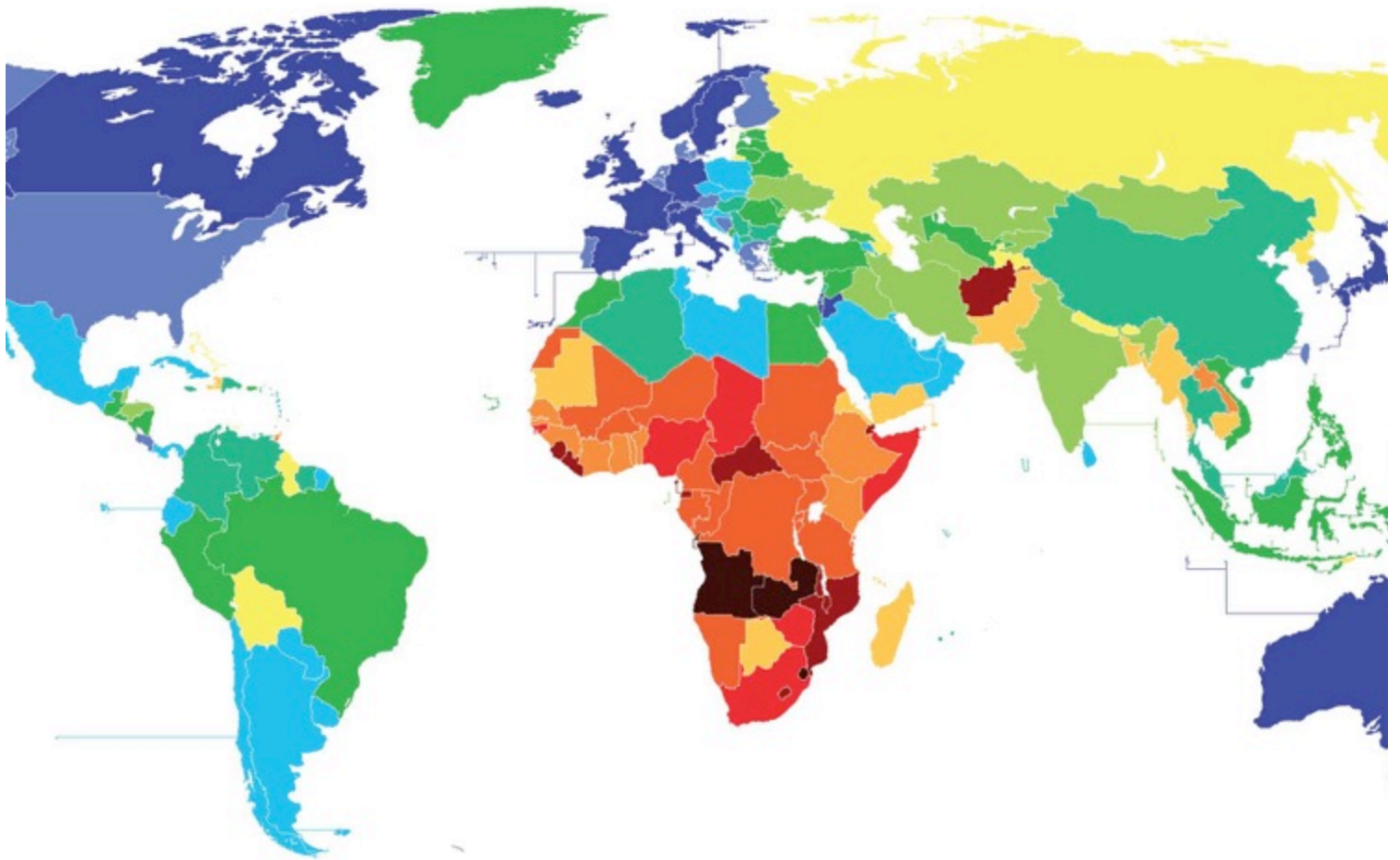


# UNDER THE MACROSCOPE



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OVER EMISSIONS SCANDAL**

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CUSTOMERS WHEN US GOVERNMENT  
REQUESTS EMAILS**

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# Headlines

## VOLKSWAGEN REACHES DEAL IN U.S. OVER EMISSIONS SCANDAL



*Joyce Ertel Hulbert, who owns a 2015 Volkswagen diesel, outside the federal courthouse in San Francisco Thursday.*

Volkswagen agreed on Thursday to fix or buy back nearly 500,000 diesel cars in the United States that are equipped with illegal emissions software.

