



When society turns

*Sometimes I get a brief which I then expand – such as this academic article that appeared in **Cambridge University's** CAM magazine. In 2017 I was asked to explore the phenomenon of how the tide can turn – how society comes gradually to accept or embrace new ideas without anyone directly telling it to. I expanded this out to include expert opinion from five different academic disciplines.*

Next year, most of the babies born in the UK will be to parents who are unmarried. This fact would not just shock our grandparents, but be utterly unthinkable. As recently as 1979 nearly 90 per cent of all new parents were married – but at some point, over a relatively short period, what was an extraordinary, outlandish thought has become the norm.

This is not the only example. From women's emancipation to the Civil Rights movement, from the acceptance of gay marriage to the decline in churchgoing, radical, extreme and socially unthinkable ideas and behaviours reach a tipping point after which enough of us believe it is acceptable to make it "safe" for our fellow humans to follow in our stead. And we do this even though — and this is the crucial bit — no one has told us to.

But how does it happen?
Legendary psychologist Philip Zimbardo, whose shocking 1971 Stanford prison experiment revealed the psychological



effects of being an inmate or a guard, postulated that, “without realising it, we often behave in ways that confirm the beliefs others have about us. These subjective beliefs can create new realities for us and become who others think we are”. More recent research has found that one specific area of the brain — the lateral orbitofrontal cortex — reacts particularly strongly to social influence and therefore is crucial to our ability and desire to conform. CAM asked leading Cambridge thinkers to ponder the phenomenon of the ‘social tipping point’.

THE ANTHROPOLOGIST

PROFESSOR JOEL ROBBINS

**Sigrid Rausing Professor of Social Anthropology,
Trinity College**

A quick mass conversion to a new belief may simply be the result of efforts to retain a sense of one’s own value and importance. A recent history that backs this up is the story of the Urapmin, an ethnic group of about 400 people living in a remote area of Papua New Guinea. After hundreds of years of following their own ritualistic traditional religion, they, suddenly, in 1977, all converted to Charismatic Christianity.

A key factor was the arrival of Westerners to nearby regions, and young Urapmin men encountered these people when they went out of their community to find work. But such a quick, wholesale ‘shutting down’ of a religion by an entire community is an extremely bold and unusual thing to do.

So why did it happen? The Urapmin don’t believe it was a collective act at all, but that they all converted individually by each, separately, encountering the Holy Spirit. They are sincerely convinced of this — but I wonder if a more recognizably human force was at play.

The Urapmin, who had for so long held an important status as religious leaders in their region, had in the previous few years been watching Western influences pervading neighbouring groups. Australians came in, built an airstrip, began trading and galvanising a local mining industry. After being ‘number one’ the Urapmin suddenly were watching everyone else generate a cash economy that they, as remote and traditional as they were, could play no part in. They lost their social position.

But all that changed when they converted to Christianity — they once again became religious specialists, they sent pastors out to the mining towns’ squatter settlements — and they got their status back. Their traditional belief system disappeared



because they no longer saw the realisation of its goals as their paramount concern. That was replaced by their cultural, unspoken need to get their status back. It wasn't a cynical act — far from it — but it certainly worked and enabled them to thrive again.

THE BIOCHEMIST

PROFESSOR GEORGE SALMOND
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The great philosopher Thomas Paine wrote: “It is not in numbers, but in unity, that our great strength lies.” The behaviour of certain bacteria evidences this — and suggests they certainly know when “the tide turns”.

Pectobacterium species appear instinctively to be able to practise “quorum sensing” — that is, know when they have gathered in sufficient numbers to successfully carry out an attack.

These bacteria, which used to be called *Erwinia*, hang around potato plants and kill them by breaking down cellulose and pectin in the plant cell walls to provide bacterial nutrition.

However the growing plant in the field can recognise this bacterial attack — that could lead to a lethal blackleg or soft rot disease — and can set up plant defences. So, talking anthropocentrically, the bacteria do not attack individually but wait for reinforcements and then act collectively. They achieve this by making signalling molecules that diffuse into the local environment and their concentration is monitored by all members of the bacterial population. When the appropriate concentration of the signalling molecules is reached (reflecting a high bacterial cell density) all the bacterial cells act in synchrony to start to make the enzymes that break down the plant cell walls. In this quorum sensing system the bacteria overwhelm any plant defences by “talking” to each other through a chemical “language” that provides important “intelligence” about their population density, to achieve efficient virulence by collective action; strength in numbers.

That is fascinating enough, but it has been discovered that the bacteria that kill the plant also ‘gang up’ and simultaneously make a carbapenem antibiotic. Their enzymes rot the potato but that will also provide food for other bacteria that have not contributed to the collective effort to degrade the plant cell walls — so this carbapenem antibiotic may be created to kill their opportunistic rivals at the precise time when the local nutritional windfall is generated.

