

# THIS WEEK

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## The morning after

*President Barack Obama's stance on an emergency contraceptive betrays his promised principles of scientific integrity and sets a troubling precedent for political interference in 'inconvenient' science.*

In the opening months of his administration, US President Barack Obama gathered scientists in the grand East Room of the White House to promise that things would be different on his watch. The president was there to sign a new memo on scientific integrity that directed agency heads not to meddle in the decisions of their scientific staff.

In his speech, Obama pledged that his ambition was “about letting scientists like those here today do their jobs, free from manipulation or coercion, and listening to what they tell us, even when it's inconvenient — especially when it's inconvenient”.

Yet events earlier this month saw Obama demonstrate a blatant betrayal of these principles, when he defended a decision by Kathleen Sebelius, US secretary of health and human services, to override a drug approval by the Food and Drug Administration (FDA).

Scientific staff at the drug-regulatory agency, including paediatricians, obstetricians and gynaecologists, reached a key determination earlier this year involving Plan B One-Step (levonorgestrel), a single-dose ‘morning-after’ contraceptive pill. They concluded that it is safe and effective for girls younger than 17 years of age without the currently required prescription — and that these girls could use it correctly without a physician's help. (Older women can already get the contraceptive over the counter.) The FDA experts came to their decision after conducting the usual extensive review, including a comprehensive survey of the literature and data from the pill's manufacturer, Teva, headquartered in Petah Tikva, Israel. These data included age-specific studies designed specifically to address the agency's standards for non-prescription drugs. The scientific staff concluded that, as FDA commissioner Margaret Hamburg put it earlier this month: “There is adequate and reasonable, well-supported, and science-based evidence that Plan B One-Step is safe and effective and should be approved for nonprescription use for all females of child-bearing potential.”

So much for science. One day after Sebelius announced that she was overruling the agency and denying over-the-counter access to the morning-after pill to females under 17, Obama, questioned by a reporter, said that he agreed with her decision, and added that, “as the father of two daughters” he lauded the application of “common sense”.

He said: “The reason Kathleen made this decision was she could not be confident that a 10-year-old or an 11-year-old go into a drug-store, should be able — alongside bubble gum or batteries — be able to buy a medication that potentially, if not used properly, could end up having an adverse effect. And I think most parents would probably feel the same way.”

Where to start? Never mind that the most powerful man in the world didn't bother to get the basic facts right: the contraceptive, even for non-prescription use, is stored behind the pharmacy counter and not “beside bubble gum and batteries”. And never

mind the throwback paternalism implied by elevating his own opinion as “the father of two daughters”. What is most infuriating about Obama's response is the casual jettisoning of careful and convincing evidence on this contraceptive's safety and effectiveness, even for young adolescents, and their ability to comprehend the labelling. (It essentially says: “Take this one pill, now.”) With it went his own promise to the thousands of scientists whose hard work and science he had pledged to respect, “especially when it's inconvenient”. It certainly is inconvenient, on the cusp of an election year, in what is at heart a deeply

conservative country, to acknowledge that young adolescents can and do have sex, and that they may not have thought out the potential consequences in advance. So inconvenient, apparently, that the work of the scientists, who spent long hours weighing risks and benefits for the public good, must be thrown under a bus.

Most troubling of all is that Obama has set a precedent for overriding science. Sebelius's trampling of a drug decision by the FDA is the first in living memory. If it is acceptable for her to override the agency for this year's reasons of political convenience — or, for that matter, for reasons of heartfelt belief — what politically loaded drugs will next come under the axe?

If there is a silver lining here, it is that some agencies seem to be listening to what the president says rather than following what he does. Several are working hard to put in place the integrity policies he mandated nearly three years ago (see page 425). The Department of Health and Human Services has not revealed where it stands on crafting such a policy of its own. ■

## Defend the Amazon

*Brazilian lawmakers should not weaken their stance on deforestation to appease landowners.*

In the Amazon rainforest, there is a fine balance between efforts to prevent deforestation and the desire to clear the trees for agriculture. It says much about this tension that spikes in forest loss in Brazil earlier this year have been attributed to nothing more tangible than a perceived shift in where the country's politicians intend to draw the line between the two. After five years of stunning success in combating deforestation, the Brazilian authorities had started to ponder how to respond to the growing clamour from landowners and farmers

in the region who were being prevented from clearing land to cash in on record prices for commodities such as soya and beef. That sense of a weakening political resolve to protect the rainforest was enough of an incentive for some to begin clearing it again.

Those wielding the chainsaws and driving the bulldozers may have judged the climate correctly: lobbying and political discussions have ultimately produced a controversial bill to change how the Amazon is protected in Brazil. Final voting on amendments to the forest code was due in the Brazilian parliament this month, but has been postponed until March. Supporters and critics of the legislation are gearing up for a final push, and both sides are putting pressure on President Dilma Rousseff, who has the power to veto sections of the bill, or the bill itself.

The proposed forest code would update regulations dating back to 1965 on how private landowners must preserve native forest. Under the existing rules, they must maintain forest on 80% of their land, and those who have cleared illegally must restore to that level. The proposed change would remove the 80% obligation from small landowners, and grant an effective amnesty to those who illegally deforested their land before 2008, removing the threat of legal sanctions and fines for those who agree to reforest.

