

## Science, policy and the rise of ‘thirdhand smoke’ as a public health issue

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### Abstract

‘Thirdhand smoke’, the designated term for the cigarette smoke toxicants that linger on room and car surfaces long after the smoke itself dissipates, is a concept that has gained increasing prominence in tobacco control policy and research over the past six years. In this paper I track the emergence of thirdhand smoke as a social and scientific concept, conducting a critical analysis of newspaper reports and references to the term in the academic and policy literature. Demonstrating that claims about the health effects of thirdhand smoke occurred in the absence of evidence of harm, I examine the broader socio-political conditions that enabled the concept to become meaningful (and useful). I show that some of the concept’s legitimacy came from its presentation as a natural extension of secondhand smoke, and its framing as a particular threat to babies and children. However, I argue that the experiential, embodied dimension of thirdhand smoke itself was crucial to its success.

**Keywords:** Thirdhand smoke, media, tobacco control, secondhand smoke, passive smoking, risk, public health

Thirdhand smoke is what one smells when a smoker gets in an elevator after going outside for a cigarette, or in a hotel room where people were smoking.

‘Your nose isn’t lying’ he [Dr Winickoff] said. ‘This stuff is so toxic that your brain is telling you: “Get away”’ (Rabin 2009).

## **Introduction**

The peculiar ability of tobacco smoke to penetrate soft furnishings such as furniture, curtains, carpets and the like—to proclaim its trace via a distinctive smell—has been noted for centuries. For example, in his serial *The Pickwick Papers*, published between 1836 and 1837, Charles Dickens described the odour such smoke imparted to the commercial room at the Peacock Inn, where temporary ‘inmates’ of the boarding house gathered in the evenings. In his words, ‘the atmosphere was redolent of tobacco-smoke, the fumes of which had communicated a rather dingy hue to the whole room, and more especially to the dusty red curtains which shaded the windows’ (Dickens 2007, p. 336). This ‘dingy’ smell is one that most of us have at least a passing acquaintance with. It’s the reason why non-smokers request non-smoking hotel rooms, why smoke-free legislation is often accompanied by a dramatic reduction in dry-cleaning bills, and why purveyors of used goods are quick to proclaim that their wares come from a ‘smoke-free home’. However, while long considered a nuisance, this smell was not generally considered to be noxious—until, that is, the recent discovery of thirdhand smoke.

‘Thirdhand smoke’ is the designated term for the cigarette smoke toxicants that linger on room and car surfaces long after the smoke itself dissipates. Although it hasn’t yet penetrated public consciousness to any substantial degree, today the term

is readily invoked in scholarly articles, press reports and policy briefs as a newly identified risk to the public's health. My goal in this paper is to track the rise of thirdhand smoke as a social and scientific concept, focusing specifically on how it come to be constructed as a risk object, why and to what effect. The first half of the paper provides an overview of the emergence of thirdhand smoke as a public health issue. The second half of the paper explores the larger the social and political context in which this 'risk' emerged and the conditions that facilitated its uptake.

### **Conceptualising claims-making**

Objectivist approaches to claims-making about social and political problems assume that these 'issues' are merely waiting to be found, with policy presumed to be a natural response to tackling them (Brown 2006; Lupton 2013). As Brown (2006) observes, in this framing, 'the identification process is glossed over and given as a *fait accompli*. There is no questioning of why one issue might constitute a problem and not another, as if the nature of a social problem were self-evident' (p. 346).

Constructionist approaches, on the hand, assume that the identification of any condition as a social problem is inevitably subjective (Best 1995). In the words of Gusfield (1981, p. 3), "objective" conditions are seldom so compelling and so clear in their form that they spontaneously generate a "true" consciousness'. However, while such approaches alert us to the constructed nature of social and political problems, they don't always help us to understand why only *some* claims-making is successful. To quote Brown (2006, p. 346), 'it is not the case simply that the best articulated claims, the most "apparent" political problems, are then picked up by government and form the basis of policy actions such as legislation'.

Although constructivist in orientation, my goal in this paper is to move beyond an examination of the ways that thirdhand smoke came to be constructed as a public health issue to consider a question of larger interest to risk theorists: why it is that some risks are ignored or downplayed and others are responded to with anxiety, anger and fear (Lupton 2013). My specific arguments have been influenced by a promiscuous hodgepodge of frameworks, from Best's analyses of claims-making about social problems (e.g., Best 1987, 1993), to Douglas' cultural and symbolic account of risk (Douglas & Wildavsky 1982; Douglas 1992), to phenomenological approaches (e.g. Merleau-Ponty 1945).

Following Best, I'm interested in the rhetorical nature of claims-making as an act of *persuasion*. Claims-makers, after all, want to convince others that 'X is a problem, that Y offers a solution to that problem, or that a policy of Z should be adopted to bring that solution to bear' (Best 1987, p. 102). However, as Best recognises, claims do not emerge in a social and historical vacuum. Here, Douglas' (1992) 'forensic theory of danger' is useful in considering the political and moral basis of claims about risk. Her emphasis on the continuities between the 'risks' that preoccupy the industrialised capitalist world and the 'taboos' of non-western societies, especially their shared concern with borders and margins, seem particularly relevant to the study of thirdhand smoke, itself a boundary-crossing and marginal substance.