But a settlement announced in federal court in San Francisco left open numerous legal and financial issues stemming from the carmaker's admission that it rigged diesel vehicles to cheat on pollution tests.

Lawyers in the case are still negotiating the fines that Volkswagen must pay, as well as the compensation that owners will receive. Judge Charles R. Breyer set June 21 as the deadline for Volkswagen to settle those questions with the federal government as well as lawyers for vehicle owners.

"There is still a lot of work to be done," Judge Breyer said.

It is already clear, though, that Volkswagen will have to increase the amount it has set aside to cover costs of the emissions scandal, which will easily run into billions of dollars.

Kelley Blue Book, a research firm, has estimated the cost of buying back all the cars in the United States at \$7 billion. The company is certain to face additional billions in fines and compensation paid to owners beyond the costs of repairs or buybacks in the United States. And there are many more faulty cars in Europe and elsewhere in the world still to be dealt with.

Volkswagen has set aside only 6.7 billion euros, or \$7.6 billion, against the eventual global costs from the scandal.

“If they agree to buy back the cars, the costs will be higher than the current provisions,” said Matthias Hellstern, managing director for corporate finance at Moody’s Investors Service in Frankfurt.

Kevin Helmich, owner of a 2010 Audi A3 with a diesel engine, said on Thursday that he would lean toward having the company buy his car back rather than get it repaired. Volkswagen is “making a real effort to do right by customers,” said Mr. Helmich, who lives in Ann Arbor, Mich. But he added, “I probably wouldn’t buy another car from them.”

Volkswagen faces a theoretical maximum government fine of \$18 billion in the United States. Legal experts expect the legal penalties to be much lower, but still in the billions. Judge Breyer said that owners would also receive “substantial compensation.”

And the company could still be hit with criminal charges by the Justice Department, which is investigating Volkswagen’s cheating.

Under the agreement announced Thursday, the company will offset some of the environmental damage caused by the cars by investing in clean technologies. The judge did not give details about the form the investment might take.

In a statement, Volkswagen said it “intends to compensate its customers fully and to remediate any impact on the environment from excess diesel emissions.”

While many questions remain unanswered, the court hearing on Thursday suggested that Volkswagen and those with claims against it had made substantial progress toward a settlement that would clear up some of the company’s financial uncertainty. It should also help Volkswagen restore some good will with owners of 480,000 Volkswagens and Audi A3 models with the affected 2-liter diesel engines.

The models with the cheating software in the United States include Volkswagen, Audi and Porsche cars with 2-liter or 3-liter diesel engines from the model years 2008-15.

Owners will have the option either to get their cars fixed so they are compliant with clean-air laws, or sell them back to the company. People who have leased

vehicles will be able to cancel their contracts without penalty. But a solution for about 100,000 cars with 3-liter diesel engines, including Audi and Porsche models, has not yet been agreed to, the judge indicated.

“I wish we had more details, and I wish we could get back to the business of selling” diesel models, said Alan Brown, owner of a Volkswagen dealership in Lewisville, Texas. “But it’s great to see we’ve got movement. Without customers, none of us dealers has a business.”

Many more European cars, over 10 million, are also affected by the Volkswagen cheating. But the company’s financial fines and any consumer liabilities in Europe are not expected to be nearly as high because of differences in air-quality regulations and consumer-protection laws.

Given the uncertainties over the potential costs of the United States settlement, Volkswagen has delayed earnings reports for the last two quarters. That has impaired the company’s ability to raise money on debt markets because it could not provide financial information demanded by investors.

And even when the details of Thursday’s announced settlement emerge, the company’s troubles will be far from over. It faces official investigations and possible criminal proceedings in other countries, including Britain, France, Germany and South Korea. And owners of its models in Europe, who account for a vast majority of the 11 million diesel vehicles with the cheating software, are angry that they are not receiving any compensation.

Volkswagen is recalling the cars in Europe to reprogram the engine software and, in some cases, to install a plastic part that is supposed to help lower emissions. But it has balked at offering European owners money.

