

A Toxic Business



The authors of *Slow Death by Rubber Duck*, Canadian environmentalists Rick Smith (left) and Bruce Lourie.

Two "lab rat" authors have been shocking readers with their book on the effects of everyday chemicals, writes Liza Power.

IN 1995, American film director Todd Haynes made a harrowing film called *Safe*. It stars Julianne Moore as Carol, a beautiful Californian housewife who, with a wealthy husband and picture-perfect home, finds herself peculiarly afflicted by a raft of strange ailments. First headaches, skin rashes, nose bleeds, a cough. Then she suffers a grand mal seizure. Her GP can offer no diagnosis, nor can an allergist or psychiatrist.

As Carol's symptoms worsen, she becomes convinced she is being poisoned by the chemicals that define our modern lives: aerosol sprays, face creams, processed foods, pesticides on fruit and vegetables. Seeking a cure, she signs herself into a new-age health retreat for the "environmentally ill" and begins a regimen to purge herself.

While the film is a fictional foray, its nightmarish premise — that the chemicals we encounter every day could be killing us — forms the focus of a recent book called *Slow Death by Rubber Duck*. Based on the firsthand research of prominent Canadian environmentalists Rick Smith and Bruce Lourie, the portrait it paints of modern life is just as chilling. The two decided to use themselves as lab rats for their research. Locking themselves in a "test room" condo, they set about ingesting, inhaling and lathering themselves with products most of us



use daily. They then proceeded to measure, through urine and blood samples, how readily their bodies absorbed the chemicals they were exposed to.

On a recent visit to Australia for the Sydney Writers Festival, Smith and Lourie say they face the same reaction to the book everywhere: sheer horror. "Yes, but besides shock we've been met with a deep, gut-level acceptance from people that these synthetic chemicals we've surrounded ourselves with can't be good. So many people have been touched by cancer in their immediate families and they sense there's a link to environmental contaminants. Our book has landed in the middle of that social awakening," says Smith.

They approached their research with several goals. After extensive work in the field of body burden testing — which shows our bodies absorb myriad chemicals but doesn't reveal specifically where they come from — they wanted to take the next logical step. "The whole idea behind the self-experimentation was to demonstrate concretely that the decisions we make every day as consumers really matter. Also that it's possible to measure in real ways the impact of all these products we use," says Smith.

Inspired by the likes of Morgan Spurlock and Michael Moore, the two began sifting through reams of scientific research. "We went through lists of possible chemicals to focus on and we wound up with seven that emerging scientific evidence identifies as being of real concern."

They deliberately chose chemicals people would encounter in different parts of their lives: the bathroom, bedroom, kitchen or garden, those ingested in food or beverages, others that leach from cooking utensils, containers, pots and pans.

Assembling an "average life" required consideration, particularly given the two eliminated most chemicals from their own lives some time ago.

"We consciously set out to mimic everyday life, so the cardinal rule of our testing was not to do anything out of the ordinary. For the phthalates experiment, I simply shampooed my hair, shaved and used anti-perspirant, using products people purchase in your average grocery store," says Smith.

In the book, each experiment is foregrounded with reference to existing scientific research, with studies translated from dense, scientific terminology into accessible plain-speak.

While the two expected there would be surprises, they found the efficiency with which their bodies absorbed various toxins "utterly mind-blowing". "No one has ever done this kind of work before, so we didn't have signposts to guide us, but the rapid nature of the increases within very short 12-hour periods really shocked us."

In one experiment involving the chemical triclosan — commonly used in antibacterial products, toothpaste, facial cleanser, deodorant and soaps — which has been identified as an



endocrine disrupter and related to the rise of bacterial resistance, Smith exposed himself to eight supermarket products simultaneously.

Over a 48-hour period, the levels of triclosan in his urine increased 2900-fold. He writes: "So after two days, my self-experimentation took me from the very bottom of the [scale] to far above the highest value recorded to date in the US population." That his body is flushing the chemical out is good news. What happens when the human body adapts to high levels of triclosan and begins to metabolise it at a slower rate, leading to its accumulation in bodily tissues, presents the greater concern.