However, I'm concerned with thirdhand smoke as more than the 'hapless bearer of symbolic projection' (Latour 2005, p. 10); instead, I take up philosophical insights into the embodied nature of perception (e.g. Merleau-Ponty 1945). If modern risks are largely characterised by their invisibility (Beck 1992; Lidskog 1996)—i.e., their difficulty in being grasped at a *tangible* level, thirdhand smoke is distinctive insofar

as it emerged from a material phenomenon with longstanding attributions of unpleasantness.

I recognise that treating thirdhand smoke as the object of social scientific inquiry is a potentially dangerous exercise, liable to invite criticisms of irresponsible scholarship or, worse still, accusations of alignment with the tobacco industry<sup>1</sup> (see Mair and Kierans 2007; Bell 2013). Indeed, Latour (2004) has scathingly critiqued the ‘debunking impetus’ within the social sciences, in which ‘a certain form of critical spirit has sent us down the wrong path, encouraging us to fight the wrong enemies and, worst of all, to be considered as friends by the wrong sort of allies...’ (p. 231). I certainly don’t intend to set myself up in this paper as the all-seeing, all-knowing critic: ‘the courageous critic, who alone remains aware and attentive, who never sleeps [and who] turns those false objects into fetishes’ (Latour 2004, p. 238). I have even less desire to see my work taken up by an industry that has consistently obfuscated the harms of smoking and impeded efforts to regulate its products. However, demanding that social scientists avert their gaze from the social, cultural and political context of claims-making around thirdhand smoke because of the nefarious uses to which their work *may* otherwise be put by the tobacco industry is not a particularly appealing prospect either, amounting in effect to a gag order (see Bell 2013). Although I have no answers to this dilemma, as Pidgeon et al. (2008) have observed, these ethical issues are intrinsic to all socio-cultural research on risk, regardless of the object of analysis.

## **Methods**

In examining the rise of thirdhand smoke, I analyse two types of primary data: discussions of thirdhand smoke in the press, and, to a lesser extent, references to the concept in the public health and policy literature. I have chosen to focus primarily on the former, because the mass media constitute a key player in the construction of—and communication about—risk (Kitzinger 1999; Tulloch and Zinn 2011). Press reports were identified through LexisNexis searches (1980-2012) inputting the keywords ‘thirdhand smoke’ and ‘third hand smoke’. The literature search was conducted in June 2012 and sixty articles were identified. After excluding mentions in professional trade magazines, the resulting fifty-eight articles form the basis of the analysis presented in this paper.

All articles were subject to repeated open readings and sorted into categories based on the major themes that emerged. Particular attention was paid to the academic sources drawn upon, which I independently examined to compare with the ways they were presented in media accounts. Where academic sources were not explicitly identified, by tracking the publications of the experts cited and cross-referencing publication dates with the media accounts, I was able to identify which journal articles were being used.

In analysing the recent references to thirdhand smoke in the public health and policy literature, I conducted an extensive study of papers referencing ‘thirdhand smoke’ in Google Scholar, focusing primarily on those publications citing the seminal paper on this topic by Jonathan Winickoff and his colleagues (Winickoff et al. 2009). My goal was to examine the ways in which the concept is being framed and cited—e.g., as an established fact or as a hypothesised risk. I also conducted a

comprehensive search of the website of the World Health Organization to see the contexts in which the term is being used.

### **‘Thirdhand smoke’ makes its initial appearance**

According to LexisNexis, the first reference to ‘thirdhand smoke’ in the press occurred in a 1995 humour column published in the *Washington Post*. On this particular occasion, readers had been invited to submit ‘first lines of a book so bad you will put it right down’ (Washington Post 1995). One reader wrote in to provide a quote from a ‘trendy environmentalist book’ that began with the portentous line: ‘Prepare to be shocked, for between these pages will be revealed the terrible dangers of third-hand smoke’. The mention of the term in this column tells us two things: 1) that it was in wider circulation at the time, and 2) that it was treated with some derision—a concept so ludicrous it was entertaining.

In the early twenty-first century, the term continued to be treated either humorously or derisively in print news. For example, in 2001 the *Washington Times* mentioned ‘thirdhand smoke’ in an account railing against the growing focus on ‘tobacco contamination’ amongst tobacco control advocates (Gahr 2001). The author questioned why the ‘scent police’ were limiting themselves to smoking, pointing out that a smoker who returned to his desk after a cigarette generally smelt less odiferous than someone who enjoyed a hamburger topped with raw onion over lunch.

