



PLANETARY HEALTH WEEKLY

BRINGING YOU CURRENT NEWS ON ECOLOGICAL WELLNESS & GLOBAL HEALTH

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SPYING ON WHALES TO SAVE THEM

Scientists from the Wildlife Conservation Society boarded the Morning Star, a thirty-five-foot downeaster out of Babylon, New York, to conduct a whale survey; something they do, weather and funding permitting, as part of long-term research on humpback genetics and song. The Morning Star stopped near a yellow buoy. The buoy, a collaboration between the W.C.S. and the W.H.O.I., contains a sophisticated hydrophone that eavesdrops on whales in the New York Bight, a roughly 16,000 square-mile region, now a real hotspot for whale strikes. Whales seem to be increasingly using this habitat, perhaps because baitfish have become more prevalent. People are also increasingly using the habitat. There are shipping lanes, and noise, and a wind-energy farm coming up. Data from the buoy shows that right whales are in the vicinity before and after New York's seasonal-management area is in effect, and that they travel through busy shipping routes not included in its borders. Human-caused mortality is the highest it has ever been for the North Atlantic right whale now. [Read More on The New Yorker](#)



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COFFEE AND CANCER: WHAT STARBUCKS MIGHT HAVE ARGUED

A judge in California ruled that coffee outlets in that state are going to have to tell customers their product could cause cancer due to the presence of *acrylamide*. The case was brought in 2010 against Starbucks and others by activists citing California's Proposition 65, which requires that consumers are given warnings "*before exposure to chemicals known to cause cancer or reproductive toxicity*". Acrylamide is a compound formed when coffee is roasted. Starbucks might have avoided the need for warning labels if they could have shown that an average coffee consumer had '*no significant risk*', which is taken to mean that an average consumer has less than 1 in 100,000 of developing cancer over a 70 year lifetime because of the acrylamide. They failed to prove this in the first phase of the trial, and so part of their defense was that coffee was beneficial, and so they should be allowed a less stringent risk level. They again failed to prove this. This might be dismissed as just another example of Californian neuroticism, but it illustrates both a worrying attention to unimportant hazards rather than real risks, and the poor use of statistical arguments in legal judgements. So the argument is worth looking at in more detail.

[Read More on The Medium](#)





Some Scientists Suggest a Giant Sunshade in the Sky Could Solve Global Warming

Scientists have long known that manmade events like pollution in the atmosphere, smoke from forest fires and volcanic eruptions can create a cooling effect. This led scientists at Harvard University to propose their own experiment, which they call "stratospheric controlled perturbation effect". It involves using a balloon to test the controversial proposition that aerosols released at a height of 20km in the Earth's atmosphere can alter the reflective properties of cloud cover. The cooling effect has long been known in phenomena such as "ship tracks", narrow artificial clouds of pollution, created by emissions from ships, that contain more and smaller water droplets than typical clouds, making them brighter and more reflective of sunlight. "Solar geoengineering, injecting aerosol particles into the stratosphere to reflect away a little inbound sunlight, is being discussed as a way to cool the planet, fast," the scientists write in *Nature*. [Read More on The Guardian](#)

World's Most Powerful Wind Turbine Installed in Scottish Waters

The world's most powerful wind turbine has been successfully installed in Aberdeen Bay, providing another first for the record-breaking European Offshore Wind Deployment Centre (EOWDC). It is the first installation of 11 planned turbines at the site. It also confirmed the new turbine from manufacturer MHI Vestas is one of two that has been enhanced with new internal power modes. As a result the capacity of the two turbines has been increase from 8.4MW to 8.8MW, making it the largest turbine to be deployed commercially by the global offshore wind industry. The upgrade alongside the plans to install nine 8.4MW models will take the EOWDC's capacity to 93.2MW, enough capacity to meet more than 70 per cent of Aberdeen's domestic electricity demand and annually displace 134,128 tonnes of CO2. The milestone comes less than two weeks after the installation of the first suction bucket jacket foundations at the site, another industry-first that will help bring down the cost of offshore wind power. [Read More on Business Green](#)



Baby Turtles Return in Mumbai After 'Largest Beach Clean-Up' in History

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[Read More on Business Green](#)

