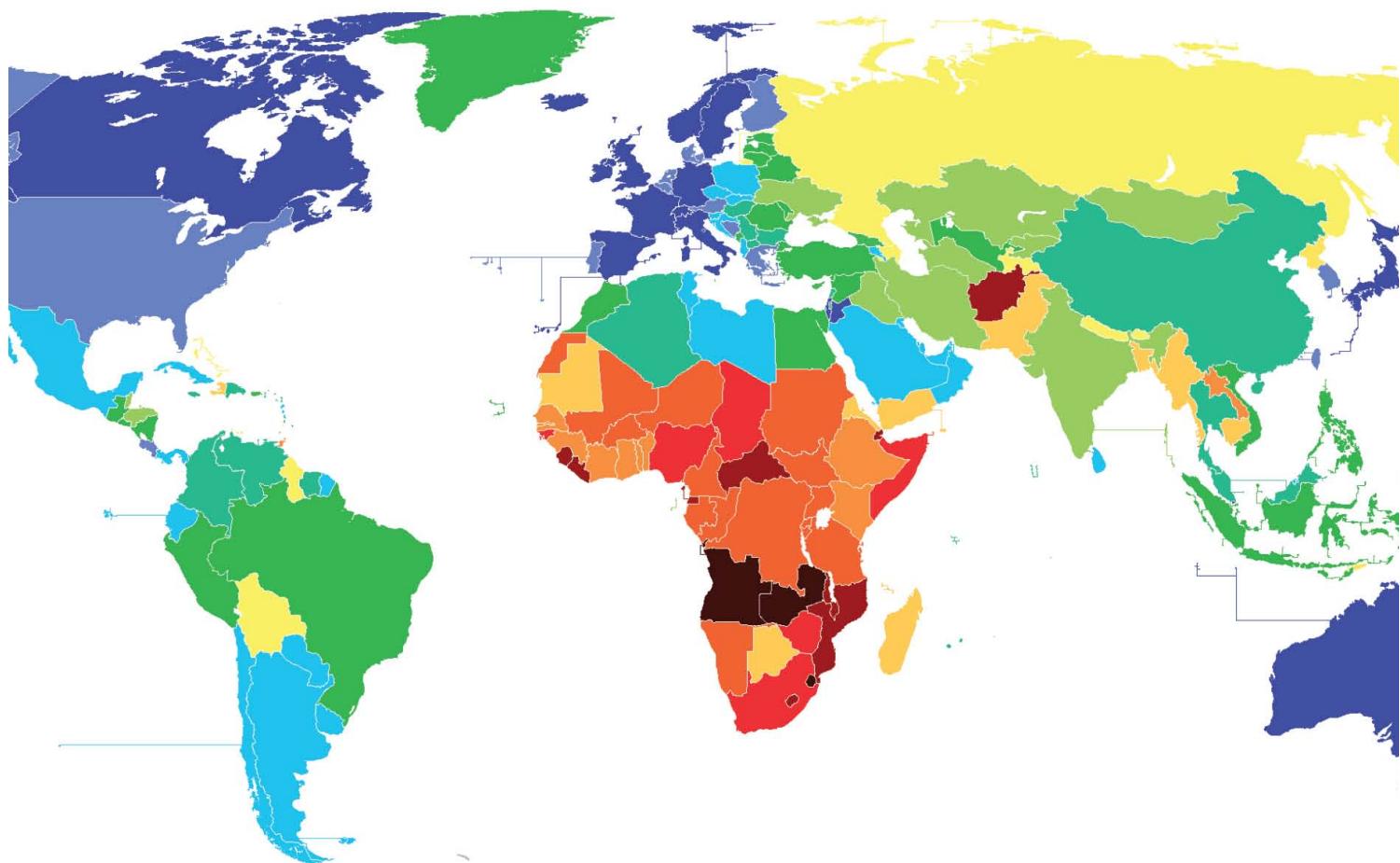
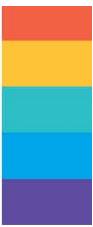




UNDER THE MACROSCOPE



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CECIL THE LION'S DEATH COULD BOOST
ANTI-POACHING BILL

BIG DRAWS

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Headlines

TRIAL POSTPONED FOR HUNTER GUIDE ACCUSED IN CECIL THE LION'S DEATH

Theo Bronkhorst appears to have had a long, smooth career as an African safari hunting guide, but a tempest has engulfed him since he allegedly helped Minnesota dentist Walter Palmer kill Cecil the lion.

