

# The Devil's flame-thrower

**A tradition of dissent and self-rule among heretics and rebels makes Cambridge successful, says Ross Anderson**

Just as fire regenerates a forest, so a great university regenerates human culture. We burn the rubbish, and create the space for new stuff to grow.

Vice-chancellors parrot ministers' vision of the university as a research lab for local industry – just as they assured government in the 16th century that they were fighting heresy, and in the 19th that they were building empire.

But as the University of Cambridge celebrates its octocentenary, we should celebrate a deeper truth. Cambridge has been successful as a focus of dissent; we've had the biggest impact because we have long been the hottest flame-thrower.

The ground we cleared made us the cradle of evangelical Christianity in the 16th century, of science in the 17th, of atheism in the 19th and of the emerging sciences of information since.

Rebellion has been in Cambridge's DNA from the start. We were founded by scholars fleeing persecution at Oxford. As the Renaissance got going, Cambridge was one of the first to embrace the Classics, or "humane letters".

**“Our effect on belief systems has been profound, and our talent for creative destruction has led to advances in liberty and prosperity”**

Because we were a self-governing community of scholars, the reformers only had to convince colleagues.

During the Reformation, Cambridge had scholars on both sides of the barricades. One of the most influential was Erasmus, who “laid the egg that Luther hatched” by undermining the Vatican's authority. When Henry VIII needed a theologian to justify rebellion against the Pope, he turned to Cambridge and Edward Foxe, the provost of King's College. Foxe was soon eclipsed by his colleague Thomas Cranmer, who became the first Protestant Archbishop of Canterbury.

Puritanism got traction as an internal Cambridge rebellion against statutes imposed by Queen Elizabeth in 1570, which gave college masters power over academics with the aim of curtailing heresy. Wishful thinking! Our Puritan tradition drove not just the Civil War, but also the settlement of America – key Pilgrim leaders were Cambridge men.

The restoration saw science blossom. Within a decade of Cromwell's death, Isaac Newton discovered the laws of

motion and gravity, and the calculus. This trashed the medieval notion of a God lurking everywhere in the world. By 1703, Halley became a professor at Oxford despite being an atheist. The 18th-century Enlightenment flourished in the space all this created.

In the 19th century, many Cambridge scientists extended the idea of the world as mechanism. Charles Darwin was the greatest iconoclast. By explaining how organisms evolve by random variation and natural selection over time, he shredded the notion of humans being qualitatively different from other animals.

The early 20th century continued this tradition of disruptive scientific innovation, with Cockroft and Walton splitting the atom. It also saw disruptive work in the humanities from the likes of Keynes and Forster, and Wittgenstein and Russell (jailed for opposing the war).

Pioneers such as Turing and Wilkes made the computer a reality; Watson and Crick decoded DNA's structure. Bioinformatics is now a strongpoint – about a third of the Human Genome Project was done in Cambridge.

Our effect on belief systems, from reformation to atheism, has been profound: if Dawkins is the Devil's chaplain, Cambridge is the Devil's flame-thrower. At the practical level, our talent for creative destruction has led to huge advances in liberty and prosperity.

So how can academia drive and support the next eight centuries of progress? The critical factors are self-government and intellectual freedom. The two are deeply linked, and are both under pressure – from governments and centralising university bureaucrats.

The Government would like to see Cambridge (and Oxford) controlled by boards of “external” worthies chasing Treasury targets. Why? Every pound spent on research at Cambridge over the past 800 years has been repaid a hundredfold to following generations. Fencing in the golden goose is not the way to optimise egg production. The academic goose needs to be free range.

So my suggestion is this. Let's make the Oxbridge model universal and encourage every university to have a majority on its governing body elected by university staff from among our number. David Cameron, Nick Clegg, what say you?

Ross Anderson is professor of security engineering and an elected member of Council, University of Cambridge.