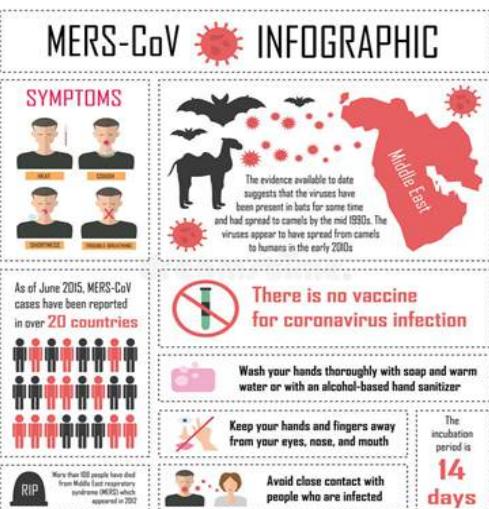
 Afroz Shah 
@AfrozShah1

Week 127 .

Fantastic news for Mumbai .



MERS-CoV INFOGRAPHIC



Emerging Diseases: Is MERS-CoV a Threat for Africa

Genetic and phenotypic differences between coronaviruses can explain why there was an epidemic of Middle East respiratory syndrome (MERS-CoV) in humans in the Arabian Peninsula in 2012, but not in Morocco, Nigeria, Ethiopia or Burkina Faso, where the virus nevertheless circulates intensely between dromedaries. This was reported in a study published on 5 March in the journal *PNAS*, conducted by Hong Kong University, CIRAD, African organizations and a large international team. With a mortality rate in humans of 35%, and no treatment or vaccine available, the virus is now one of the 10 priority emerging diseases in terms of research and diagnosis identified by the World Health Organization. The MERS-CoV strains circulating in African dromedaries are different from those isolated in the Arabian Peninsula, the only world region in which indigenous cases of MERS disease have been declared (except those cases declared after travel and nosocomial transmission). Slight genetic differences between the viruses isolated in the Arabian Peninsula and those found in dromedaries in West and North Africa could account for the fact that the disease has not been transmitted to humans in these regions. [Read More on Science Daily](#)

The Collapse of the Venezuelan Health System

When Hugo Chavez became Venezuela's new president in 1998, he promised to provide free health care to all and enshrined this right within Venezuela's new constitution, rewritten in 1999. Progress was rapid and initial results were promising: according to the World Bank, life expectancy at birth rose from 71.8 to 74.1 years for both genders and infant mortality fell from 26.7 to 14.6 deaths per 1000 live births between 1998 and 2013, the period of Chavez's rule. Success was recognised on the international stage and Venezuela achieved most of the UN's Millennium Development Goals set for 2010. However, when the oil price began to fall in 2008 and political problems set in, the tide turned. Despite the largest oil reserves in the world, the economy has collapsed and a 2018 study shows a shocking decline in health-care performance and a failure of the system.

[Read More on The Lancet](#)



A Simple Tool for Doubling Down on Disease Control

A team of global health researchers has created a web-based tool that allows public health officials to assess the cost-effectiveness and benefits of disease control initiatives in countries around the world. It's a simple idea: Pair the control of a neglected tropical disease with a more prominent disease that afflict the same populations to reduce morbidity and mortality. The approach could be a win-win, but for public health officials, having evidence to support implementation of an integrated approach is vital. The information to support this dual effort is available in academic journals, but translating the information into a usable and practical format available to the right people at the right time is key to changing the way co-endemic diseases are controlled. Future iterations of the tool will add financial and resource allocation data to the app. This will allow users to also assess cost-effectiveness and other real-world benefits of integrating disease control.

[Read More on Science Daily](#)



Menstrual Pads Can't Fix Prejudice

In the last decade, the difficulties women and girls across the globe face during menstruation have inspired a raft of grass-roots campaigns. Access to safe, accessible bathrooms and materials to manage menstruation is now recognized as a human rights issue that involves many other areas of development, like clean water, education and gender equality. These shifts are certainly heartening. For centuries, around the world, menstruation has been treated as a source of shame, rather than as a normal, healthy part of women's lives. Initiatives to "make menstruation matter" are both welcome and overdue. Why, then, after years studying these efforts, do I feel ambivalent? Because too many of them have opted to focus on providing women with new products, failing to substantively fight the core problem surrounding menstruation: cultural stigma. Fears and stigmas are prevalent in the rich world, too, where menarche, the first menstrual period, has been effectively reduced from a sign of womanhood to a "hygienic crisis."