The growing stigma connected with the smell of cigarette smoke is also evidenced in an article published the following year in *The Observer*, a British magazine. In the column ‘What’s the word?’, *The Observer* relexicalised the term ‘smoking jacket’ to

refer to ‘incriminating evidence of cigarette use’. Drawing on the literal and metaphorical meanings of ‘smoking’, the term was used to highlight the ways in which the ‘whiff of third-hand smoke’ on one’s jacket had become a metaphorical ‘smoking gun’ (Observer Magazine 2003). However, in this period, usage of the term was not always consistent, and ‘thirdhand smoke’ was also used to refer to the effects of depictions of smoking in films on audience members: ‘the stuff you can’t actually inhale or even smell but that evidently can pollute you all the same’ (McCarthy 2002; Mathews 2002).

### **Science, the media and thirdhand smoke**

#### *The first wave*

From the mid 2000s, an exponential increase occurred in the number of newspapers using the term ‘thirdhand smoke’ as news outlets began to report on the findings of research studies. The first wave of articles appeared in 2006, sparked by a piece published in *USA Today* titled ‘Babies may absorb smoke residue in home; parents can’t avoid “thirdhand” exposure’ (Szabo 2006). However, the *USA Today* article actually reported the findings of a scientific study published two years earlier (Matt et al. 2004)—a study that did not use the term ‘thirdhand smoke’. The important point is that in the scientific literature itself no conceptual distinction was being made at the time between ‘secondhand smoke’ and ‘thirdhand smoke’; it was all ‘secondhand smoke’, ‘passive smoking’ or ‘environmental tobacco smoke’.<sup>2</sup> Thus, Matt and colleagues (2004) were interested in the contamination of households by environmental tobacco smoke writ large. After measuring nicotine in household dust, indoor air, household surfaces, etc., and cotinine (a metabolite of nicotine) levels in infants, they found these levels were significantly higher in the households



of smokers, even when they tried to protect their children from smoke exposure. However, they had no evidence to suggest that such exposures constituted a risk to health. The authors themselves acknowledged as much, concluding that little was known about the differential health risks associated with the inhalation or ingestion of environmental tobacco smoke in the minutes, days and months after smoke was emitted (Matt et al. 2004, p. 36).

While the *USA Today* article actively forged a connection between the term ‘thirdhand smoke’ and scientific research findings, it did emphasise the lack of evidence regarding the effects of such exposure, quoting both the study’s lead author (Georg Matt) and a fellow academic (Brett Singer) cautioning the need for further research. According to Singer: ‘The million-dollar question is: how dangerous is this?... We can’t say for sure this is a health hazard’ (Szabo 2006). However, the following day, a flurry of other articles on the topic appeared in major UK media outlets, all appearing to use the *USA Today* piece as their source, all using the term ‘thirdhand smoke’, and all strikingly intemperate in tone. For example, headlines reported: ‘Smoke risk to babies’ (Daily Post 2006), ‘Smokers’ babies at risk from nicotine on furniture’ (Birmingham Post 2006) and ‘Tots’ cig risk’ (Daily Star 2006).

### *The second wave*

In 2009 the second wave of newspaper articles on thirdhand smoke appeared in response to the first academic paper explicitly on this topic, published by Winickoff and colleagues in the journal *Pediatrics*. The central agenda of the paper is set up in its introduction, which makes four central claims:

1. Secondhand smoke is harmful to health.

2. Harmful toxins emitted from cigarettes remain in the home environment after active smoking has ended.
3. The authors are the first to name this phenomenon.
4. Theirs is the first study to examine the thirdhand smoke concept and home smoking bans.

In light of the currency of the concept since at least the mid 1990s, claim 3 is clearly inaccurate, although claim 4 is arguably true: this was the first research study to label these emissions ‘thirdhand smoke’, although in doing so the authors echoed media characterisations of earlier research. Moreover, an interesting bait and switch occurs here, as the authors simultaneously claim the term as *new* but merely naming an *already established* phenomenon. This sleight of hand occurs repeatedly throughout the paper, enabling them to introduce thirdhand smoke as harmful without actually establishing this.

Although five citations are provided to support claim 2, only three are empirical studies, the other two being general reviews of the literature on secondhand smoke. These latter two citations are examples of ‘perfunctory references’: references that have no bearing on the claims made but are there for display purposes only, to bolster the appearance of solidity (Latour 1987). Upon closer inspection, the empirical evidence also doesn’t specifically support the claims made. Two of the empirical studies cited were by Singer and colleagues (2002, 2003), who examined gas-phase organics in environmental tobacco smoke. The third was the 2004 study by Matt and colleagues that formed the basis of the earlier *USA Today* article. Here, I draw the reader’s attention to the fact that both Matt and Singer were quoted in this news article as stating that it was not clear that such exposure

constituted a ‘health hazard’; yet, this is the central assumption at the heart of Winickoff et al.’s paper (which Matt co-authored). In light of the relative tenuousness of Claim 2, Claim 1 regarding the health effects of secondhand smoke performs a critical rhetorical function in warding off potential detractors.

The introduction does the intellectual work of establishing thirdhand smoke as a ‘fact-by-association’. Thus, for the authors nothing more needed to be said on this topic; instead, they could get to the work at hand, which was to establish just how harmful Americans recognise thirdhand smoke to be. Thus—and this point is critical—although the authors described their paper as a ‘scientific study’ in press releases (e.g., Laidlaw 2009) the paper itself was not actually about thirdhand smoke. Instead, it focused on beliefs of Americans regarding thirdhand smoke, the goal being to ascertain whether they were as concerned as they apparently should be about this hazard.