Rubber Duck also contextualises its scenarios — our modern obsession for cleanliness, say — against a historical backdrop, often to fascinating effect. With the exceptions of the Romans and their penchant for baths, bathing was, certainly until well into the 17th century, largely avoided; it was widely believed to rob the body of its vital essences and spirit. As Smith and Lourie note, soap did not become widely available or affordable until the 1800s. Before then, baths were looked upon as radical remedies for serious illness; they were usually prescribed and conducted under strict medical supervision.

Playing a pivotal role in this radical shift in thinking has been the advertising industry, which through relentless campaigning has taught us to view germs of any description as evil to the point of life-threatening. Smith delights in recounting the story of Listerine, which was first marketed as a floor cleaner and a cure for gonorrhoea, before being packaged as a mouth-wash. "The Listerine company actually invented the word halitosis and the modern concept of bad breath so they could sell more Listerine," scoffs Smith. "Before that halitosis didn't even exist."

Smith blames governments for failing to regulate and monitor the introduction of chemicals as they enter the marketplace. "Most people assume, not illogically, that our governments protect us. . . . But that turns out to be not the case. There are about 80,000 synthetic chemicals in commerce today, everything from pesticides to the varnish on your desk, the foam in the chair you're sitting on and only a few of those chemicals, less than 5 per cent, have been safety tested."

One of Smith's main fears, not to mention his greatest incentive in writing the book, was to examine the chemicals children are exposed to — in toys, clothing, bottles. As the father of two young boys, he still feels guilty about feeding his son with a baby bottle made with bisphenol A (BPA), given studies now link bisphenol A and phthalates with prostate cancer and reproductive abnormalities. BPA is banned in Denmark, Canada and the US, with other European nations also considering bans, yet it is still widely available in Australia and New Zealand.

Responding to demands for similar restrictions here, federal Health Minister Nicola Roxon stated in January that responsibility for such decisions rested with the Therapeutic Goods



Administration, which subsequently deferred responsibility to Food Standards Australia New Zealand. The latter maintains it has no regulatory authority over baby bottles and has never commissioned its own research on BPA and its effects.

For Smith, this frenzy of passing the buck is nonsensical; particularly in the face of more than 130 studies over the past decade that link even low levels of BPA to serious health problems, including breast cancer.

"Last night I went to a grocery store in Sydney and bought precisely the same toothpaste and shampoo I used in the experiments," says Smith. "The chemicals they contain have been banned in Canada and the US but they're still available here. It's worrying."

He says the American and Canadian Medical Associations have recently called for a ban on the household use of triclosan, because of concerns about its health effects. There has also been a significant push in Canada to ban the use of pesticides for home gardens. Spearhead by doctor's organisations, mainstream cancer societies, nurses and scientists, its momentum is building.

Smith and Lourie's research has attracted its fair share of criticism, namely from manufacturers who claim the chemical content of their products is too low to cause harm. Which might be the case, Smith acknowledges, if people were only exposed to one or two chemicals a day. "But the problem is that we're exposed on a minute-by-minute basis to hundreds and thousands of these synthetic chemicals and chemical companies just don't have a good answer as to what the cumulative effect over time or a lifetime will be. They've not done that science so they just don't know."

Smith and Lourie's next project is another book, this time focusing on nanotechnology, cosmetics (including anti-ageing treatments) and detox products (think four-day colon-cleanses or liver detox tablets). Once again, they hope it will feed the gradual social awakening they see in people wherever they travel. Smith is emboldened by the tide of change currently taking place in Canada in the US, by the way medical bodies and community groups are joining forces to lobby governments and effect real change.

"The important thing to realise is that [*Rubber Duck*] is a hopeful book. It's not about making people despondent, but rather moving them to action. Making them realise that the decisions they make are really important."

Source: SMH June, 2010

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