On Wednesday, Bronkhorst arrived at a Zimbabwe court concerning charges of poaching. He told CNN's David McKenzie that the hunt was legal and that he hopes his lawyers will show it.

He thinks charging him is out of line. "I think it is frivolous, and I think it was wrong," he said at the Hwange Magistrates' Court near the national park of the same name, where Cecil once roamed.

His hearing was short. The trial was postponed until September to give the defense more time to prepare.

The owner of the farm where Cecil died, Honest Trymore Ndlovu, also faces charges. He is accused of allowing the hunt on his land without proper permission and in violation of wildlife quotas.

Palmer allegedly paid the two \$50,000 to set up the kill in early July that, by month's end, boosted Palmer to global infamy as the despised antagonist in a social media firestorm against big game hunting.

The backlash has hit Bronkhorst as well. Since late July, Facebook users have posted thousands of indignant comments to a page attributed to the hunter guide.

Photos of dead wild animals with hunters posing over them holding rifles fill the page dedicated to a small business called Bushman Safaris Zimbabwe. According to the page, Bronkhorst founded the company in 1992.

In dozens of photos, hunters hold up the limp bodies of slain leopards, kneel over buffalo and next to elephants. Commenters berate the hunters as "sick," "disgusting" or "pathetic."

CNN is reaching out to Bronkhorst's lawyer to confirm the authenticity of the Facebook page.

The Facebook page defends big game hunting, saying hunters contribute to wildlife conservation, an argument Bronkhorst repeated to CNN's McKenzie.

"It's an integral part of our country, and it's got to continue," he said. "And if we don't use wildlife sustainably there will be no wildlife."

Cecil's killing

The social media uproar began, when a group called the Zimbabwe Conservation Task Force said Cecil the lion was lured out of an animal sanctuary in Zimbabwe with food and special scent then shot with a bow and arrow.

He was a prized lion in Zimbabwe's Hwange National Park, where visitors reportedly sighted him frequently. A video of the animal, regal, indifferent and sleepy-eyed, has been widely disseminated.

He was a participant in a study that Oxford University in Britain was conducting, and he had been outfitted with a GPS collar.

His death wasn't immediate.

Cecil lived 40 hours after the arrow shot, until the hunters tracked him down and shot him with a gun. He was then skinned and beheaded.

The hunters also tried to destroy the GPS collar that Cecil was wearing as part of research backed by Oxford University, the conservation group said.

Zimbabwean police arrested Bronkhorst and Ndlovu, and have requested Palmer's extradition from the United States. U.S. officials have declined to comment on the request.

Palmer in hiding

Palmer has publicly apologized.

"I had no idea that the lion I took was a known, local favorite, was collared and part of a study until the end of the hunt," Palmer said in a statement. "I relied on the expertise of my local professional guides to ensure a legal hunt."

But he has been in hiding from the public outrage, speaking through a lawyer.

Palmer has shuttered his dental practice, and he and his family appear to have vacated their Minnesota home. Their Florida vacation house was sprayed with graffiti and pig's feet strewn across the driveway, Florida Newstime reported.

And in front of the house and at his practice, stuffed toy animals have piled up in protest of the killing of the lion.

Global reaction

Cecil's death garnered international attention.

A group of U.S. senators have vowed to introduce the CECIL Animal Trophies Act which will make it illegal to import the slain trophies back to the United States.

At least two U.S. airlines reportedly banned the transport of parts belonging to endangered animals into the country, since news of Cecil's killing broke.

And in Zimbabwe, authorities have vowed to crack down on illegal hunting in the wake of Cecil's death and have ordered the suspension of hunts targeting lions, leopards and elephants outside of Hwange National Park, as well as a broad investigation into hunting industry practices.

The United Nations General Assembly passed a resolution last month calling on all countries to crack down on illegal wildlife trafficking and poaching. The vote came after two years of work on the resolution and was not tied to Cecil's death.

