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Can the umbrella be improved?

By Justin Parkinson
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Umbrellas have been around for more than 3,000 years, but young designers are trying to reinvent them.

They get lost. They poke people in the eye. They misbehave on windy days.

But umbrellas are one of the design classics of the modern world. From Mary Poppins to the Mikado to burlesque dancing routines, they feature regularly in popular culture. More than 5,000 models are on sale on Amazon. One city, Songxia in China, is able [to make 500 million a year](#) in more than 1,000 dedicated factories.

They in come in many sizes and colours, but the key thing we think we know about the umbrella is that they don't change. We think the umbrella is as good as it's going to get.

The most common umbrella, featuring foldable steel ribs under the canopy, was first sold by Englishman Samuel Fox in 1852. Compact, collapsible models have been widely available since the 1930s and the larger golf-style umbrella since the 1970s.

Cheaper plastic versions, sometimes see-through, are available, as are disposable ones. Lackeys carry umbrellas for heads of government and state, while British pub gardens are full of large parasols in the summer.

It would appear to the layman that most things that can be done have already been thought of. But designers are looking at evolving the umbrella further.

"There's much more development to be done," says Justin Nagelberg, the New York-based creator of the Sa, an umbrella based on origami, the Japanese art of paper folding. "In 20 years' time, I don't think people will be using the same umbrellas that we use today."

Nagelberg thinks the real innovation will be in materials. He is looking to create a "poncho with a structural hat on top", which will end the need to carry the umbrella, while emphatically not looking like some of the "silly" novelty umbrella-hats on sale today, he says.

The Sa was inspired by the disposable umbrellas on sale in Tokyo, where Nagelberg spent time studying. It is designed to be able to return to its original shape if blown inside out by the wind.

A brief history of the umbrella

Parasols were used to offer shade from the sun more than 3,000 years ago in Egypt

Umbrellas to protect from rain thought to have been invented in ancient China

Largely used as a woman's accessory, until mid-18th Century, when English traveller Jonas Hanway bucked the trend. Despite initial mockery, other men began to use them

First single-purpose umbrella shop, James Smith and Sons, opened in London's New Oxford Street in 1830, and is still in business

In the 1950s, nylon canopies, which do not rot, came into use as an umbrella covering; material's strength allowed development of golf umbrella in the 1970s

With the environmental impact of all the umbrellas thrown away each year in mind, UK-based designer Ayca Dundar has invented [the Drop](#), a pop-up canopy version made from just six parts. She says it is easy to repair, meaning that when a single component breaks the whole thing does not necessarily have to be replaced.

Dundar realises there is limited scope for redesigning the classic umbrella, arguing that "durability" will continue to be the most important consideration. But, with people around the world spending more time commuting and the numbers living in cities increasing, there is a new challenge.

"Nobody wants to carry a really big umbrella when they're handling their baggage," she says. "They don't want to carry large items when they are in bars or on public transport. That's why they're making the mechanical structures really portable and small."

In the last few years the Dutch company Senz has invented an umbrella which was tested to withstand winds of up to 100km/h (62mph). Designed by Gerwin Hoogendoorn, it has a lop-sided shape which means it is more aerodynamic. Senz, which sells its products across Europe, east Asia and North America, has also developed models which open and shut automatically and can be attached to bicycles.

"There are several long-standing frustrations with umbrellas," says commercial project leader Marinka Eekman, "At first people just didn't believe that the umbrella design could be improved. Even now, we notice that when people are carrying our products others are curious. They wonder why it looks that way.

"We are adapting the umbrella to the modern market. People like to have umbrellas that they feel confirms their identity, especially in the UK. It's a status symbol to have a good umbrella. It can also be fun and keep up with fashion."

The UK's Royal Society for the Prevention of Accidents does not keep figures on umbrella accidents, but it [warns against using them](#) in exposed areas during lightning storms.

Research at Australia's Monash University in 2012 found an average of [20 umbrella-related injuries a year](#) across 38 accident and emergency wards. There were "no recorded fatalities", but several people suffered eye injuries. Eekman says her company and others are working to reduce such risks.

One future umbrella that might achieve this is the [Air Umbrella](#), developed in Japan, which would have no material covering but would shoot up warm air through the handle, deflecting rain before it can hit the user's head.

Loss of umbrella control is a particular problem in windy and crowded areas. Japanese company H Concept claims to have [solved the problem of them flipping inside out](#) in the wind and breaking, by placing the metal struts on top of, rather than underneath, the canopy. This means the "forces from strong winds actually work to keep it open", according to the writer Andrew Liszweski.

The UK inventor Stephen Collier has created the helmet-shaped [Rainshader](#), which has been tested to stand up to a force seven gale.

And Brunel University student Simon Warne came up with the [Brolli](#), which flexes in the wind and incorporates its handle in a central tube into which the canopy can be pulled, meaning less water gets spilled on people's floors.

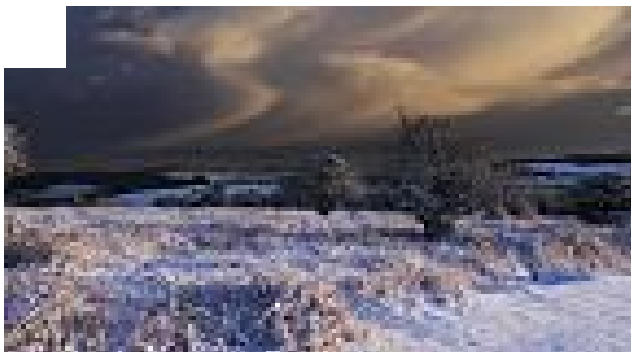
Not every radical umbrella rethink will find its way into the shops, but the global market for umbrellas is huge. China accounts for about three-quarters of it - in 2010 making some \$2.4bn (£1.53bn) from the combined trade in umbrellas, walking sticks and whips.

So there is likely to be no shortage of entrepreneurial designers looking to bring their modifications to market. But what can they offer that is truly new?

"The standard umbrella is a really good design and I love it," says Nagelberg. "People are very attached to it. But there is a kind of re-imagining going on."

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