Shortly after the study appeared, twelve articles were published on its findings in the press in Japan, Canada, the UK and the USA. Although Winickoff et al.’s study did not examine the health impacts of thirdhand smoke (which, as noted above, were taken as given in the article), it was generally represented in the media as dealing with precisely this topic. Headlines proclaimed: ‘How cigarette smoke in your carpet could harm your baby’ (Lambert 2009), ‘As if there already weren’t enough good reasons for kicking the cigarette habit, doctors have found yet another: thirdhand smoke’ (Japan Times 2009) and ‘A new cigarette hazard: “third-hand smoke”’ (Rabin 2009). Once again, virtually all of the articles evoked images of helpless infants and children involuntarily ingesting ‘toxic residue’, with one journalist going so far as to

suggest that ‘studies have also linked even small levels of exposure with reading problems in children’ (Devlin 2009, p. 6).

Importantly, these claims about dangers and harms were rarely presented as controversial or up for debate. One Canadian newspaper cited Winickoff as stating ‘I’ve even received hate mail from people saying, “This isn’t real. You’re making this up”... The same thing happened with second-hand smoke’ (Laidlaw 2009). This framing effectively closed down critique, as the reader was invited to marvel at the ignorance of thirdhand detractors—lumped in the same boat as the earlier generation of secondhand smoke ‘deniers’. Only two articles were critical of the study’s findings, although the first (published in *The Guardian*) seemed more interested in taking a dig at a rival paper for scare mongering than actually critiquing Winickoff et al.’s study (Chancellor 2009). The second critique, titled ‘I know my little vice is vile and may be the death of me. All I ask is that the scientists stop pretending I’m a baby murderer, too’, was published in the *Daily Mail* (Utley 2009) and argued that while cigarette smoke may indeed leave behind particulate matter, there was no evidence to suggest it was harmful.

### *The third wave*

A final spike in references to thirdhand smoke occurred in 2010, following the publication of a study by Sleiman et al. (2010) on the reactions of nicotine with nitrous acid as a potential thirdhand smoke hazard. If Winickoff et al. can claim to be the first study to use the term thirdhand smoke, Sleiman et al. can claim to be the first *scientific* study to use the term, as they examined the particulates in such smoke. Based on measurements of the interior surfaces of two trucks driven by a

heavy smoker, the authors argued that residual nicotine from tobacco smoke absorbed into indoor surfaces and reacted with ambient nitrous acid to form carcinogenic tobacco-specific nitrosamines and was an ‘underappreciated health hazard’ (p. 6576). Although the researchers analyzed the interiors of two vehicles and no humans were included in the study, they generalised their findings to children, noting: ‘because of their frequent contact with surfaces and dust, infants and children are particularly at risk’ (p. 6579). This time, *Africa News*, the *New Zealand Herald* and the *Australian Financial Review* joined the fray in presenting the now-not-so-new news that it was ‘Time to worry about thirdhand smoke’ (St Petersburg Times 2010), that ‘Smoke left on clothes [is] “as toxic as cigarette[s]”’ (Daily Telegraph 2010), and that ‘old tobacco smoke [is] a killer’ (New Zealand Herald 2010).

#### *The naturalisation of thirdhand smoke*

During the same period that studies on thirdhand smoke began to appear in the media, there were also a growing number of reports where the term was mentioned in passing and treated as an established fact. Eleven articles referring to thirdhand smoke in this manner were published between 2009 and 2012, with the majority published between 2011-2012. For the most part, these articles were about tobacco control measures: smoke-free policies, smoking bans in cars, cigarette taxes, etc., or were broader discussions of health and the benefits of quitting. Generally, the topic of thirdhand smoke was raised by a healthcare professional or a tobacco control advocate quoted in the article, and always in tandem with secondhand smoke. For example, in an article on smoking bans in cars in a Canadian newspaper, a healthcare professional was quoted as saying ‘Firsthand smoke and secondhand

smoke we understand, and thirdhand we're now learning about as well' (Leslie 2009). Also striking is the international composition of the news articles, with pieces published in Malaysia, Thailand, Singapore, Israel, Canada, the US and the UK.

During this period, mentions of thirdhand smoke were also made in letters written in by readers. For example, in 2011, the US newspaper *St. Petersburg Times* published a series of letters regarding proposed smoking bans, including one from a self-identified critical care respiratory therapist discussing the impacts of smoking on non-smokers. He wrote:

Lets say the smoker puts out their cigarette and then picks up a child. Did you know that there is a now a third-hand smoke that can transfer the 3,000 toxic elements onto skin that can be absorbed into their tissues and bloodstream? Obesity hurts us, too, but someone eating a Big Mac every day is not hurting me unless they blow it into my stomach (St. Petersburg Times 2011).

Noteworthy in this account is the contrast the letter writer draws between smoking and obesity, a point I will return to later.