An animal protection group said Cecil's death was sad "not only from an animal welfare perspective, but also for conservation reasons."

African lion populations have fallen almost 60% over the past three decades, and as few as 32,000 of them remain in the wild, the International Fund for Animal Welfare said.

And as animals become rarer, trophy hunters -- many of whom are Americans -- are shelling out more money to guides willing to help hunt them down.

By CNN

Environment

CECIL THE LION'S DEATH COULD BOOST ANTI-POACHING BILL



Protesters gather outside Dr. Walter Palmer's dental office in Bloomington, Minnesota on Wednesday, 29 July 2015

The death of a protected lion in Zimbabwe named Cecil could give a big boost to an anti-poaching bill that the House was already working on weeks ago.

Cecil was killed this week by Walter Palmer, a dentist from Minnesota who paid a group \$50,000 to hunt down a lion. Palmer says he had no idea Cecil was tagged and under observation by scientists, and said he "deeply regrets" his actions.

Palmer has said he's not a poacher and that he tried to ensure everything he did in Africa was legal. Nonetheless, his high-profile hunt could be enough to make an existing anti-poaching bill a higher priority when the House returns in September.

In late June, the House Foreign Affairs Committee passed the Global Anti-Poaching Act, a bill aimed at enforcing anti-poaching laws against people who violate those laws, and boosting U.S. aid for wildlife conservation efforts overseas.

The legislation from Committee Chairman Ed Royce, R-Calif., was already popular. It has both Republicans and Democrats as cosponsors, and it was easily passed by the committee in a voice vote back in June.

"Wildlife poaching and trafficking threaten elephants, rhinoceros, and tigers greatly, but also have devastating impact on a number of other species, including sharks, great apes, and turtles," the bill says in its "findings" sections.

One purpose of the bill is to stop poachers with links to terrorist groups from harvesting animals illegally and selling them to fund terrorist activities. "Because of poaching, some of the world's most majestic animals — forest elephants,

elephants at large, rhinos — are being decimated, and the terrorists are the ones benefitting," Royce said in June.

But the outrage surrounding Cecil's death might give members of Congress another reason to support the bill.

Rep. Betty McCollum, D-Minn., on Wednesday indicated that the appetite for some kind of action by Congress is already there. She said the U.S. Attorneys' Office and the U.S. Fish and Wildlife Service should investigate whether any U.S. laws were broken by Palmer's actions.

The U.S. Fish and Wildlife Service said Thursday it would investigate the incident, and McCollum said she would push for some bill in Congress.

"I will also continue to work with my colleagues on both sides of the aisle to pursue laws that protect iconic, threatened and endangered animals around the world from barbaric 'sport hunting' at the hands of ultra-wealthy elites," she said.

Royce's bill could end up being the vehicle. The bill finds that poaching and illegal trade in threatened wildlife generates up to \$10 billion a year in illegal economic activity. It would impose new penalties for trafficking in wildlife by treating poaching violations as offenses under racketeering and money laundering laws.

"Violators of those laws could be subject to fines and forfeiture of property or assets, which are recorded as revenues in the federal budget," the Congressional Budget Office said in its score of the bill.

The bill would officially make it U.S. policy to support wildlife protection, and create a sector within federal law enforcement that deals with laws protecting wildlife.

The bill also makes an effort to boost U.S. support for wildlife conservation and the protection of animals overseas. It would require the State Department to designate major wildlife trafficking countries, and to withhold certain foreign aid to countries that are major sources of illegal wildlife.

By Washington Examiner

local

BIG DRAWS

Artists and residents join creative forces to adorn the facades of 105 HDB blocks with art installations



Yishun's spirit runs free in Stories of Yishun at Block 838, Yishun St 81

Painting on canvas is all in a day's work for an artist, but creating and assembling dozens of panels into a massive work of art of up to 900 sq m is no mean feat.

Some 100 artists and 50,000 residents got together for this year's PAssionArts Festival to adorn the facades of 105 Housing Board blocks with large-format art installations in celebration of the nation's 50th birthday.

Ms Yeoh Wee Hwee, the artist behind the facade at Block 370, Tampines Avenue 7, said it took three days and more than 200 volunteers to paint and install the 36 strips of canvas that were strung together to form the image of a maze.