The government has said that the legislation improved as it moved through the Senate, but there are certainly problems remaining with the proposals. The bill undermines the old code's base in ecology, in that it would loosen restrictions on cutting trees in areas around rivers and on steep hills — rules that are intended to protect river health and prevent soil that is normally protected by vegetation being washed into waterways. This is just bad policy.

Through its exemption for small landowners, the revised code will legalize massive new destruction of forest — about 220,000 square

kilometres according to an analysis from researchers at the University of São Paulo — and there is reason for concern that the amnesty being granted could encourage further illegal deforestation, by giving landowners the impression that the government doesn't have what it takes to truly enforce the law. Furthermore, the requirements for reforestation by landowners who have broken the law are too weak.

**“The proposed new forest code grants an effective amnesty to those who illegally deforested their land before 2008.”**

Scientists and environmentalists should continue to press for changes to the legislation in these and other areas. But they should also acknowledge that there are problems with the existing system — notably, that those landowners who have abided by the law have done so without reward, despite the promise of carbon payments down the road in exchange for the protection and stewardship of standing forest.

The Brazilian government maintains that it will meet its pledge to reduce deforestation by 80% by 2020, which was set by former president Luiz Inácio Lula da Silva at the Copenhagen climate conference in 2009, and that it is on target to do so.

Deforestation currently accounts for about 15% of global greenhouse-gas emissions, and some 75% of Brazil's. Meeting the pledge would be a massive achievement, and one that would allow Brazil to claim a place at the front of the global pack in terms of reducing carbon emissions and protecting biodiversity. But the government cannot get there on its own. It needs its policy to have broad support, or at least command respect, from people on the ground on all sides of the debate. And in this sense, the real danger isn't the new forest bill itself, but the sentiment of relaxed protection for the Amazon that seems to be behind it. ■

## Ten for 2011

*As the year ends, Nature highlights individuals who rose to prominence — or fell from grace.*

**R**ebellion. Tragedy. Breakthrough. Crime. These are just a few of the major events that had an impact on science this year. Revolutionary. Whistle-blower. Mechanic. Crook. These are just a few of the people who had central roles in those events.

Behind every twist and turn in science is a person — perhaps brilliant, selfless and inspirational, or fickle, ambitious and egotistical. Each has their own story to tell. Collectively, those stories are woven into the fascinating fabric of scientific research that this publication probes and reports. So in this issue, our last in 2011, *Nature* has chosen to tell the stories of ten people who made a major difference to our — and, we hope, your — world this year (see page 437).

They have varied tales. Some demonstrate the sheer excitement of discovery: John Rogers, whose work is making electronics into wearable accessories, and Dario Autiero, whose team's claim that neutrinos can travel faster than light will be remembered for its glorious stretching of the imagination, even if the result doesn't ultimately hold up. And although the existence of the Higgs boson hangs in statistical limbo, the sheer buzz of its (near) discovery is enough for us to recognize Mike Lamont — the engineer who, perhaps more than anyone else, has kept particles whizzing around the Large Hadron Collider, and data churning out.

The role of hero is taken by Essam Sharaf, the engineer who temporarily took charge of the government in Egypt, whereas the villain is Diederik Stapel, a psychologist who perpetrated scientific fraud on a breathtaking scale — and in doing so underlined the difficulty of identifying wrongdoing in research. To represent those who stood by

science, we chose Lisa Jackson, whose efforts to promote evidence-based environmental regulation as head of the US Environmental Protection Agency have met with hostility in the nation's Republican-led Congress.

There are challengers: Tatsuhiko Kodama, who damned the Japanese government's studies of the radioactive fallout from the Fukushima nuclear disaster, and Rosie Redfield, who is using her blog to document her own attempts to replicate contentious claims about 'arsenic-based life'. And then there are those who are facing challenges of the future: Sara Seager, who, in a year punctuated by discoveries of distant exoplanets, is designing instruments to identify Earth-like worlds closer to our Solar System; and Danica May Camacho, one of the babies chosen to represent the world's population reaching a staggering 7 billion, and to raise awareness of the challenges to survival and sustainability that this milestone poses.

We can't pretend to have identified the only science newsmakers of this year, or even the most important. *Nature*, after all, is staffed by people with passions and foibles, and the selections reflect their subjective take on events. How did we decide on the final ten? We asked for suggestions from editors who deal with research manuscripts, as well as reporters and editors who put together *Nature's* News and Comment sections. We made long lists and short lists. We made them again. We argued in meetings. We discarded some obvious candidates and replaced them with figures whose stories had not been so widely told. We made a last-minute substitution two days before the section went to press.

Whatever you think of our ten, we hope that their stories provoke, remind, inspire and entertain. We also welcome feedback: we invite readers to nominate their own newsmakers of the year, and to vote in our online poll ([go.nature.com/1w1xtk](http://go.nature.com/1w1xtk)). We hope to repeat this exercise in years to come, and are already looking forward to the characters that we — and you — will meet in 2012. ■

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