself is the location of perceived chemical contagion? Techniques that women employ focus upon the three ways that chemicals can enter the body: inhalation, absorption and ingestion. The first strategy is an immediate impulse to protect the body from the inhalation of 'toxic' air. Environmentally ill women achieve this through breath-control or by adopting a makeshift gas mask to detoxify the air entering the body. Breath control minimises the amount of air entering the lungs, for as Lyon (1997) suggests, breathing is the only involuntary process in the body over which we have some form of voluntary control. Respondents employ techniques that range from holding the breath (Breeze), breathing out more than they breathe in (Gabriella) and also snatching deep breaths of fresh, clean air whenever possible (Leah, Rebecca). Four women openly admit to owning gas masks and a fifth owns an oxygen tank, although others use scarves and towels as makeshift forms of protection. To prevent absorption, women also modify their body surface (the very boundary between self and environment). Many shop at used clothing stores to avoid exposing themselves to the chemicals that permeate new fabrics. They also wear unscented products, such as those by 'Nature Clean', reproducing a more contemporary 'naturalistic body'.

When pesticides and toxins such as mercury are perceived to colonise the body, on the recommendations of environmental health practitioners, respondents attempt to purify and repossess their inner 'body-space' by a variety of strategies. Techniques include the ingestion of 'petro-chemical drops' and anti-oxidants (Nyree), 'additional daily vitamins' (Renee) or Chinese herbal medicines

(Siobhan), aimed at boosting the immune system. Women employ a number of gentle purification techniques such as 'chlorophyll water' (Erin) that detoxifies the body from the area of the gut, and sauna therapy, which enables them to slowly sweat out toxins embedded deep within the body tissues. Synchronous to these measures, in order to prevent more harmful substances from penetrating the volatile boundaries of environmentally ill bodies, dietary changes are recommended, with an emphasis on organic 'food sources with no pesticides' (Leah).

### Environment-centred techniques

If body-centred practices help to alleviate the impacts of illness, then 'safe bodies need safe spaces'.<sup>5</sup> Safe space can include the therapeutic landscapes of holistic healing centres (Gesler 1990, 1993) or the disembodied cyber-space of online support groups (Murphy 2000, 108–109). However, as a means to stabilise corporeal chaos, environmental health practitioners advise the reconstruction of the home into a safe space or 'oasis'. For environmentally ill women, 'home' can be a house, apartment, trailer, tent or stripped down van (Gibson 1993, 1996). However, it is often reduced to a bedroom 'oasis', as many women find their spatial circles gradually shrinking in proportion to the severity of symptoms. Other women, such as Siobhan and Heloise, are either conceptually or literally 'homeless', due to the colonisation of their residences by mould.

Nevertheless, for two-thirds of respondents, home is regarded as their safe space, 'a place of certainty within doubt, a familiar place in a strange world' (Dovey quoted in Sibley 1995, 93). If it ensures privacy, the home can act as a boundary of the self, whose permeability is controlled by individual women (Sibley 1995, 94).

I've found some openings in the closet, in the door-frame, where air was I think, being drawn up from the apartments below. I've blocked that now with, actually dry-cleaning plastic bags and yards and yards and yards of masking tape. But that at least has blocked the incoming air cos I'm also five floors above a garage. (Breeze, age: early forties)

5 This quotation arises from Todd Haynes movie, *Safe*, about an American woman who develops Multiple Chemical Sensitivity, and eventually retreats to a healing centre in the desert.

For most women with EI, the private space of the home is deliberately re-constructed as an arguably impermeable boundary, presenting itself as a transitional zone between vulnerable bodies and threatening environments (see Davidson 2000a). Like other women with chronic and mental illnesses, the EI attempt to construct a space in which they can discard their 'deviant' bodies for the comfort of normality and freedom from intrusive symptoms (Gibson 1996; Moss and Dyck 1996, 743; Davidson 2000a), a temporary shelter from chemically-induced chaos. Although these attempts are not always successful, to some extent, women can reinforce leaky body-boundaries using the protection conferred by the walls of their house. Ironically, in these circumstances, the body comes to be reconceptualised as a temporary 'citadel' (Martin 1990); one that exists in social isolation.