Volunteers included residents as well as students, staff and alumni of Pasir Ris Secondary School. They were given the opportunity to create the design by choosing their colours to paint with and adding images of things they like most about Singapore, such as food or scenery.

Ms Yeoh, 37, said the inspiration behind the design, titled AMAZEing Life, came from her thoughts on "how the journey of life is like a maze - we don't know where every turn will take us". She added: "But ultimately, we hopefully return to a place we call home."

The biggest challenge, she said, was scaling her design to fit the 6.5m by 1.5m canvas pieces together over six storeys.

Artist Muhammed Faizal, whose facade at Block 58, Marine Terrace, features icons such as the Singapore Flyer and Merlion, said the building's structure presented unique challenges.

"There are gaps in between corridors, so you have to adjust everything to avoid them or you'll end up with one eye missing or misaligned," he said. The 28-year-old, who has participated in four other PAssionArts projects, enlisted the help of 200 Marine Parade residents over two days. Some were as young as five.

"There was even a family of tourists from India who walked by and saw what we were doing, and they helped to paint for about an hour before they flew back later that night," he said.

Madam Elizabeth Ng, chairman of the Marine Parade Community Centre's Community Arts and Culture Club, rallied residents to participate and helped to oversee the painting sessions.

"Getting people to do what you want them to was a challenge, especially with the kids," said Ms Ng, 58, a Marine Parade resident.

She said the effort was "backbreaking, but rewarding".

"The residents are proud of their work. They will stand at the traffic lights to take photos, and show their work off to residents of other blocks," she said.

By The Straits Times

Economics

RAISING INTEREST RATES WITH ZERO INFLATION IS A HARD SELL

LONDON (Reuters) - Americans and Britons bracing for their first interest rate rises in almost a decade are puzzled: why are rates about to go up when there's no inflation?

Both the Federal Reserve and Bank of England are proclaiming that they are on the cusp of raising interest rates for the first time in almost a decade. It may take a few months, but the message they are sending still heavily-indebted households either side of the Atlantic is clear: 'be warned'.

It's not hard to see why near-zero interest rates should be 'normalized' when you do a quick economic health check.

After years in the post-credit crisis doldrums, both economies are now growing at brisk annual clips of between 2 and 3 percent. Jobless rates are near long-term averages of less than 6 percent. Real estate and financial asset prices have raced higher over the past couple of years.

The problem is that annual consumer price inflation rates are zero in Britain and just 0.1 percent stateside, far below the 2 percent consumer price growth targets both have committed to in one form or another as a policy guide.

Even the Fed's favored inflation measure - the index of personal consumption expenditures (PCE) - is running as low as an annual 0.3 percent.

The policy mantra for much of the year has been that headline inflation was artificially depressed by the collapse of energy and raw materials prices in late 2014. Once these stabilized - as they did through the spring - then the assumption was these base effects would wash out of CPI indexes and reveal far livelier 'core', largely domestically driven, price rises pushing headline inflation back toward its target.

In other words, central banks would face down what they saw as a temporary drop in headline inflation, focus on core price developments and pull the interest rate trigger anyhow.

The 'core' PCE for the United States is indeed punchier. But, at just 1.3 percent, it's still well below target rates. 'Core' UK inflation also remains less than 1 percent.

It's further complicated this summer, not least because the bursting of a stock bubble in Shanghai has stoked intense anxiety about the slowing Chinese economy.

The result has been another tailspin in commodity prices. Oil has lost a further 20 percent since the start of July and the Commodity Research Bureau's broad index of raw materials prices has fallen to its lowest in 12 years - below even its level at the trough of the Great Recession of 2008/2009.

The upshot is headline inflation rates are likely to remain depressed for far longer.

While that may not be a disaster, the economy is flirting with an equally destabilizing bout of deflation that could feed on itself by delaying consumer purchases, weighing down nominal wage settlements and complicating long-term debt servicing.

If the Fed and the BoE are going to raise interest rates into that, they will have to explain why they are seemingly jumping the gun and why they have 2 percent inflation targets at all.

