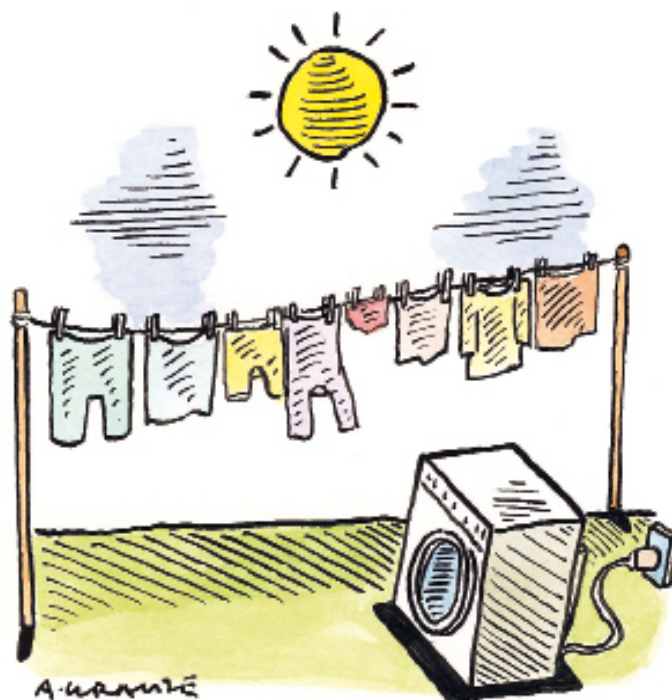


The right to dry

It's time to put an end to crazy laws that force millions of Americans to use gas-guzzling tumble dryers rather than a clothes line, says **Alexander Lee**

EARLIER this year, a company called National Clothespin of Montpelier, Vermont, mothballed its manufacturing equipment. As a result, there is no longer a single manufacturer of wooden clothes pegs in the US, even though that peculiarly American sect, the Shakers, invented them. National Clothespin now imports clothes pegs from China so it can inscribe cutesy phrases on them, attach magnets to the back, and sell them as novelty products.

There's a good reason why the US no longer manufactures clothes pegs: lack of demand. Some 80 per cent of US households own and operate a tumble dryer, with millions more of us going down the street to a laundromat. The average American household dries 8 loads of washing a week; over two million households do 15 loads a week or more.



Needless to say, all this drying uses a lot of energy. According to figures from the Department of Energy, Tumble dryers gobble up over 3 per cent of all household electricity, and that doesn't include drying that gets done at laundromats, hospitals, restaurants, universities and prisons, which are home to two million Americans.

Project Laundry List, the organisation I run, estimates that most of us could save about a 10 per cent on energy costs if we did our laundry the green way – cold water, line dry, no bleaching or ironing.

Yet clothes lines have become a rarity in the US, in part because draconian regulations make it impossible to dry garments naturally. Around 60 million Americans live in homeowners' associations such as condominiums, retirement communities and mobile home parks. Most of these ban or severely restrict the clothes line.

Why? Clothes lines evoke a negative emotional reaction from many Americans, who view them as flags of poverty. Property owners often fear that a clothes line in their neighbourhood will lower the value of their house.

There's also a strange brand of prudery at play. Middle-aged men,

Polar bears' last stand

All is not yet lost, say polar scientists **Stephanie Pfirman** and **Bruno Tremblay**

WITH all the attention given to the loss of sea ice in the Arctic, it's easy to forget that some ice will persist for many years yet. True, climate models project that much of the Arctic Ocean will be ice-free during the summer by 2040, but they also predict that up to 1 million square kilometres of sea ice will remain until at least 2100.

This ice will lie next to the northern coasts of Greenland and the Canadian Arctic archipelago, the region where the oldest and thickest ice now occurs.

This region will therefore offer at least a limited sanctuary for species that prefer, or rely on, year-round sea ice. Projections published this spring indicate

that by the middle of the century optimal polar bear habitat will have disappeared across most of the Arctic, but will persist north of the Canadian Arctic archipelago and Greenland.

The continued existence of this habitat lays the foundation for the long-term survival of ice-dependent species. But to ensure they do survive, we urgently need to draw up a management plan. As ice-covered areas open up, the Arctic will experience more human activity than ever before.

New developments in shipping, tourism and resource extraction, for example, will put pressure on ecosystems already struggling to

adapt to environmental changes. We need to start an international assessment now, before Arctic countries establish their development schemes.