### **Representations in the academic and policy literature**

In many respects, treatments of thirdhand smoke in the scholarly literature echo the media accounts of the phenomenon, with a growing trend towards uncritical citations of the concept over the past two years, especially in public health and tobacco control journals. Thus, while the constituents of thirdhand smoke continue to be the source of empirical study (e.g., Becquemin et al. 2010), and some

commentaries on this topic acknowledge the lack of available evidence on the health impacts of thirdhand smoke (e.g., Tuma 2010; Burton 2011; Matt et al. 2011; Schick 2011), others increasingly suggest that the evidence is ‘in’, or that enough evidence has been marshalled that further studies are unnecessary. For example, in a commentary published in *CA: a Cancer Journal for Clinicians*, Dreyfuss (2010) stated that thirdhand smoke has been identified as an ‘enduring, potent carcinogen’. Winickoff and colleagues’ (2009) article, which had 101 citations in Google Scholar as of November 2012, is often treated as definitive evidence of the effects of thirdhand smoke, and it is common to see this term used in the larger health/medical literature with a lone reference to the paper (e.g., Mecchia et al. 2009; Schwandt et al. 2010; Arrandale et al. 2011; Kuschner et al. 2011).

The concept of thirdhand smoke also made an appearance in policy documents produced by agencies like the World Health Organization (WHO). For example, the *WHO Report on the Global Tobacco Epidemic, 2009*, focusing specifically on implementing smoke-free environments, was released shortly after Winickoff et al.’s study was published and prominently references thirdhand smoke on the first page of the report following its general summary and recommendations. To quote the document: ‘Tobacco toxins that build up over time, coating the surfaces of room elements and materials and smokers’ belongings, are sometimes referred to as “third-hand smoke” (13) [Winickoff et al. 2009]’. This text is juxtaposed with an image of a man holding a cute baby, a motif repeated throughout the document. Indeed, in keeping with the media representations of thirdhand smoke, it is in the context of children’s health that the concept is referenced most prominently in WHO publications. For example, the 2011 issue of the *Children’s Environmental Health*

International Initiatives newsletter, a joint WHO and UNEP (United Nations Environment Programme) mailing list on new developments in children's health, highlights the health risks of thirdhand smoke exposure.

However, there is some evidence of ongoing debate in the scientific community about the credibility of thirdhand smoke as a health risk. For example, in one article Matt et al. (2011) note (in a tone of some annoyance) that an anonymous reviewer of an earlier manuscript on thirdhand smoke suggested that 'THS is probably no more than a trivial nuisance, no worse than spilled coffee' (p. 1218). They go on to state that 'This skepticism is in contrast to the positions taken by the public health community on issues of tobacco control in general and involuntary exposure to tobacco smoke in particular' (p. 1218).

Clearly, there was a synergistic relationship between scientists and the media in the emergence of thirdhand smoke as a risk to the public's health, with the media playing a central role in both coining the term and disseminating claims of harm. A generally credulous attitude towards the concept pervades both the popular and academic accounts, and two key rhetorical strategies were used to persuade readers of harm: 1) the invocation of secondhand smoke to bolster claims about the risks of thirdhand smoke exposure and 2) a focus on the risks posed to infants and children. This 'think of the children' appeal was an especially effective means of mobilising support. As Alaszewski (2013, p. 384) observes, babies and young children are seen as particularly vulnerable to risk, with parents expected to take a risk-averse approach to childcare. Importantly, it also served to deflect questions about the *degree* of harm associated with thirdhand smoke. After all, how persuasive do the



data need to be when the harms are identified as typically inflicted on innocent children? (c.f. Brandt 1998, p. 170).

### **Contextualising the uptake of the concept**

In light of the fact that the concept of thirdhand smoke was ridiculed in the popular press throughout the 1990s as a joke and its status as a health risk is subject to continuing suspicion, it is worth considering exactly why it has been legitimised in past four years as a public health problem. In answering this question it is necessary to explicate the broader socio-political context in which smoking itself has been problematised. Although compelling evidence of the health effects of smoking has existed since the 1950s, it was not until the publication of the 1964 Surgeon General's report on *Smoking and Health* that these consequences were placed on the national public health agenda in the USA, although decades of industry opposition and obfuscation followed. However, despite the clear cut evidence of the harms of smoking, the strongly libertarian political culture in the US meant that public health policies on smoking were hindered by concerns about paternalism (Bayer and Colgrove 2002).

In the 1970s the secondhand smoke 'issue' emerged as a central platform of the anti-tobacco lobby and proved highly successful of promoting a tobacco control agenda whilst sidestepping accusations of paternalism (Kagan and Vogel 1993; Bayer and Colgrove 2002). Importantly, efforts to lobby for the regulation of smoking occurred within a context of scientific uncertainty about the nature of the harms of secondhand exposure to tobacco smoke. Examinations of the socio-political context of tobacco control policies in the United Kingdom (Berridge 1999), the USA (Reid 2004)

and Canada (Asbridge 2004) have shown that moves to restrict smoking were based less on scientific research than the issue of non-smokers' rights and the pressure placed on local municipalities by advocacy groups. However, a body of research from the early 1980s began to document a relationship between long-term exposure secondhand smoke exposure and heightened health risks of lung cancer, ischemic heart disease, etc. (see USDHHS 2006).