[Read More on The New York Times](#)



SPOTLIGHT ON POLICY: Ordering Five Million Deaths

Online

Medicare officials have announced plans to crack down on prescriptions for opioids in an attempt to limit their use and thus their damage. But making it harder for people to get pain medication legally will most likely drive many to seek relief from far more dangerous and superpotent synthetic opioids. And they are surprisingly easy to obtain. Carfentanil is 100 times more potent than fentanyl, another synthetic opioid that has already hit the streets, and 10,000 times more powerful than morphine. This drug is typically used to sedate large animals, like elephants. It is so dangerous that when veterinarians administer it, they wear gloves and face masks to avoid exposure. Fentanyl is scary enough. A dose of two milligrams, a few grains of the substance, can be fatal. But with carfentanil, 0.02 milligrams, hardly more than a speck of dust, could be enough to kill a person. Americans are by far the largest consumers of the world's natural and synthetic opioids, and 116 of Americans are dying every day as a result. Carfentanil could unleash a wave of mortality that would dwarf these numbers. Similarly in Canada.

[Read More on The New York Times](#)



SPOTLIGHT ON INDIGENOUS HEALTH: Climate Change— a Threat to Forgotten Indigenous of Uganda

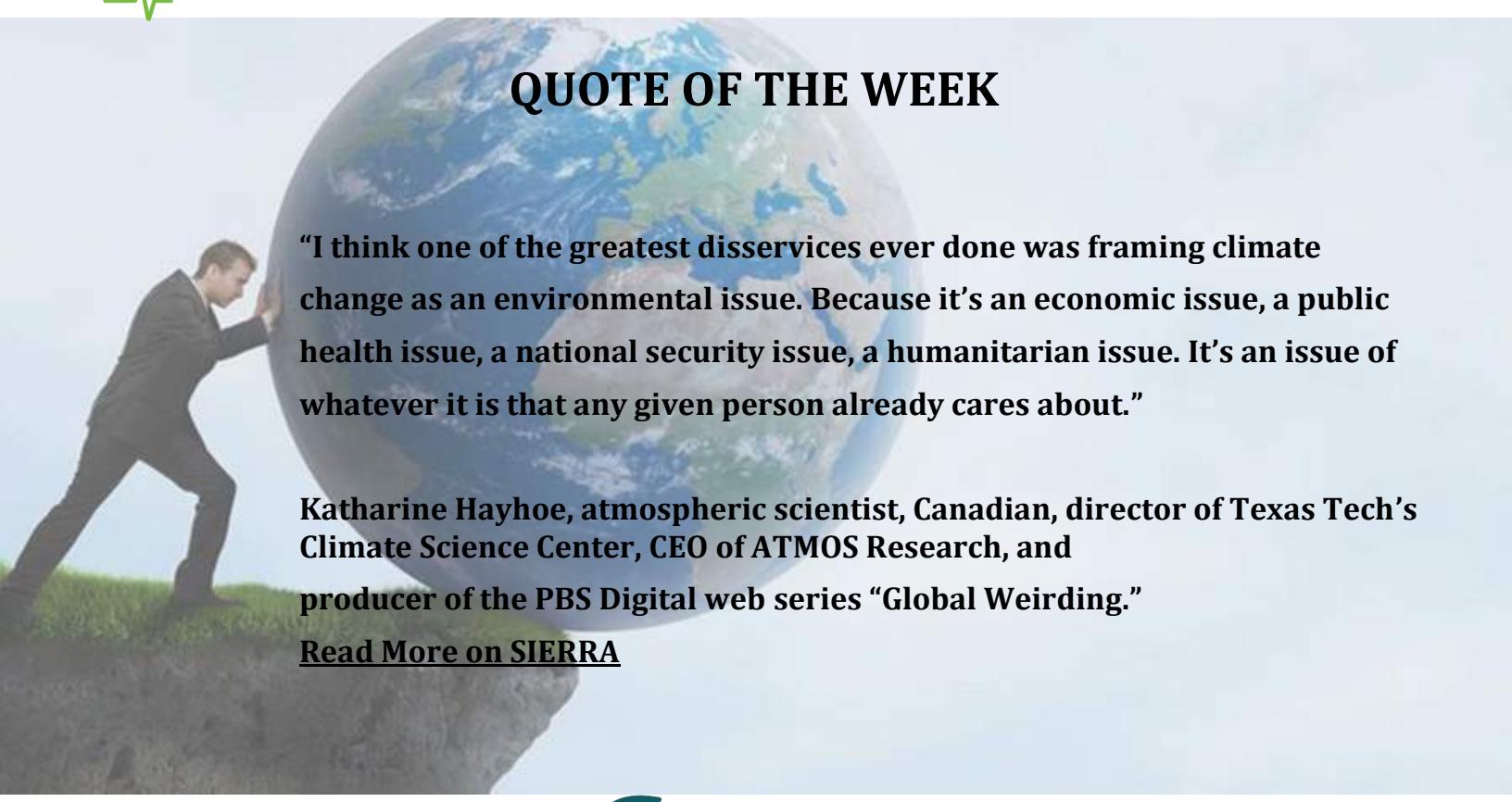
The climate change phenomenon refers to seasonal changes over a long period with respect to growing accumulation of greenhouse gases in the atmosphere. It is blamed for the receding glaciers on Mountain Rwenzori, Uganda's changing seasons, droughts and floods. There is a global climate change effort to create a financial value for the carbon stored in forests, encouraging creation of policy approaches and positive incentives for developing countries to reduce emissions from forested lands. Uganda is developing such a national strategy for addressing deforestation and forest degradation thus enabling the country to benefit from the REDD+ strategy. This is affecting Indigenous peoples, like the Batya.