The management plan will have to extend to cover the "ice shed" that delivers ice to the region. Our research indicates that, in the past, some of the ice was formed locally, but some of it also drifted in from the central Arctic and as far away as the continental shelf waters of northern Alaska and

"Polar bear habitat will persist north of the Canadian Arctic archipelago and Greenland"

prone to ogle the Internet for all manner of scantily clad beings, do not want to see over-sized bloomers out their window.

Even more crazily, some homeowners associations proclaim that clothes lines are a liability when erected in common areas. People might trip on them or run into them.

People might burn down in their houses, too. According to the National Fire Prevention Association, the dryer is the home appliance that causes the largest number of household fires: 15,000 every year causing tens of millions of dollars in property damage.

Thankfully, the ride is turning. There is a growing “right to dry” movement aimed at overturning clothes line bans and an increasing number of Americans see the clothes line as an elegant pennant of the eco-chic. In April, the Pew Research Center reported that the proportion of Americans who rate a clothes dryer as a necessity has fallen to 66 per cent, down from 83 per cent in 2006. Clothes lines could be the gateway drug that will break Americans of their consumption habits. ■

Alexander Lee is executive director of Project Laundry List, based in Concord, New Hampshire

north-eastern Russia. Even when most of the sea ice is gone in the summer, ice formed in the winter will be transported by wind and ocean currents into this region.

Because sea ice is dynamic, we will need an international system of monitoring and managing the remaining habitat and areas that supply its ice. If we manage to do this successfully, we could maintain a viable habitat for polar bears and other species for decades into the future. ■

Stephanie Pfirman is at Columbia University in New York.

Bruno Tremblay is at McGill University in Montreal, Canada

One minute with... Michael Green

The new holder of the Lucasian Chair of Mathematics at the University of Cambridge feels he has a lot to live up to

Congratulations. How did it feel when you heard the news?

I was very pleasantly surprised – but also overawed. This is a position that has had some extraordinary incumbents. It is loaded with a history that means I have an awful lot to live up to.

What plans do you have for the role?

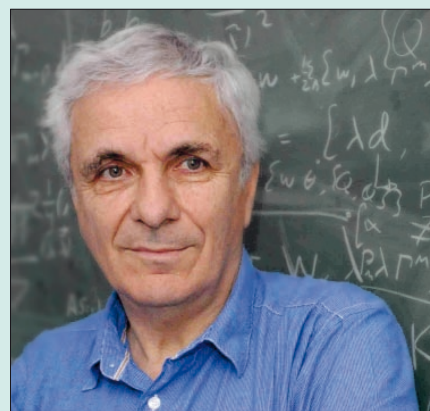
For a long time I've been involved in the interface of elementary particle physics and general relativity, string theory in particular. Some very exciting things have been happening in string theory that I wish to pursue. Although string theory has not fulfilled or even come close to its original aims – to unify our ideas about the fundamental forces – it is now providing surprising insights in other areas of fundamental physics. These are problems that nobody has had any way of understanding and now we have a chance of solving.

One example is understanding the properties of very high-energy collisions of heavy nuclei. When heavy nuclei are collided in particle accelerators they form a “fireball” of matter. But the behaviour and properties of such a fireball are difficult to understand using standard nuclear physics. Now it seems there's a way of describing the fireball as a kind of mathematical “black hole” using string theory. At first sight, these problems would seem to be a million miles from what string theory was originally designed to tackle, but to me that's one of its most fascinating aspects.

Are we still on the right track to a single unifying theory?

What has been realised through string theory are some general principles, which make me feel that we're very much on the right track. But we are a long way from a detailed understanding of what underlies the forces of nature as we see them.

I personally do not like the idea of a “theory of everything” – that we will one day understand everything in one simple formula. I don't think that's the way science works. Scientists have previously believed they were close to understanding everything, but I'm not sure



PROFILE

Michael Green is one of the pioneers of string theory. His seminal work in 1984 showed that string theory can describe all elementary particles and their interactions

we will ever have a complete understanding of everything. It would be very boring indeed if we did.

Did Stephen Hawking offer any advice about your new role?

He didn't offer advice, only congratulations.

Stephen Hawking is, of course, completely unique, and his experience as Lucasian professor will have been very different to mine. Are there any past holders you'd wish to emulate or particularly admire?

It would be rather presumptuous of me to want to emulate the previous incumbents. There have been several extraordinarily distinguished people, Stephen Hawking included. After all, the chair was once occupied by Isaac Newton. It has also been held by Charles Babbage, who invented the concept of programmable computers, and more recently by Paul Dirac, one of the great physicists of the 20th century. That's why I feel honoured about the fact I've been appointed.

Interview by Richard Fisher