

THIS WEEK

EDITORIALS

PARASITES Female cuckoo much sneakier than the male **p.6**

WORLD VIEW Predatory journals can snare all unwary scientists **p.7**



AMAZON Western puffbird among hundreds of new species listed **p.11**

Science's champion chancellor

As Germany prepares to go the polls, researchers will be hoping that Angela Merkel is given the chance to continue her good work and cement her country's reputation for scientific excellence.

“We can do it!” was Angela Merkel’s famously laconic response in 2015 to the refugee crisis. The phrase serves just as well as a motto for her country’s pragmatic approach to science. Like most modern nations, Germany owes its affluence to a powerful composite of liberal democracy, education and curiosity-driven advances in knowledge and technology. But unlike some democracies — the United Kingdom and the United States among them — Germany has wisely chosen not to weaken its scientific base through neglect, isolation or arrogance on the part of the powers that be.

That is likely to continue. Merkel, a physicist by background, shows welcome immunity to the strengthening political mood of anti-science resentment and post-factual phantasm. Polls suggest she is likely to continue her 12-year chancellorship after the federal elections on 24 September. But whatever government coalition might result from the vote (in Germany’s political landscape, one single political party rarely gets enough votes to rule alone) scientists can trust that the next government will keep up the level of support that has made twenty-first century Germany a prime destination for research.

There is agreement across the political spectrum, for example, on the need for increased federal support for science and higher education, to lessen the burden on Germany’s *Länder* (states) and particularly to strengthen university education and research, which is mostly funded by the *Länder*. Indeed, as we discuss on page 19 — in one of a series of articles that highlight Germany — some €35 billion (US\$42 billion) might be needed over the next decade to maintain and modernize university research infrastructure. The next government must signal early on that it is prepared to shoulder the task.

Nature asked each party for its views on a number of pressing issues relating to science. Notable political differences emerged. The Social Democrats — the junior partner in Merkel’s current grand coalition government — oppose the release of genetically modified organisms (GMOs) and favour strict regulations on genome editing using CRISPR technologies. Merkel’s Christian Democrats say they want considerably more-liberal regulations in these areas. Both of these two main parties are determined, however, that the use of human embryos for research purposes will remain banned in Germany.

Possible junior partners in a new coalition are the Greens and the liberal Free Democrats (FDP). Both are likely to easily gain the 5% share of votes necessary to win seats in parliament. The Greens, although also strictly opposed to deliberate GMO releases, are considerably less restrictive in their approach to ‘risky’ technologies and animal experiments than they were in their early days. The FDP favours decidedly liberal policies in all fields of science and technology.

The socialist Left Party (Die Linke) and the far-right Alternative for Germany (AfD) are also expected to meet the 5% threshold, but are unlikely to be asked to join any coalition. Scientists won’t miss them. Die Linke is the only political force that says it wants to discontinue the successful Excellence Initiative for universities. The AfD didn’t

even respond to *Nature*’s science-policy questions. And of the dozens of splinter parties also standing for election — mostly single-issue groups ranging from animal-protection hardliners to downright esoteric groups — none is likely to clear the 5% threshold.

Of the research money spent in Germany — a relatively high 3% or so of gross domestic product — private industry accounts for about two-thirds. This is also comparatively high, and one priority of the next government must be to enable Germany’s research-intensive companies, including a car industry stricken by scandals over diesel-engine emissions, to compete in the global technology market and maintain its value-adding research and development activities.

Despite record student numbers, many of these companies struggle to find talented researchers and engineers among German graduates. Keeping the country open to talent from around the world — by offering generous stipends, easing visa requirements for scientists and rewarding talented migrants — is crucial if Germany is to maintain its success in science.

The recipe for that success — trust in science, openness to necessary change and a habit of methodically doing the right thing — is a lesson for those charged with overseeing more tumultuous science and policy environments elsewhere. Science is a thoroughly international affair. And amid political tensions and the surge of international terrorism, science and science diplomacy assume a peace-keeping dimension that is not often appreciated. Germany has long been a reliable partner of academically and politically troubled countries including Russia, Turkey and Egypt. Angela Merkel — or her successor — should keep this in mind when forging her country’s future. Merkel deserves the chance to continue her good work. Can she do it? Yes she can. ■

“Merkel shows welcome immunity to the strengthening political mood of anti-science.”

Made of stone

Science must acknowledge mistakes as it marks its past.

The statues of explorer Christopher Columbus and gynaecologist J. Marion Sims stand at nearly opposite corners of New York City’s Central Park, but for how much longer? Both monuments have been dragged into a nationwide debate about memorials to historical figures who have questionable records on human rights. The arguments are long-standing, but were thrown onto the world’s front pages last month when protests against the removal

of a statue of Confederate General Robert E. Lee in Charlottesville, Virginia, produced racially charged violence.

Last week, the Central Park Sims statue — one of many that stand in numerous US cities — was vandalized. The word ‘racist’ was spray-painted alongside his list of achievements, which include life-saving techniques he developed to help women recover from traumatic births. Yet many protest about the lionization of this ‘father of modern gynaecology’ because he performed his experiments on female slaves.

Sims is not the only scientist whose long-dead head is on the block and whose achievements, and the circumstances around them, are being revisited from the twenty-first century. Institutions in the United States have struggled with the case of Thomas Parran, the US surgeon general who oversaw the infamous Tuskegee study that ran between 1932 and 1972. The researchers enrolled hundreds of African American men who had syphilis, but did not inform them that they had the infection and withheld treatment in an effort to monitor how the disease progressed.