[Read More on New Vision](#)





QUOTE OF THE WEEK



“I think one of the greatest disservices ever done was framing climate change as an environmental issue. Because it’s an economic issue, a public health issue, a national security issue, a humanitarian issue. It’s an issue of whatever it is that any given person already cares about.”

Katharine Hayhoe, atmospheric scientist, Canadian, director of Texas Tech’s Climate Science Center, CEO of ATMOS Research, and producer of the PBS Digital web series “Global Weirding.”

[Read More on SIERRA](#)

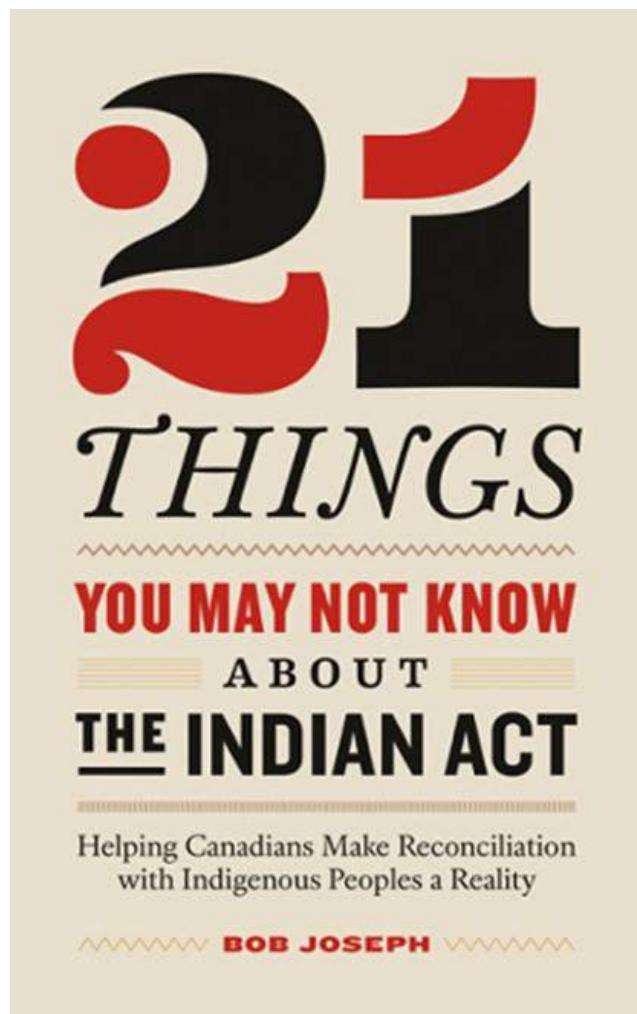
EVENTS TABLE

DATE	CONFERENCE	LOCATION	REGISTER
April 27-29	Pegasus Conference: From Evidence to Action	Toronto Canada	https://www.eventdex.com/PEGASUS2018/
May 24-26	Indigenous Health Conference	Toronto Canada	https://www.pegasusconference.ca/
May 25-27	Bethune Round Table: The Role of the Trainee in Global Surgery	Toronto Canada	https://bethuneroundtable.com/
May 29-31	Planetary Health Alliance Annual Meeting	Edinburg Scotland	https://planetaryhealthalliance.org/annual-meeting
June	McGill University Summer Institutes in Infectious Diseases and Global Health	Montreal Canada	http://mcgill-idgh.ca/courses/tuberculosis-research-methods/
Oct 8-12	5th Global Symposium on Health Systems Research	Liverpool England	http://healthsystemsresearch.org/hsr2018/
Nov 15-19	4th People’s Health Assembly	Dhaka Bangladesh	http://www.phmovement.org/en/node/10805
Nov 19-21	Canadian Conference on Global Health	Toronto Canada	http://www.csih.org/en/events/canadian-conference-global-health





NEW BOOK: 21 THINGS YOU MAY NOT KNOW ABOUT THE (CANADIAN) INDIAN ACT



Bob Joseph's new book explains Indian Act's attempts at assimilation and how Canadians can find a hopeful path forward. Reconciliation runs in Bob Joseph's family. The son of Reconciliation Canada founder Chief Robert Joseph of the Gwawaenuk First Nation, Bob Joseph has spent more than 20 years training corporations and Canadian governments to work effectively and respectfully with Indigenous communities through his business Indigenous Corporate Training. As part of that work Joseph spends a lot of time educating non-Indigenous people about the Indian Act, legislation almost as old as Canada itself. Yet most Canadians know nothing about it. "So I thought I'd just put together a [blog] post, '21 Things You May Not Have Known About the Indian Act' just as a way to get that information out there to people," Joseph said. The piece went viral, accumulating 55,000 shares on Facebook alone. Three years later it still gets upwards of 1,500 hits a month.