Analysts at the investment bank UBS had estimated the total cost of the scandal for Volkswagen at 38 billion euros, or about \$43.1 billion, of which €14 billion was for expenses outside the United States.

Judge Breyer had given Volkswagen until Thursday to reach a settlement with the federal government and with vehicle owners in the United States. The judge had expressed dissatisfaction that the cars were still on the road emitting illegal levels of pollution seven months after the cheating became public.

The defeat device allowed Volkswagen to cheat on the emissions tests in the United States by recognizing when cars were being monitored and changing the exhaust settings. In testing, the cars increased pollution controls.

But on the road, pollution controls were scaled back to enhance performance and fuel mileage, and to protect emissions equipment from wear. When that happened, the cars spewed as much as 40 times the allowed amounts of nitrogen oxides, a pollutant that poses health hazards.

Judge Breyer is overseeing almost all of the litigation in the United States, including claims filed by federal and state governments as well as Volkswagen owners. The company still faces separate suits by Volkswagen dealers and by dealers of competing brands, who say the cheating gave Volkswagen an unfair advantage in the market.

Eric T. Schneiderman, the New York attorney general, said Thursday's announcement "does not in any way resolve" claims being pursued by a 45-state coalition, which he said would continue its investigation and pursuit of penalties. The states have not yet filed a suit against Volkswagen.

Volkswagen's legal troubles were focused in the United States because limits on nitrogen oxides are more stringent and the penalties more severe than in Europe. In addition, United States law gives owners significant scope to seek redress in court.

Rob Martens, a retired musician in Boulder, Colo., said he was eager to have Volkswagen buy back his 2015 Passat diesel. While he likes the car's roominess and ride, he's not happy to be driving a car that emits more pollutants than it should. On top of that, the car's electronics have given him headaches — its infotainment system often freezes up and its rearview camera sometimes goes out.

"This is not what they call German engineering," Mr. Martens said. "I can't wait to dump it."

*By The New York Times*

# Environment

## GREAT BARRIER REEF: THE SCALE OF BLEACHING HAS THE MOST SOBER SCIENTISTS WORRIED

**Australia's world heritage site is the largest living thing on Earth, But warm water driven by El Niño is bleaching the reef, and a recent report calls for it to be listed as in danger**



*A scuba diver encounters a sea turtle on the Great Barrier Reef, north Queensland.*

I pulled on my mask and dropped off the back of the boat into the warm water above Nursery Bommie, a dive site at Agincourt Reef more than 70km offshore from Port Douglas, in far-north Queensland, Australia. It is widely regarded as one of the most spectacular tourist reefs in the area.

As soon as I could start to make out the immense shadow of the bommie (an outcrop of coral reef) looming before me I could see that all around its flanks and on the summit, covered in just a metre of water in some places, were blemishes of white.

The closer I got, and the more I looked, it was clear there were white patches everywhere. The bleached colonies ranged from tiny plates, shaped like an upturned hand, to areas the size of a table top. Even more striking than the snow white corals was that all around them were other corals coloured in gaudy fluorescent hues that I had never before seen on such a scale. It was as if a masterpiece of nature had been repainted with a colour scheme more befitting a pound shop.

What I was seeing beneath me was evidence of an environmental disaster that has been unfolding over the past few months – the largest mass coral bleaching event



ever recorded in this region. This bleaching is the result of a huge El Niño that has driven warm water into the western Pacific Ocean, smothering coral with temperatures beyond their tolerance.

I have dived hundreds of times, with different teams of scientists, along the reef. I have seen the aftermath of other mass coral bleaching episodes such as the most recent major event in 2002.



*Bleached corals at Agincourt Reef.*

In my past experiences of bleached corals, the effect is patchy and, while one area is devastated, another will be mysteriously untouched. Yet the scale of this bleaching event has even the most sober and senior coral reef scientists worried. If the rhetoric from marine biologists is to be believed, then the Great

Barrier Reef is now in the grip of a “bommie apocalypse”. As I continued to dive the Nursery Bommie, the fluorescent pinks, blues, purples and greens became more abundant. While these colours might look striking, they signify that the symbiotic relationship between corals and their zooxanthellae, the photosynthetic algae, has broken down.