For the Fed - which has had a poor record since the 1970s in assessing the level of economic slack in real time - there is a fear that it may be missing something crucial yet again following the credit crisis. Lousy wage growth data in the second quarter and disruptive developments in China speak loudly to that.

But there's widespread market suspicion even after years of zero rates and quantitative easing that the Fed may be too eager to 'normalize'. Whatever the timing of the first U.S. rise, market expectations of where official interest rates will be in two years' time are half the 3 percent the Fed itself forecasts.

"Since 2009, the Fed has been persistently over-optimistic about growth and has a persistent tendency to predict interest rates will go up faster than has materialized," said hedge fund manager and former Bank of England policymaker Sushil Wadhwani.

"It's possible the economy is behaving very differently than the way the Fed perceives it - a 'missing factor'. And I'm not sure that that 'missing factor' has completely gone away," he told a conference organized by Fathom Consulting.

Wadhwani said that if China was indeed slowing far faster than official data showed, for example, then the Fed may move but then pause very quickly. The market disruption from any sharp slowdown in China would "stay its hand".

"Likewise, if I was very pessimistic about China and was still on the (BoE's Monetary Policy Committee), I would wait."

Yet some people still feel this is the moment for these two central banks to hold their nerve and communicate clearly their focus on the medium term and the performance of inflation.

Inflation expectations surveys among households and expectations embedded in financial markets all see headline inflation well above target over the medium term.

Former BoE policymaker Charles Goodhart told the Fathom conference that in future historians may treat the UK inflation target kindly when viewed from a distance.

British inflation was consistently above target in 2010-2013 but has undershot it since, he pointed out. Averaging this out may make it seem far more stable over time.

"The Bank will look through these headline inflation swings and raise rates soon and I think they are probably right."

By Yahoo

ECONOMY NEEDS TO BECOME 'LESS LABOUR-INTENSIVE'

Singapore's employment situation is in "a better shape than most other countries", Manpower Minister Lim Swee Say said yesterday.

However, a volatile global economy demands that the Republic makes the transition to more "manpower-lean" industries, with a focus on local labour, he added.

Speaking at the Manpower Ministry's National Day observance ceremony at the Lifelong Learning Institute in Paya Lebar, Mr Lim said: "We achieved... what many countries can only dream of... one of the highest employment rates, 79.7 per cent - just second to Japan."

Warning against economic complacency, Mr Lim said: "With greater volatility and growing uncertainty in the global economy, there will be more ups and more downs in international trade and global investments. As an economy with a small and limited domestic market, we will be affected more than others."

He called for an economic transition to less labour-intensive industries, "with a stronger Singaporean core, and a better quality of foreign manpower".

At the event, which was also attended by representatives from the Central Provident Fund Board, Singapore Workforce Development Agency and the Singapore Labour Foundation, Mr Lim stressed the need for continued changes to workplaces.

These include extending the working life of mature employees, and making working conditions more pro-family, so that workers can take better care of their young children or aged parents.

He also said it is important to boost the skills and pay of low-wage workers, as well as assist Singapore professionals, managers and executives in their pursuit of career improvement.

Additionally, he called for enhanced support for those who are self-employed or freelancing, to "progress as part of our inclusive workforce".

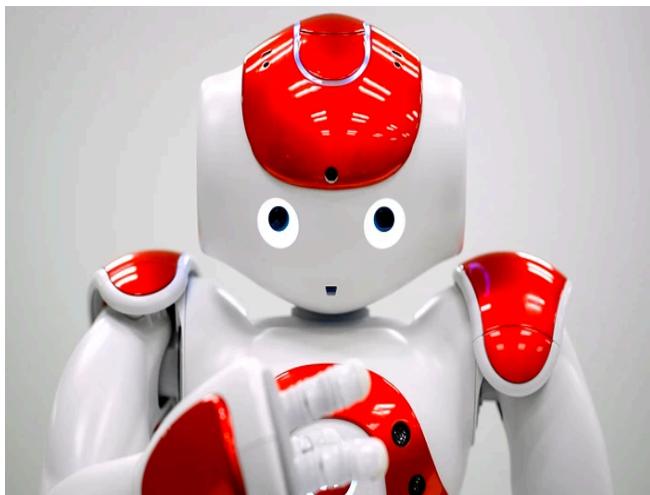
Said Mr Lim: "The more we have today, the more we stand to lose tomorrow if we are not good enough and fast enough."