And there's another extraordinary twist. Within bacterial populations that use quorum sensing, 'cheaters' — they are actually called that — can evolve. The “cheaters” get the benefit of the quorum sensing outputs (nutrition) without doing

any of the work to send out the signals. Some scientists are testing the notion that this bacterial communication system may even have a mechanism to 'weed out' these 'cheaters'.

As for human implications, there are indications that quorum-sensing signals may enable the bacterium *Pseudomonas aeruginosa* to colonise the lungs by 'calling in the reinforcements' to make virulence factors, and establish themselves as biofilms — structured communities that can also enhance resistance to antibiotics.

Scientists are working to produce analogue molecules that are quorum-sensing inhibitors or “quenchers”. Unlike antibiotics, they do not destroy the bacteria but just interfere with the signalling molecules, and so might still be useful therapeutically by decreasing bacterial virulence. To speak anthropocentrically again, the human equivalent would be: “You don’t need to kill the opposing army, just knock out their lines of communication.”

Of course, quorum sensing is not a conscious act by the bacteria, but a result of remarkable biochemical evolution through natural selection processes. But it still brings to mind the words of Niccolò Machiavelli: “No enterprise is more likely to succeed than one concealed from the enemy until it is ripe for execution.”

THE PSYCHOLOGIST

PROFESSOR JOHN RUST

Director of Cambridge University’s Psychometrics Centre

The tide turns as opinions and beliefs gather pace when people interact with each other. The Dynamic Social Impact Theory (Latané, 1981) determines that people can be the “sources or targets of social influence” dependent on the status of those trying to persuade us, how many there are and how recently they tried to do it.

The status of those influencing us played a big part in society changing its attitudes towards homosexuality. As more and more people came out, it was soon apparent that gay people were not like some remote religious cult — they were family members, work colleagues, the man down the street or the woman across the road, people we said “hello” to. Everyone knows someone, or of someone, who is gay. When we as a society realised that, that’s when attitudes began to shift.

We do tend to be unwilling as individuals to go against mass opinion and say something is wrong. Role models are key — especially if they are



people with whom we can personally identify. As soon as popular role models embrace a particular view, everyone feels safer to say the same thing. That can be the trigger point when the numbers shoot up.

THE SOCIOLOGIST

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Much of our behaviour stems from our tendency to divide the world into people we can trust and those we cannot. Fear plays a key role in our collective decision-making and therefore could potentially have an effect on how and when the tide turns.

Firstly, we have a fear of being judged and ostracised, which inevitably makes most of us want to conform to views and ideas supported by those around us. In extreme cases we have a fear of violence so we align ourselves accordingly, and this can effect a great shift in our collective thinking and behaviour. Research shows that in the Rwandan civil war, people were more ambivalent than perhaps one would expect about violent acts. Bystanders would not intervene out of fear for their own safety.

And even in more stable environments, fear is still a factor in our natural decision-making. Part of the reason smaller parties gather momentum is because we as individuals all have everyday anxieties about our lives, our jobs, our debts — and when mainstream parties seem to lack a narrative, the strident, confident approach of a party like UKIP can lend it credence.

But even when such emotions are not present, the tide can turn quite easily because humans are naturally susceptible to new ideas — there is a lot of fluidity and ambivalence. We may believe we as a collective group hold strong views but social transformation happens because we are not as committed as we think we are. Humans withhold part of themselves — they are not firmly gripped on to ideas.

That said, I do think we might be making too much of the idea that things change radically. And extremists and extreme ideas are in the minority. To explain the transformation of society you need to explain new ways of belonging. When the tide does turn it is because people have found a way of explaining change in a way that broadly transforms, and broadly convinces.

THE HISTORIAN

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Throughout history, as long as someone sows a seed of doubt, there is the potential for it to grow and gather momentum. And ultimately there comes a point when the tide turns and our behaviour as a group seems suddenly to change — although the seeds that created that change may have been sown a long time ago and taking root over years.



The perceived change in Britain's churchgoing habits is an example of this. Although it had been in decline for a long time — the numbers actually started to go down just before the First World War — in the 1950s Britain was still a very Christian society and most people expected the teachings of the church to be respected. But as Sam Brewitt-Taylor has shown, that changed in the early 1960s, thanks, more than anything, to the church leaders themselves.

Most famously, a 1963 book *Honest To God* by the Bishop Of Woolwich, Rt Rev John Robertson, suggested "modern secular man" needed a "secular theology". As members of the Anglican hierarchy argued over how best to come to terms with what they called the "secular society" the idea that Britain was now secular gathered traction.

The theological debate of the early 1960s greatly accelerated the secularisation of public life across the media, law, and politics, which in turn weakened the pressure on the public to conform to the dictates of organised religion. In discussing secularism clerical leaders fed doubt as well as debate. It became much easier for ordinary people to question received wisdom, and break free of conformity.