Although consistent correlations between long-term exposure to secondhand smoke and heightened health risks have been found, the harms of such exposure are exponentially lower than the risks of active smoking, something the 2006 Surgeon General's report on *The Health Consequences of Involuntary Exposure to Tobacco Smoke* acknowledges in passing (see USDHHS 2006, p. 12). However, in many respects, the evidence of diminished harms of smoking to bystanders was more politically valuable than the evidence on the substantial harms to smokers themselves. Chapman and colleagues (1990, p. 417) have compared the concept of passive smoking to a 'Trojan Horse', pointing to the likely impact on morbidity and mortality in smokers stemming from the 'significant reductions in smoking frequency that occur with the proliferation of smoking restrictions introduced in the name of concern for the health of nonsmokers'.

The political value of the concept is undoubtedly connected with a tendency to talk in increasingly loose terms of the risks connected with environmental tobacco smoke exposure in the Surgeon General's reports (see Gostin 1997)—a trend also evident in the ways other mainstream public health organizations such as the Centers for Disease Control and Prevention and the World Health Organization talk about

secondhand smoke. Despite the basic principle of toxicology that ‘the dose makes the poison’, specificity has all but disappeared in mainstream public health accounts of the harms of secondhand smoke. As Gostin (1997) notes, contemporary assessments of secondhand smoke fail to consider questions such as:

At what level of exposure does the risk occur? How serious a risk exists compared with other environmental risks, such as automobile emissions?

What kinds of involuntary smoking or what settings pose the risks? (p. 347).

This rhetoric has opened the door for an expansive view of risk where even a whiff of cigarette smoke is harmful. And if a whiff of cigarette smoke is dangerous, then it’s not much of a stretch to extend notions of harm to the smell of stale smoke and the invisible chemicals it leaves behind.

Indeed, as thirdhand smoke can be seen as a logical subset of environmental tobacco smoke—the diffuse (and less dangerous) margins of such smoke—hiving it off as a distinct phenomenon seems unnecessary. However, as accounts of the concept demonstrate, much of the value of thirdhand smoke stems from its articulation of a ‘new’ threat to the public’s health. Thus, an article publicising the newly formed Thirdhand Smoke Consortium at the University of California Berkeley quotes Matt as saying:

In the 1950s, we found that smoking could kill you; then research in the ‘80s and ‘90s, showed that secondhand smoke is dangerous... The potential health risks of what we call thirdhand smoke are only now being studied. *This is a new frontier* (Ravven, 2012, emphasis added).

This strategy serves to place the risks of thirdhand smoke in direct relation to those of first and secondhand smoke, with thirdhand smoke becoming ‘risky’ by

association. In this framing, the lack of available evidence of harm is represented as a minor obstacle; faith is expressed in the inevitable emergence of such evidence, which will, *ex post facto*, justify the growing concern about thirdhand smoke as a threat to health. But most importantly, a new threat enables new interventions.

The concept of thirdhand smoke is frequently invoked in discussions of the need for the expansion of interventions from the public into the private sphere (e.g., Winickoff et al. 2010; Matt et al. 2011; Wilson et al. 2011). For example, Dreyfuss (2010) quotes a co-author on the aforementioned Sleiman et al. study as declaring: ‘We should keep public places 100% smoke free *and smokers should not smoke in or near their homes if they have children*’ (p. 204, emphasis added). The relationship between thirdhand smoke and the push for legislation into private spaces becomes even clearer in a recent commentary published in the journal *Tobacco Control*, where Schick (2011) states:

Is the current body of evidence on the composition and persistence of the residue from smoking enough to justify laws banning smoking in multiunit and rental housing? Perhaps not yet, but I think the evidence will come *and the laws will come even faster* (p. 2, emphasis added).

As this account indicates, that laws might *precede* evidence of harm is represented as unproblematic. Again, this suggests an awareness of the political value of the concept in extending the parameters of smoke-free legislation.

The political utility of thirdhand smoke also becomes evident in discussions of its importance in transforming attitudes towards smoking. For example, the journal *Environmental Health Perspectives* quotes Matt as saying that even in the absence

of evidence of actual long-term health effects of THS, many non-smokers—and former smokers—have already been sensitised to the phenomenon (Burton, 2011). Implicit in these statements is a recognition of the value of thirdhand smoke in promoting a broader anti-smoking environment, given that its existence depends on the presence of active smokers. Elsewhere, Matt explicitly highlights this pressure the concept places on smokers themselves, stating:

The thirdhand smoke trail may well lead to changes in attitudes about smoking and to decisions to give up the habit or not ever start it... After all [sic], there would be no third or secondhand smoke without ‘firsthand’ smoking (Ravven 2012).

### **Thirdhand smoke vs. passive drinking: the nose knows**

Although this larger socio-political context is crucial to the embrace of thirdhand smoke, its rise as a public health issue cannot be merely explained by its political utility in furthering tobacco control agendas. After all, the construction of social problems depends on *successful* public claims-making, and history is littered with examples of failed public health campaigns that never really caught on, despite the best efforts of their promoters.