By Asiaone

Science and Technology

A BAN ON AUTONOMOUS WEAPONS IS EASIER SAID THAN DONE

Stephen Hawking, Elon Musk, Steve Wozniak and artificial intelligence researchers published a letter calling for a ban on autonomous weapons. This is an easy first step. A ban that works in practice will be much harder.



A humanoid robot, developed by Softbank Corp. subsidiary of Aldebaran Robotics SA

To coincide with a major Artificial Intelligence (AI) conference in Buenos Aires this week, leading scientists, world-renowned philosophers and technology investors signed a letter that urges a ban on weapons that use artificial intelligence technology. We have added our names to the sixteen thousand (and rising) signatures. We are not in favour of automated weapons that make the decision to kill someone. As reported in the Guardian yesterday, the researchers that drafted this letter think that autonomous cars already include the technical capacities required to do this.

But signing up to the letter is the easy part. The history of global technology regulation warns us that making this kind of statement is much easier than realising what it asks for. It can be difficult to work out exactly what to ban and to make a ban stick. It is even harder to design a smart moratorium on technology - one that reflects the motivations behind the open letter published this week.

Does a ban make sense in practice?

For 50 years, online security software was classed as a munition by the US Government thanks to the major role cryptographic programmes played in World War II. This meant the export of this software was hugely restricted. These conditions were then relaxed in the 1990s. Online security software had become important far beyond the military and the ban was holding back new industries and improvements to the security of an ever-growing number of online transactions.

The problem with restricting the availability of software is that it affects all potential uses, including ones that cannot be predicted decades in advance. The thousands of scientists that have signed the letter to ban military use of AI may have inadvertently created restrictions on their own ability to share software with international collaborators or develop future products.

As Patrick Lin, director of the Ethics & Emerging Sciences Group at California Polytechnic State University, told io9.com: "Any AI research could be co-opted into the service of war, from autonomous cars to smarter chat-bots... It's a short hop from innocent research to weaponization."

The tension between dual uses of technology - for hazard and for good - is particularly difficult to manage when the exact same technology can be used in a wide and unpredictable range of ways.

More work needed to imagine future uses of AI

Larry Lessig argues that "code is law". Or, more generally, as Langdon Winner put it in the 1970s, "technology is legislation". The way a technology is constructed - particularly the systems of interaction with humans it creates - bakes in a specific way of working. This frames the kind of decisions we can make, and the kind of control we can have over that technology. For example, the way a computer algorithm is written determines the points at which a human can direct it. The Bureau of Investigative Journalism's description of the complex protocols between drone pilots and their civilian back-up team illustrates this in detail in a military context. It makes clear how the points of human intervention constructed in an otherwise automated process direct how and when people are involved. In these situations, technology can become legislation by proxy. We should try to control technology precisely because technology ends up controlling us.

We should worry about technology that controls us, but that is not the same as resigning ourselves to technological determinism. Kevin Kelly argues that prohibition of technology is futile because it has a life of its own. But technologies, as Kelly should know given his proximity to their development, are far from inevitable. There are choices to be made, by innovators, consumers and citizens, about what gets made and what gets used.

Worries about building automated weapons can be addressed directly by all of these people and not an abstracted group of military technology experts. More detailed discussion, and fundamentally more work, needs to be done to imagine and reimagine the use of technology as it is developed, putting in safeguards from the start.

We need activist regulators as well as activist researchers

There are already attempts at a kind of sophisticated technology regulation by anticipation. The FBI's approach to synthetic biology research is case by case rather than a blanket policy. A specialist group of agents visit labs around the US, helping scientists think through the potential consequences of their work. This avoids indiscriminate bans on specific technologies or techniques.

But this kind of interventionist approach can start to stray from the legitimate territory of a regulator and can reduce their effectiveness. There are huge uncertainties around the potential use of new kinds of biology. What if the FBI agent and scientists differ in their opinion about the risk of a particular new technique or genetic manipulation? How far into the unknown future can a regulator count as their jurisdiction?