The fluorescent colours are always there but in healthy coral colonies the colours of the algae overwhelm those of the host coral, giving them their more typical reddish and brown hue. It is true that not all corals fluoresce, but if they have to survive for too long without the algae then bleaching becomes a death sentence.

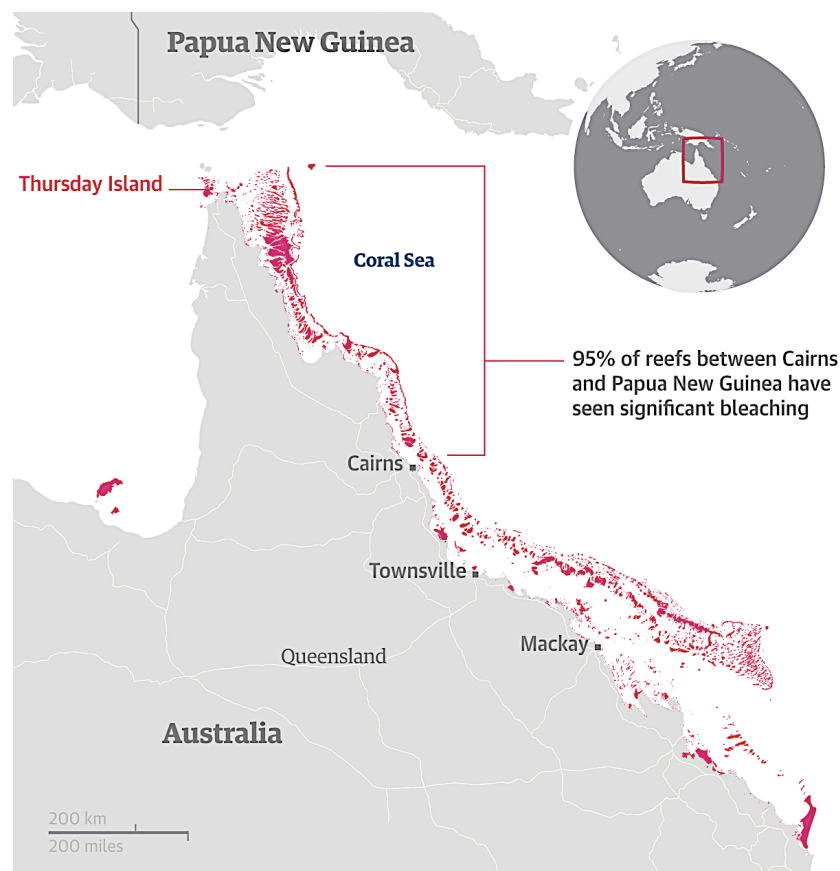
Put simply, the majority of the corals on this bommie – bleached or fluorescent – were clearly dead or dying. And it was not only the hard corals. All around were soft corals, still swaying like spaghetti in the ebb and flow of the ocean, that were white and ghostly. Most striking was that the bleaching was not just near the surface, where the water is warmest, but at depths of tens of metres where huge colonies of coral were white as well.

I swam towards a wall of reef off the stern of the boat. As I approached I saw that the seafloor was covered in fragile staghorn corals. Such a patch would normally have been the highlight of any dive to this area but now, bleached white, it was merely more evidence that a catastrophe was under way. Dismayed, I swam back to the boat.

On board was an eclectic collection of reef stakeholders including Imogen Zethoven, the director of the Great Barrier Reef campaign for the Australian Marine Conservation Society, who had also made the dive.

“I was shocked,” she said. “I had expected some patches of bleaching surrounded by mainly healthy, colourful corals. I saw the opposite.

“For decades, scientists and conservationists have been warning that climate change is an existential threat to the Great Barrier Reef and all the world’s corals. We know what needs to be done: a rapid transition to 100% renewable energy; an end to fossil fuel subsidies; the phasing out of coal-fired power stations; and keeping coal in the ground.”



While the mass bleaching is caused directly by an El Niño, which pushes warm water to the east Australian coastline, many scientists believe climate change is making the El Niño worse and more frequent, and this is coupled with a general rise in sea temperatures caused by global warming.