After the erection of this boundary between body and external environment, behind this 'artificial' barrier, space is purified. Following the four rudiments of safe space, an emphasis is placed on reproducing an individually determined 'natural' air quality within the home. Common techniques include the absorption of chemicals via a charcoal environmental air sponge (Siobhan), an 'Envirotech' gadget that 'neutralises' the air (Erin) or a 'super high efficiency filter attached to my furnace' (Jacqueline). Furthering this, more indirect means are adopted to maintain this arguably 'natural air': collecting dust particles with a Swiffer (Norma), using sheets instead of drapes (Rebecca) and the avoidance of out-gassing toxic substances such as varnish and oil-based paints (Nyree). These measures all lessen exposure to environmental irritants that may nudge the body into corporeal chaos.

For women whose economic status allows it, home can be rendered 'as safe as I can make it' (Nyree), for safety is never guaranteed. As Sibley (1995) suggests, the safe space of the home environment is not always free from 'pollution' or as Douglas (1965) terms it, 'matter out of place'. Particularly in the case of EI, other human bodies can be 'carriers' of toxins, allergens and pathogens (Van Loon 1998) that may throw 'corporeal space' into a state of turbulence. Sibley contends that 'the fear of pollution can be a constant source of anxiety and pollution is a consequence of the actions of others' (Sibley 1995, 94).

Notably, half of the respondents in this study lived alone to avoid such conflicts of interest,

relying heavily upon their telephone network to provide emotional support. This was a network that Yaffa literally named her 'lifeline'. In the absence of family members, this latter group of women has more control over their own safety exerting both visual and 'nasal' authority over which bodies are permitted to enter and which material objects qualify as inert and hence 'harmless'. Yaffa, whose livelihood rests on her home-based teaching, is the most vigilant of respondents, signing contracts with her students and giving them a 'sniff-test' when they enter her 'den'.

The other thing I do to keep safe is they sign a contract. There's sort of a set of rules and one of the rules is that they're not allowed to wear scented products and I give a list of examples, hairspray and what not and that people wearing scented products will not be allowed in and if they forget they have to forfeit that lesson. (Yaffa, age: early forties)

This final comment highlights two important points about safety. Whilst the safe spaces of the 'home environment' can be liberating for environmentally ill women, as this example suggests, the home can also come to feel like a prison. This results from the over-regulation of space in an attempt to compensate for the likelihood of corporeal chaos. Moreover, unless these women live in complete isolation, environments never will be completely safe, because safety is always negotiated between two human subjects, whose reactivity to chemicals may be similar but never the same.

## Conclusions

In this small-scale study, I argued that the confusing array of symptoms that emanate from the bodies of environmentally ill women can be understood when these bodies are reconceptualised as fuzzy-bounded complex systems that are experienced in 'corporeal space'. This epistemological construction deviates from the biomedical model, yet is supported both by respondents' perceptions of their life-worlds and researchers at the EHCNS. Whilst such bodies are usually flexible in their response to perturbations, when they reach their limits of plasticity, they can also behave in an unpredictable, chaotic manner. In the case of

environmental illness, this means that safe exposures to everyday chemicals can have disproportionate effects when these toxins act upon hypersensitive bodies, nudging them into a state of corporeal chaos. Corporeal chaos is not merely associated with material bodies, but can diffuse into everyday life, resulting in the disruption of social relations. It exists in corporeal space, for its material and discursive consequences are experienced simultaneously. In order to address this corporeal chaos, the diagnosis of environmental illness is attached to a spatial and bodily regime that entails the reconstruction of everyday environments into safe spaces.

In this paper, I have argued that safety for women with environmental illness is first and foremost a case of perceived physical security—well-ventilated, scent and smoke-free spaces which are devoid of out-gassing chemicals, cigarette smoke, perfumes and allergens. Secondary to this, safety is concerned with stability, predictability, a sense of control over spaces and bodies, and the establishment of supportive communications networks. These conditions provide the basis for a new discursive framework for safe space; one that is specific to women with environmental illness and constitutes safety as a response to corporeal chaos.

To offset the hypersensitive response of the body to chemical exposures, respondents attempt to purify their bodies from the inside and out. Women who can afford it, transform their 'home environment' into safe spaces, which provide an arguably stable and predictable environment from which to begin the healing process. A diverse range of techniques enable environmentally ill women to temporarily experience a sense of pre-determined 'normality', in which their bodies are nudged out of a chaotic reaction to environmental contaminants and back into the complex state of order that is characteristic of a healthy response to changing environments.

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