A similar study on Parran’s watch happened between 1946 and 1948 in Guatemala, when more than 1,300 people were intentionally infected with diseases including syphilis. The study was not made public until historian Susan Reverby stumbled across research records in 2005. Both studies were performed surreptitiously, as though their perpetrators suspected that what they were doing could be perceived as immoral. The US government has formally apologized for the way in which both studies were conducted.

In 2013, after lengthy debate, the American Sexually Transmitted Diseases Association voted to rename its prestigious Thomas Parran award. “Many [members] were concerned that continuing to offer the Parran award may give the appearance of tacit approval of unethical research,” the society said in a statement. The University of Pittsburgh in Pennsylvania is similarly debating whether to rename its Parran Hall (Parran worked at the university after his stint as surgeon general).

Defenders of controversial historical figures argue that they should be judged by their achievements rather than by modern norms. Sims was far from being the only doctor experimenting on slaves in 1849,

despite the fact that the abolitionist movement was well under way in the United States. And his achievements saved the lives of black and white women alike. But some historians argue that his experiments could have been considered unethical even for his time.

Europe has struggled with these issues for even longer than the United States. After some debate, Oriel College at Britain’s University of Oxford last year decided to keep a controversial statue of Cecil Rhodes, the nineteenth-century businessman and committed imperialist.

“Instead of removing painful reminders, perhaps these should be supplemented.”

After the Second World War, cities and institutions were left with streets, buildings, statues and other memorials that were named after people who collaborated with the Nazis or were at least sympathetic to the regime. And in Canada earlier this month, Montreal decided to rename streets and parks named after French Nobel laureate Alexis Carrel, who supported enforced sterilization and eugenics. Other cities in France have already wiped his name from their maps.

Erasing names, however, runs the risk of whitewashing history. Germany’s Max Planck Society — formerly the Kaiser Wilhelm Society — deserves credit for its public acknowledgement that many prominent members worked with the Nazi regime and that the society did not help to protect Jewish scientists.

In cases where painful reminders are allowed to stand, they could be supplemented. Such notes are also standard in biomedical literature. The American Medical Association recommends that if unethically acquired data are essential to science, any use or citation of these data should describe the unethical behaviour and pay respect to the victims of the experimentation.

Institutions and cities could do something similar by installing a plaque noting the controversy, or an equally sized monument commemorating the victims. Such a historical marker stands for Carrie Buck, a young woman who was the first person to be sterilized under a 1924 eugenics programme in the United States, which was designed to eliminate ‘genetically inferior’ people with mental and physical disabilities. It stands in Charlottesville just a few blocks — but a million miles away — from the disputed statue of General Lee. ■

Cuckoo calling

The female bird makes a different and much sneakier sound than the male.

The BBC has just screened an adaptation of Harry Potter author J. K. Rowling’s detective story *The Cuckoo’s Calling*, and many viewers have been left confused. No spoilers here: but for many watching, the twist ending was a little hard to follow, the misdirection a little too effective. But then the book itself was famously published with some considerable misdirection: Rowling wrote it under the pen name Robert Galbraith because she wanted to see how the public would respond to her passing off her own work as someone else’s.

The reverse is more usually true: rather than conceal genuine achievements, fakers employ deception to take undeserved credit for work they themselves didn’t carry out. That’s a sensible strategy in the animal kingdom, too. More reward for less effort is a recipe for success in the ongoing natural struggle for resources and survival. Parasites get a bad press, but they keep getting away with it. All of which brings us neatly from *The Cuckoo’s Calling* to a cuckoo calling.

The common cuckoo (*Cuculus canorus*) is a parasite with good PR. Despite deceiving other birds into hatching its eggs and raising its young — often at the expense of the cuckolded dupe’s legitimate

offspring — the cuckoo seems to have emerged with its reputation not only intact but enhanced. William Shakespeare may have labelled the cuckoo call a “word of fear unpleasing to a married ear”, but people far and wide still willingly invite the sound into their homes to mark the hourly passing of time.

The female of the species is sneakier than the male. Whereas the proud and visible male cuckoo is responsible for that famous two-note call, it’s the female that does the actual dirty work of leaving usurpers in the homes of others. And her call is very different and rarely heard. But, as it turns out, it too is part of the parasitical package.

In a paper published this week (J. E. York and N. B. Davies *Nature Ecol. Evol.* <http://dx.doi.org/10.1038/s41559-017-0279-3>; 2017), scientists at the University of Cambridge, UK, reveal a dark twist behind the (female) cuckoo’s calling. The researchers studied the behaviour and impact of the sounds of the birds in a series of field experiments at nearby Wicken Fen. After the female has visited a target nest, she deliberately mimics the frightening calls of a hawk, which puts the parent birds on high alert and distracts them from spotting, say, a new, unusually large and differently coloured egg in their happy home. Instead of discovering the cuckoo’s deception, the parent birds — in this case, reed warblers — then spent their time stretching their necks to peer over the rim of the nest, scanning the sky for incoming hungry hawks.

It’s another example, the researchers say, of how parasites can manipulate and redirect the behaviour of their host species to their own advantage. And this particular cuckoo’s calling sounds — spoiler alert — like a little chuckle. ■

CORRECTION

In its original format when published online, the Editorial that appeared in print as 'Made of stone' was offensive and poorly worded. It also wrongly implied that *Nature* supports retaining statues of historical figures whose work harmed others. This is not the case. Online, we have changed the headline from "Removing statues of historical figures risks whitewashing history" to read "Science must acknowledge its past mistakes and crimes", and the standfirst from "Science must acknowledge mistakes as it marks its past" to "Injustice in the name of research should not be forgotten — nor should those injured by scientists". In addition, we have changed the first line of the penultimate paragraph online and in this PDF from "Instead of removing painful reminders, perhaps these should be supplemented" to read "In cases where painful reminders are allowed to stand, they could be supplemented".