Also on board the dive boat was the chief executive of the Queensland Tourism Industry Council, Daniel

Gschwind. The reaction of his organisation to the current bleaching requires a balancing act – on one hand, highlighting the need to protect the enormous value of



the reef to the Australian economy, worth a conservative AU\$6bn (about £3.25bn) a year, while on the other, making sure that tourists are not scared off by alarming news. “The Great Barrier Reef is Australia’s most important tourism asset,” he said.

We dived at a second site at Agincourt Reef that day, at Castle Rock. Again, the underwater seascape was devastated by bleaching, and the scale of the devastation was beginning to sink in.

Scientists report that the same scenes are being replicated along a 1,000km section of the reef, more than a third of its total expanse. Of 500 reefs between Cairns and Papua New Guinea surveyed during this current episode, 95% have experienced significant coral bleaching – only four reefs showed no impact.

Prof David Booth, head of the Australian Coral Reef Society, the world’s oldest coral reef society, and representing some of the nation’s most respected marine biologists, said he had never seen scientists so worried.

“The visual is shocking but so is the disconnect between the severity of the bleaching and the decisions by governments to approve coalmines and coal infrastructure,” he said. “Australia is like a drug dealer for climate change – selling all this coal, but all the while knowing the harm we are doing.”

This particular bleaching event will end once the waters begin to cool. What scientists don’t know yet is how many of the corals will die, quickly being covered in a brown algae that tourists will not want to pay to see.

But there is still room for optimism. These areas can and will recover as long as the scale and frequency of bleaching does not increase. And some other areas that have been devastated in the past decade by destructive threats – such as cyclones and crown-of-thorns starfish – are now recovering well. The reef is always a mosaic of damaged, recovering and stable areas that are constantly changing with environmental conditions.

Coral has evolved to deal with attacks from nature. The question is: can it survive all the cumulative assaults from humans?

*By James Woodford, the author of The Great Barrier Reef (Pan Macmillan), for The Guardian. His trip was funded as part of a partnership between the Australian Marine Conservation Society and Oris*

# Science and Technology

## MICROSOFT SUES FOR RIGHT TO TELL CUSTOMERS WHEN US GOVERNMENT REQUESTS EMAILS

Traditional searches or wiretaps often require government to eventually notify the people they've searched; Microsoft wants the same to apply to emails



*'People do not give up their rights when they move their private information from physical storage to the cloud,' said Microsoft in its court filing.*

Microsoft sued the US government on Thursday for the right to tell customers when authorities search their email inboxes.

In a federal complaint that names the US attorney general, Loretta Lynch, the company argues the government has taken advantage of the consumer trend for storing their private data on tech companies' servers, rather than storing it on their own devices.

This shouldn't let the government search the digital equivalent of a person's desk without telling them, Microsoft argues.

The government counters that doing so may tip off suspects of a criminal investigation.

The salvo marks the latest effort by a major US technology firm to lift the veil of secrecy surrounding modern electronic surveillance. It comes after several attempts in recent years by Twitter, Google and Microsoft to have gag orders about surveillance requests removed. The industry has a renewed confidence in taking on the government following Apple's recent stare-down with the Federal Bureau of Investigation.

In this case, Microsoft wants a judge to rule a statute unconstitutional that allows the government to request indefinite gag orders on warrants for suspects' emails. With traditional searches or wiretaps, the government is often required to notify people they have been searched after some period of time.

That's not the case with digital communications like email, which is covered by legislation including the Electronic Communications Privacy Act (ECPA).

"People do not give up their rights when they move their private information from physical storage to the cloud," Microsoft said in its court filing. "The transition to the cloud does not alter the fundamental constitutional requirement that the government must – with few exceptions – give notice when it searches and seizes the private information or communications of individuals or businesses."

The company said that the government has forced Microsoft to maintain secrecy on 2,576 legal demands during the past 18 months. In nearly 70% of those cases, Microsoft says, the gag order is indefinite.

"We are reviewing the filing," said Emily Pierce, a spokesperson for the Department of Justice.

For legal scholars, Microsoft's battle in this case reflects a broader fight over a trend of more and more court orders being filed under seal or, in national security cases, classified.

"How can we tell if the court process is legitimate if so much of it is under seal?" asked Jennifer Granick, director of civil liberties at Stanford Law School's Center for Internet and Society.