Perhaps the most relevant template for AI scientists today is the 40 year old Biological Weapons Convention (BWC), prohibiting the development or ownership of biological weapons. The case for the continued importance of this international treaty was made on this blog in March. The reason that the treaty continues to work well is thanks to the hard work of people like Piers Millet, until recently in the BWC implementation unit. Piers is an active part of the global community of academics and political organisations debating the developing biological threats and the best way to respond to them. As a regulator, he refused to stay behind a UN desk in Switzerland.

It is these unsung heroes that can make the difference to whether a ban or restriction on a technology is smart enough to make it worthwhile. The open AI letter points to the parallels with the BWC:

Just as most chemists and biologists have no interest in building chemical or biological weapons, most AI researchers have no interest in building AI weapons — and do not want others to tarnish their field by doing so, potentially creating a major public backlash against AI that curtails its future societal benefits.

But it doesn't go as far as to make suggestions about how this works in practice, and who will play a role. It's great that International Committee for Robot Arms Control (ICRAC) representatives like Mark Bishop have signed up too. They have been involved in UN discussions about automated weapons for at least two years already. Maybe this committee is the starting place for the next stage of action.

But signatures from technology leaders in companies like from Apple and Google bring a new level of clout and visibility to this argument. And they could add pressure by reflecting the terms of the letter in their own organisations - setting up ethics and governance oversight in a way they haven't so far.

The BWC implementation team support the work that needs to be done to properly manage an international ban on a technology. Piers also brought an outside voice to discussions about how to govern potential biological weapons - a check on the bias created by a community involved or inspired by the development of a particular technology.

The problem with self-governing science

A global moratorium on geoengineering has been mooted at various times over the last decade. Research that engineers changes to the atmosphere and climate at a large scale is risky enough to warrant a wider debate before it goes ahead. Scientists developing these techniques understand this, and held a conference at Asilomar in 2010 to discuss the governance of their work. This follows the example of geneticists, who held a similar meeting as the discipline started to take off in the 1970s, including a self-imposed moratorium on research for two years while they decided on how to balance the benefits of their advancing science with public fears.

The geoengineering Asilomar meeting was part of a series of attempts to construct a self-governing body for this research. But no matter how well-intentioned these efforts are, there are limits to perspectives that self-governance brings to debates about the ethics of developing new technology.

Accounts from the time of the original Asilomar meeting provide evidence that many scientists then saw self-governance as a way to avoid heavy regulation rather than as the best way to reflect their sense of responsibility. This will, obviously, have affected the kinds of regulatory options they were willing to consider as part of their discussions. Coupled with pressures from biotechnology investors ready to pounce on any new development, this could add up to a kind of unspoken, unchallenged mutual bias.

As well as these unspoken external pressures, the internal norms of science unhelpfully narrowed the acceptable topics of conversation at Asilomar. Sheila Jasanoff, J. Benjamin Hurlbut and Krishanu Saha said on this blog in April: "Asilomar offers an easy recipe for public policy: a research moratorium followed by an expert assessment of which risks are acceptable and which warrant regulation." They argue that this way of working can avoid addressing issues that become key to public debate in years to come - like environmental release of engineered organisms or ethical aspects of human genetic engineering. The technical debates at Asilomar were too narrow to cover the issues that become most important over time.

The AI letter this week betrays the biases inherent in a group thinking about restricting very the thing they work on. It talks of wanting to avoid "potentially creating a major public backlash against AI that curtails its future societal benefits". One of the justifications for taking a stand against autonomous weapons is building a

smoother path for the continuation of AI research. This group will prefer options that allow them to continue their research even if that reduces the effectiveness of any ban on AI as a weapon. The history of Asilomar tells us that they risk not addressing issues that become the most acute as AI continues to develop.

From biologists in the 1970s to geoengineers today, there are groups of scientists that have taken a stand against the misuse of the technology they develop. But by focusing on large scale hazards, they can miss the potency in local influences on the direction of their research - from the desire to avoid overzealous legislation to pressure from their business affiliations. If this growing community around AI is to avoid this pitfall, they need to go beyond a second column for non-AI expert signatories for their letter. There need to be a permanent, challenging voice helping to develop global governance for AI technology. This will not just help them turn this week's worthwhile call into action, but turn it into the kind of action that is doesn't just serve the more subtle pressures on today's AI community.