The concept of ‘passive drinking’ is a case in point. Although meant to draw attention to the collateral damage caused by alcohol, as Burgess (2009) demonstrates, efforts in the United Kingdom to link drunkenness to wider social issues fell largely flat. It’s therefore instructive to consider why ‘thirdhand smoke’ and ‘passive drinking’, two concepts no more or less intrinsically plausible than each other (and the latter with arguably more evidence of harm) have engendered such

different responses. This question is brought into particular focus when we observe that exactly the same sorts of rhetorical strategies employed to make claims about the harms of thirdhand smoke were used to stake out passive drinking as a social problem. First, comparisons with passive smoking were integral to claims of the harm alcohol caused to bystanders, with Liam Donaldson, the-then Chief Medical Officer of the United Kingdom, suggesting that the effects of the latter were even more ‘far reaching’ than the former (p. 528). Second, countless statistics were brandished of the secondary (read: innocent) victims of alcohol-fuelled violence, including the ‘1.3 million children adversely affected by family drinking’ and the ‘6000 babies born annually with fetal alcohol syndrome’ (Burgess 2009, p. 528).

Burgess argues that much of the failure of passive drinking to garner political support can be explained by the ways its fate became tied so strongly to the concept of passive smoking. In his words:

The association with passive smoking that is intended to be its strength is also a weakness as it naturally invites us to imagine (and dismiss) the notion of *unintentionally inhaling the alcohol of others*. Donaldson implores us to use our imaginations and extend our conception of alcohol-related harm as widely as possible, but it is difficult to proceed beyond the fundamental question of what ‘passive drinking’ could possibly be (p. 529, emphasis added).

As Burgess points out, the tangible connection between the user and bystander implied by the term ‘passive drinking’ is largely absent from the concept. If

anything, the image of unintentionally inhaling alcohol leads to rather more humorous associations. Thus, one ‘no smoking’ sign reads:

THANK YOU FOR NOT SMOKING. Cigarette smoke is the residue of your pleasure. It contaminates the air and pollutes my hair and clothes; not to mention my lungs. THIS TAKES PLACE WITHOUT MY CONSENT. I have pleasure also; I like a beer now and again. The residue from my pleasure is urine. Would you be annoyed if I stood on a chair, and pissed on your head and clothes without your consent? (Imgur 2012, emphasis in original).

The importance of this tangible link is also emphasised in the letter from the *St Petersburg Times* reader quoted earlier, who argued that ‘someone eating a Big Mac every day is not hurting me unless they *blow it into my stomach*’ (St. Petersburg Times 2011, emphasis added).

In this respect, the concept of thirdhand smoke has a clear advantage. As should be evident, media and public health reports on thirdhand smoke regularly highlight the semiotic power of the *smell* of stale cigarette smoke. The smell of smoke—like smoke itself—creates a material connection between the smoker and the bystander (Borthwick 2000; Dennis 2006, under review A, under review B; Bell 2011).

Moreover, this connection is entirely involuntary. In the words of Le Guérer (1992):

The smell that enters the lungs establishes a contact ‘even more intimate’ than the one between taste and the receptor cavities of mouth and throat. Furthermore, unlike oral absorption, which is a deliberate act, olfactory perception is almost always involuntary. A smell is unavoidable, for it cannot be either voided or avoided through a rejective process like vomiting (p. 175).

In my view, it is the embodied dimension of thirdhand smoke that has been central to the concept's success. As should already be evident, Winickoff made constant reference to its phenomenological qualities in media interviews (Bergen and Phillips 2009). For example, an article in the *Toronto Star* paraphrased Winickoff as saying 'If the smell of the cigarette lingers... so does the danger' (Laidlaw 2009).

As Dennis (under review B) observes, contemporary accounts of thirdhand smoke entail a 'classically miasmatic construction in which the air is understood to hold in invisible suspension the emanations of the foul, fraught with danger and capable of infecting all breathers'. The smell of stale cigarette smoke is marginal matter in Douglas' (1966) sense of the term: in its refusal to respect boundaries, it is dangerous and polluting. In the language of Kristeva (1982), thirdhand smoke is abject: an in-between, ambiguous, composite substance—neither air nor matter—that destroys the boundaries between what is 'me' and what is 'not me'.<sup>3</sup> As Kristeva (1982, p. 4) observes, 'It is thus not lack of cleanliness or health that causes abjection but what disturbs identity, system, order. What does not respect borders, positions'.

This abject nature of the smell of stale cigarette smoke is constantly highlighted in media discourse on the topic. It is, as one of the early print newspaper accounts noted, 'the smoking gun' that signifies smoking itself. For example, in a Q&A column on thirdhand smoke published in a Canadian newspaper, a woman wrote in to complain about her mother-in-law and the fact that although she didn't smoke around their six-month old baby she often 'smells like smoke'. According to the letter writer: 'She visits often. When she's holding our son, kissing him etc., the



child's breathing in these chemicals. You immediately smell it when she walks inside and it lingers after she's gone' (Toronto Star 2011). Similarly, in her response to Winickoff et al.'s original article on thirdhand smoke, Carey (2009) states:

As a school nurse I see many children in my office with asthma, allergies and ear infections. It is especially upsetting to me when a parent, *reeking* of cigarette smoke, comes to the health office to pick up his or her ill child (emphasis added).

