Correspondence

Political solutions can beat algorithms

Regarding the computing arms race in US voter redistricting (W. K. Tam Cho *Nature* **558**, 487; 2018) between voting-rights advocates and users of sophisticated software for gerrymandering, a political solution could be simpler and more effective than a technological one.

Many criteria for electoral mapping compete with one another — such as population equality, compactness, maintenance of political and geographical boundaries and respect for communities of interest. Politicians can therefore argue for personally advantageous computer-optimized electoral maps while plausibly denying any nefarious intent to disenfranchise specific voters. However, turning the process over to an algorithm merely shifts the debate to the fairness of the algorithm itself. Computers might be impervious to the lure of power; their users are not.

Technology cannot readily resolve social problems that are based on conflicts over values and interests. To improve the ailing US political system, the country should instead consider a move to proportional representation — used in some form by many democratic nations. This would be much less susceptible to gerrymandering than the current winner-takes-all US voting system.

Daniel J. Rozell *Stony Brook University, New York, USA.*
daniel.rozell@stonybrook.edu

Shark's DNA should calm the waters

Alarm quickly spread after two children were bitten in July while swimming off Fire Island, New York, because great white sharks (*Carcharodon carcharias*) frequent the region. We can vouch from DNA analysis that another, relatively harmless, shark species was responsible for biting one of the individuals, and, in our view, probably the other as well.

We extracted DNA from a decontaminated fragment of shark tooth recovered from one of the bite wounds. Comparison with mitochondrial DNA sequences of some 900 species of cartilaginous fish enabled us to identify the DNA source as a sand tiger shark (*Carcharias taurus*; unpublished results). This shark is generally not considered to be dangerous to humans (J. I. Castro *The Sharks of North America* Oxford Univ. Press, 2011), despite its size (up to 3 metres long and weighing more than 200 kilograms).

The incidents occurred some 7 kilometres apart and within minutes of each other. This is not as surprising as it might seem — sand tiger sharks prey on schooling fishes, tracking them as they move inshore. This makes it more likely that the sharks will mistake nearby swimmers for prey and bite them. However, such random events are extremely rare.

Gavin J. P. Naylor* *University of Florida, Gainesville, USA.*
gnaylor@flmnh.ufl.edu
**On behalf of 4 correspondents (see go.nature.com/2nwptfh for full list).*

Screen evidence for power and bias

In our view, the four principles for making evidence synthesis more useful for policy would be strengthened by taking power and bias into account (C. A. Donnelly *et al. Nature* **558**, 361–364; 2018). Otherwise, the principles could fall short for issues that involve uncertain facts, disputed values, high stakes and urgent decisions — as in global biodiversity loss and climate change, for example.

Sometimes, complexities in scientific evidence allow several contrasting but equally valid interpretations. In such cases, there is a risk that privileged stakeholders associated with one way of thinking might unduly influence the particular values and interests prioritized in that synthesis.

Scientific aspirations, integrity and practices are crucial for challenging this authority. But if scientific disciplines and organizations deny or become complacent about their own forms of bias, then claims that purport to be definitive and objective could distort decision-making.

Evidence synthesis therefore needs to highlight contrasting valid framings of the best available evidence. A plural and conditional picture that is rigorous in embracing both social and natural sciences is more robust than single, evidence-based prescriptions. Analyses are inevitably influenced by politics. By improving transparency, those who hold power and privilege in and around science become more accountable.

We therefore suggest adding a fifth principle of open-mindedness, with mandates to examine the evidence from outside as well as inside science; to explain how contrasting values and interests yield divergent interpretations and prescriptions; and to evaluate the effects of power and privilege within established practices of evidence synthesis.

Andy Stirling *University of Sussex, Brighton, UK.*
Clive Mitchell *Scottish Natural Heritage, Battleby, Perth, UK.*
clive.mitchell@nature.scot

EU politicians must trust plant science

The latest ruling by the European Court of Justice requires that crops created using gene-editing techniques such as CRISPR must go through the same lengthy approval process as conventional genetically modified (GM) plants (see *Nature* **560**, 16; 2018). This has surprised many scientists, who are concerned that it will complicate promising applications of gene editing.

The court took existing legislation into account in arriving at its decision, but the situation has changed greatly since the first directives on GM organisms in 1990. Hundreds of millions of hectares have been planted worldwide with GM crops, providing extensive experience with such products. And techniques developed since could potentially solve important questions in biology and agriculture.

The court concluded that the European legislation considers the use of recombinant-DNA techniques in gene editing as sufficient grounds for classifying genome-edited plants as genetically modified. This could result in a costly approval process and might generate problems with unregulated genome-edited products imported from countries such as the United States.

One possibility would be to alter the legislation, but this could be difficult given current European politics. Another would be to revisit the European directives issued since 1990, which were based on a case-by-case scientific analysis of GM plants.

As members of the European Food Safety Authority's panel on GM organisms since its inception, we have witnessed a mounting distrust of scientific assessments. That has manifested with the approval of rules that demand a rigid analysis of GM plants. We need to reverse this trend, for example by acknowledging that approval of genome-edited plants calls for much less data than classic GM organisms, and by commanding greater respect for the work of scientific panels. This would promote scientifically sound risk analysis while complying with existing directives.

Josep M. Casacuberta, Pere Puigdomènech *Centre for Research in Agricultural Genomics, Barcelona, Spain.*
pere.puigdomenech@cragenomica.es