While the Act is much larger and more comprehensive than the book, Joseph touches on the key elements of racism and inequity Indigenous people living in Canada still experience today. That includes the forced internment on reserves, the Canadian government determining band membership and the forced removal of thousands of Indigenous children from their communities, language and culture via our ongoing child welfare crisis. Joseph provides a path to move forward that requires partnership between an educated settler population and Indigenous people.

[Read More on The Tyee](#)

SYDNEY BUSHFIRE: 'FEROCIOS' BLAZE THREATENS HOMES



A "ferocious" bushfire that led to evacuations in parts of Sydney's southwest and burnt through 2,500 hectares has affected properties, according to the Rural Fire Service. Strong winds pushed the flames north and east towards suburban streets. The bushfire had already burned through the Holsworthy military range in Sydney's southwest, and homes abutting a nearby forest were believed to be at risk as high winds increased the risk from burning embers.

The fire has behaved very aggressively and while the damage has been extremely limited, and [there has been] nothing too serious in terms of injury, it has been a huge challenge to fight. Emergency warnings were declared and residents were told about increased fire activity with strong winds and embers sparking new fires, and that it was too late to leave the area. Many residents of various communities experienced ember.

[**Read More on The Guardian**](#)

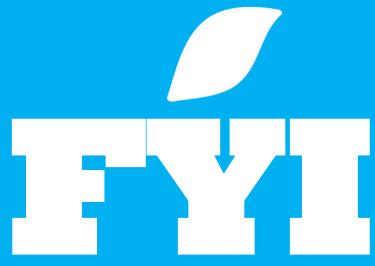
WHY WE STRUGGLE TO GET A GOOD NIGHT'S SLEEP AS WE GET OLDER



New research has identified the way age impairs the ability of the circadian clock in mammals to re-set itself when exposed to light, resulting in disruption to sleeping patterns and consequent threats to wellbeing. Researchers, led by a University of Kent neurophysiologist, found that aging results in a significant reduction in sensitivity to light in the part of the brain that controls circadian rhythms, known as the suprachiasmatic nucleus (SCN).

The breakthrough could help target treatments that aim to improve both physiological and behavioural circadian clock 're-setting' in older people. Dr Gurprit Lall, of the University's Medway School of Pharmacy, and the other members of the research team explored alterations in one of the pathways in the part of the brain controlling circadian rhythms. They found that a glutamate receptor (NMDA), used to transmit light information, became less effective in resetting the circadian clock as part of the aging process. The study concluded that the aging SCN suffers from a structural reorganisation of its light receiving components; which ultimately impair its function in setting and maintaining a stable circadian rhythm.