By The Guardian

Arts

WHAT A “TREE OF 40 FRUIT” TELLS US ABOUT AGRICULTURAL EVOLUTION



An artist's rendering of the *Tree of 40 Fruit*

Compass, Mirabelle, Long John, and Early Golden – they're not a fleet of ships headed for the high seas. These are actually a few of the plum varieties artist Sam Van Aken worked with while creating his “Tree of 40 Fruit”, which as its name suggests, bears 40 varieties of stone fruit, including plums, peaches, nectarines, apricots, and cherries.

At its core, this tree is art, Van Aken was inspired by the idea of a hoax, which he says “transforms reality”. He hopes, as he explains in (his) video, that people would stumble upon the tree and wonder, “why are the leaves shaped differently? Why are they different colors?”. In the spring, he imagines passersby would notice blossoms of varying colors, and in summer, they would see copious varieties of fruit growing on one tree. But it's taken on a much bigger role than he anticipated: educating the public about how agriculture practices have changed over the centuries.

It's sort of utopian – a garden of delights neatly packaged in a one-stop shop. But when Van Aken went to *make* the tree, he discovered that the variety of fruit he sought was definitely not available at his neighbourhood grocery.

“One of the biggest challenges for (Van Aken) as he decided to do this project was finding 40 different varieties of fruit. He realized what a monoculture it has been,” say Eileen Mignoni, a visual journalist who frequently works with *National Geographic*. She produced the video about Van Aken’s project after she heard about it because, “It just seemed an inherently visual story that hadn’t been one visually. It needed to be shown in life.”

She also became intrigued with the shrinking varieties of fruits available, as large commercial growers strive to find the fastest-growing, most pest-resistant, and most shipping-hardy produce. “New York State, apparently, had been the plum capital in the ‘20s. They’re not growing plums there now to as large of an extent, and they aren’t growing the varieties they did.”

Van Aken faced a major challenge in finding all the varieties he could so he could then graft them onto a single base tree. It sounds like the recipe for a fruity Frankenstein, but grafting is actually a normal part of agriculture. The Farmer’s Almanac explains, ‘Most good (plum) tree come from grafting a known producer onto a new rootstock.’

Mignoni says that re-introducing people to the idea of grafting is one of her favorite parts of this project. She explains that in plums, for example, “there is a lot of genetic variability in the seed, so if you plant a plum seed ... you can’t guarantee that you’ll get the fruit you want from the seed unless you graft the specific variety.”

Van Aken eventually began working in orchards at an agriculture experiment station in New York where he was able to graft the fruits he needed onto the base tree. (and in reality, there are several trees in the years-long process of becoming a 40-fruit tree.)

He starts the grafting process out slowly, fixing about 20 types of fruit on a tree at first, then planting it in a nursery. Then, “he’ll go back twice a year for the next three years to add additional varieties. He’ll add 60-70 and prune them back to 40,” says Mignoni.

And though he never intended “to make a statement about monocultures,’ Mignoni says, he now feels responsible for propagating the diversity of all plants, along with his trees. “Because he’s had all these collections and has been told by other growers that he may be the only grower who has them ... he feels like he can’t let them die. So he wants to create groves with all these different varieties that the public could sample and take home, and growers could try them and see if they want to expand their lines.”

Van Aken plans to plant the first of these sampling orchards in Freeport, Maine, this fall. He’s calling them *Streuobstwiese*, using the German name.

The next part of his plan? To publish a recipe book. Many of the antique and heirloom fruits growing on the 40 fruit tree “have recipes that were written for them that have been mostly forgotten,” says Mignoni.

This collection will allow the fruits to be fully appreciated – “so people will be able to taste how they tasted in the past.”

And if anyone is feeling more ambitious than simply baking a pie from scratch, the book will also include instructions on how to create a 40 fruit tree of your very own.

By National Geographic



UNDER THE MACROSCOPE

Under the MacroScope is a weekly summary of what's happening around the world and what's worth pondering. Stay on top of international and local news with this bulletin produced by the Raffles Economics and Current Affairs Society