This language of disgust permeates accounts of thirdhand smoke. As an emotion, disgust tends to embody ideas about contamination with its attendant imagery of borders under attack (Nussbaum 2004; Bell 2011). Today, the 'reek' of cigarette smoke—and the visceral response it engenders—are seen to provide irrefutable evidence of its harmfulness.

### **Sensuous verifiability and public health risks**

This emphasis on the senses as a means of warranting claims about risk is a longstanding thread in accounts of the harms of smoking. For example, in his seventeenth century anti-tobacco treatise, *A Counterblaste to Tobacco* (1604), King James VI noted:

For the nose being the proper organ and convoy of the sense of smelling to the brains, which are the only fountain of the sense, doth ever serve us for an *infallible witness*, whether that odor which we smell be healthful or hurtful to the brain (n.p., emphasis added).

Rather more recently, Malone, Boyd and Bero (2000) have shown that journalists' representations of passive smoking as a problem in the 1980s and 90s tended to

appeal to phenomenological arguments over scientific evidence. In newspaper reports, the science was consistently presented as secondary to the power of commonsense understandings of passive smoking as a physical experience. Thus, smelly clothes and watery eyes were used as experiential evidence to support scientific claims. According to the authors: 'In the end, the science of passive smoking was used to confirm what "everyone" already *knew through everyday experience*, and to establish socially legitimated "facts" that provided official justification for subsequent action' (Malone, Boyd and Bero 2000, p. 719, emphasis added). Such appeals to experiential knowledge highlight the fact that perception is more than a 'mental' event. As Merleau-Ponty has shown, 'we experience our own sensory states not merely as states of mind, but *as states of our bodies...*' (Carman in Merleau-Ponty 1945, p. xiv, emphasis added). To be successful, claims-making must 'make sense'—and I speak here of 'sense' not just at the level of logic or cognition, but the level of sensuous experience.

Early philosophers of science such as Chauncey Wright were well aware of the importance of 'sense-experience' to truth claims, arguing that sense perception was a critical source of knowledge (De Groot 2012). According to Wright, even when ideal or transcendental elements were admitted into scientific research:

...they must still show credentials from the senses, either by affording from themselves consequences *capable of sensuous verification*, or by yielding such consequences in junction with ideas which by themselves are verifiable (quoted in Madden 1953, p. 63, emphasis added).

Thus, in a world of claims about largely invisible and abstract health risks, those that invoke the 'undoubted testimony of the senses' (De Groot 2012) are likely to

have a clear advantage. This would suggest that phenomenological experience may have an important role to play in the successful crafting of public health policy objects.

## **Conclusion**

In this paper I have shown that the rapid rise of thirdhand smoke as a public health concern has not been due to the emergence of a growing body of evidence on the topic. A term in popular use long before it was (re)introduced as a scientific concept, thirdhand smoke demonstrates the synergistic relationship between science and the media in the emergence of new health risks. Via two key rhetorical strategies, thirdhand smoke was presented as a newly named but already established threat to the public's health. First, the concept was portrayed as a natural extension of secondhand smoke, enabling residual cigarette smoke to become risky-by-association. Second, it was framed as a particular threat to babies and children, which served to deflect questions about the degree of risk that exposure actually posed.

Despite the general lack of evidence of harms associated with residual tobacco smoke, the concept of thirdhand smoke has today achieved a wide degree of circulation in international public health circles. In an environment where efforts to encourage people to stop smoking have intensified dramatically, the concept has a clear utility in mobilising the push for more expansive legislation, especially into the private realm. In other words, thirdhand smoke is a concept designed not merely to *describe* something but to *do* something. However, despite its clear political value, I have stressed that its success does not hinge on this factor alone. Instead, it can

largely be attributed to the potent semiotic and material qualities of residual cigarette smoke itself as an abject, sensuously verifiable substance.

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### **Notes**

<sup>1</sup> I have never received any funding from the tobacco industry; nor am I ‘aligned’ with it, although I have occasionally been accused of such. I have previously discussed my stance on tobacco research—and the currently polarity in the field—in Bell (2013) and Bell and Dennis (2013).

<sup>2</sup> As Brandt (1998) has noted, each of these terms has particular social and political implications. For example, ‘involuntary’ smoking emphasizes the ‘voluntary’ and intentional nature of smoking; ‘secondhand smoke’ emphasizes the ‘used’ nature of the smoke, while ‘environmental tobacco smoke’ invites public concern about smoking as an environmental hazard.

<sup>3</sup> I have previously made these points about secondhand smoke (see Bell 2011), but they apply equally to thirdhand smoke. See also Dennis (under review A, under review B) for an extended discussion of the ways air is explicated in the era of ‘Smokefree’.

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