[**Read More on The Science Daily**](#)



SCIENTISTS ACCIDENTALLY CREATE MUTANT ENZYME THAT EATS PLASTIC BOTTLES



Scientists have created, by accident, a mutant enzyme that breaks down plastic drinks bottles. The breakthrough could contribute to solving the global plastic pollution crisis by enabling for the first time the full recycling of bottles. The new research was spurred by the discovery in 2016 of the first bacterium that had naturally evolved to eat plastic, at a waste dump in Japan. Scientists have now revealed the detailed structure of the crucial enzyme produced by the bug. The international team then tweaked the enzyme to see how it had evolved, but tests showed they had inadvertently made the molecule even better at breaking down the PET (polyethylene terephthalate) plastic used for soft drink bottles. "What actually turned out was we improved the enzyme, which was a bit of a shock," said Prof John McGeehan, at the University of Portsmouth, UK, who led the research. "It's great and a real finding."

The mutant enzyme takes a few days to start breaking down the plastic – far faster than the centuries it takes in the oceans. The researchers are optimistic this can be speeded up even further and become a viable large-scale process. "What we are hoping to do is use this enzyme to turn this plastic back into its original components, so we can literally recycle it back to plastic," said McGeehan. "It means we won't need to dig up any more oil and, fundamentally, it should reduce the amount of plastic in the environment."

[Read More on The Guardian](#)



ENDOTHELIAL BENEFITS OF TEA DRINKING



Tea has long been believed by traditional Chinese medicine to have special healing powers. Tea contains over 4000 chemicals, some of which may be beneficial for human health. The cardiovascular benefits ascribed to green and black tea are largely believed to be due to the effect of flavonoids of which there are many classes. Most have focused on the catechins and flavonols. The main dietary sources of flavonols include onions, apples, broccoli, tea and red wine. This is interesting because many of these high flavonol foods are also believed to be very healthy. An apple a day, for example, is purported to keep the doctor away. Red wine drinking has been associated with increased health and longevity.

Maintenance of normal endothelial function is crucial for human health. Endothelial function may be measured by ultrasound to see if blood vessels react normally in a test called flow mediated dilatation. A number of these studies have been performed to investigate the effects of black or green tea and at least 4 human studies show significant benefits in both normal and diabetic populations. Higher doses of black tea produce greater benefits. Similar benefits have also been noted for flavonoids derived from chocolate, but less consistently for red wine. Flavonoids enhance the effect of nitric oxide (NO) a key molecule to relax blood vessels. Improved endothelial function translates into lower blood pressure, a key risk factor for heart disease. Many studies show the anti-oxidant effect of flavonoids in vitro, and this is felt to be one of the key reasons for tea's healthy persona.

[Read More on The Medium](#)

LEARNING PROGRESSIONS: PATHWAYS FOR LEARNING 21ST CENTURY TEACHING AND LEARNING



Education policymakers around the world are recognizing that students need a broad range of skills such as communication, collaboration, and problem solving in order to thrive in the future. However, what this means in practice is not clear. Revising curricula to include these skills does not address lack of understanding of the nature of the skills or how to teach the skills. A first step is to understand how these transferable skills develop. The concept of learning progressions addresses this step.

Learning progressions describe how the skills might be demonstrated, both in their early forms and in increasingly advanced forms. It is critical for teachers to be able to identify the behaviors that relate to these skills if they are to intervene at the appropriate levels of challenge. Although we develop many transferable skills naturally as we mature, the views of global organizations and employer groups are that many of our school graduates have not developed these sufficiently to contribute in a changing and dynamic world. Education systems now need to deliberately design a new teaching approach to ensure that not only the skills are modeled in the classroom, but that there is also an opportunity to provide more explicit teaching of these.

In this blog series, we will see some current examples of how learning progressions are being used from early childhood settings, to secondary education, and to global metrics.

[**Read More on Brookings**](#)



“Mingling”
Sunday Night Market, Chiang Mai, Thailand
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CONTACT US



@PlanetaryWeekly



@PlanetaryHealthWeekly



planetaryhealthweekly@gmail.com



Planetary Health Weekly

Publisher and Editor: **Dr. David Zakus**
dzakus@ryerson.ca

Production: **Angeline Sahayanathan & Shalini Kainth**



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