Compared with other technology companies, Microsoft hasn't been as outspoken on ideological topics such as unbreakable encryption. During the Apple fight, its general counsel Brad Smith spoke out in favor of the iPhone maker but also made it clear he wanted to find ways to work with law enforcement.

To that end, Smith, a Microsoft veteran, in recent years has made efforts to bring more transparency and structure to electronic surveillance, rather than trying to end it outright.

Since Edward Snowden leaked a trove of documents on western surveillance practices, Microsoft has successfully resolved two lawsuits that allowed it to say

more about the data requests from the government. In a third case that is ongoing, the company is challenging whether it has to give the US government data stored on a server in Ireland.

“We view this case as similar to the other three that we have filed,” Smith wrote in a blog post. “It involves the fundamental right of people and businesses to know when the government is accessing their content and our right to share this information with them.”

*By The Guardian*

## TALK SHOW BRINGS ARTS INTO THE LIVING ROOM



*Pianist Feng Ying is engaged in a talk show to promote serious art.*

For pianist Feng Ying, arts are a way of helping people better understand life. Playing the piano, she said, isn't just about mastering the techniques, but about exposing oneself and one's audiences to the great minds who composed the music.

Feng's mother was the first driving force behind her career and made her practice since she was a little girl.

But, as she grew older, she developed her own curiosity, and expanded her interests. She was selected as seeded ping pong player in primary school, sang Peking Opera songs, read all 10 volumes of the "Jean Christophe" novels before she was 18 years old and she developed a love for museum visits.

By her 30s, the young pianist had made a great number of friends in different art fields and frequently met them to exchange views at private gatherings.

"It is interesting that you can always find connections among different art works even though they were presented by different artists in different art forms," Feng said. Through her own talk show program "Innovative Arts+" broadcast weekly on TV189.COM, the pianist recently started sharing her experience and points of view with a larger group of people.



The talk show feels like a casual meeting where Feng and her friends advocate classic arts in an easily accessible way. Masters in Western and Chinese music, literature, architecture, and even game designers are invited to discuss different themes.

Feng, who graduated from Conservatoires Nationaux Supérieurs de Paris, believes that her foundation in China and her studies with masters have turned her into the artists she is today.

“The masters can often broaden your mind and view based on their rich experience in arts, which may take you great effort to gain all by yourself,” Feng said. Though an increasing number of master classes are available in the city each year, they are still limited to a small number of people. She hopes her talk show can help fill in the gap — at least to a certain extent.

“All the guests I invited so far are masters in their field. I hope the talk show can become a platform where different arts can communicate and clash,” Feng said. According to her plan, though the first few talk shows may focus on some traditional topics like literature, Western classics and composers, the following shows will leave more room for cross-over creations.

“It will not just be the common cross-over creations between classic and pop music, but involve artists of more fields in one theme, such as letting musicians, ink-and-wash painters, and game designers improvise one particular theme,” Feng said. “It will be fun, and I hope this will help attract more ordinary people to the arts.”

Feng and her guests will stage about 25 concerts at Ke Center for Contemporary Arts within the next year, with tickets starting at 200 yuan (US\$30).

Though most of the guests at the talk show are friends of Feng, she keeps getting surprised by some of their opinions, like the one of 78-year-old *guqin* (a traditional Chinese instrument) master Gong Yi, who said that the *guqin* was one of the easiest instruments to learn how to play.

“But then he elaborated his view that playing the *guqin* is technically easy, but it requires much more for one to interpret the artistic conception in *guqin* pieces as they are often closely connected with history, literature and traditional Chinese philosophy, which I cannot agree with more,” Feng said. “None of the great arts are isolated. Often, the creator or interpreter is required to have a rich, comprehensive understanding of arts to make his/her own work great.”

Feng's talk show is gaining popularity, but she is concerned about the future of classic arts. Young people, she said, are more interested in K-pop.

"I think it is still a problem of insufficient exposure to serious art. It has to be around the public to get their interests, just like the Korean stars are on advertisement posters on almost every street," Feng said. "I am trying my best to make that happen, and I hope there will be more passionate artists who do their part."

*By Shanghai Daily*



# UNDER THE MACROSCOPE

Under the Macroscopic 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