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THE 130TH EDITION OF THE CANTON FAIR ENDED THIS WEEK, ATTRACTING 7,800 EXHIBITORS AND OVER 600,000 VISITORS

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MACAU UNIVERSITY OF SCIENCE AND TECHNOLOGY PREPARES FOR MOON ROCK ANALYSIS

P4

SCIENTISTS TEMPORARILY ATTACHED A PIG'S KIDNEY TO A HUMAN BODY, A SMALL STEP IN DECADES-LONG QUEST TO USE ANIMAL ORGANS FOR TRANSPLANTS

P8

Japan A volcano in southern Japan erupted yesterday with a massive column of gray smoke billowing into the sky. The Japan Meteorological Agency raised the warning level for Mount Aso to three on a scale of five, warning hikers and residents to avoid the mountain. Chief Cabinet Secretary Hirokazu Matsuno said there has been no report of damages or injuries.



Afghanistan U.N. agencies are gearing up to vaccinate all of Afghanistan's children under 5 against polio for the first time since 2018, after the Taliban agreed to the campaign, the World Health Organization says. For the past three years, the Taliban barred U.N.-organized vaccination teams from doing door-to-door campaigns in parts of Afghanistan under their control, apparently out of suspicion they could be spies for the government or the West.

India At least 46 people have died and several are missing after floods triggered by heavy rains hit the northern Indian state of Uttarakhand, officials said yesterday. Rescuers worked through the night to retrieve bodies stuck in debris and to evacuate those in vulnerable areas.



Russian President Vladimir Putin yesterday backed the Cabinet's proposal to declare a non-working week and keep Russian workers away from their offices as coronavirus deaths surged to another daily record. The government task force yesterday reported 1,028 coronavirus deaths over the past 24 hours, the highest number since the start of the pandemic.

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VALENTE CALLS FOR CHANGE IN HEALTH POLICY, SAM WORRIES ABOUT STRANDED FOREIGNERS

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WINTER GAMES BEIJING WELCOMES OLYMPIC FLAME

AP PHOTO



P6

THE CONVERSATION



VIRUSES ARE BOTH THE VILLAINS AND HEROES OF LIFE AS WE KNOW IT

IVAN ERILL,
UNIVERSITY OF MARYLAND

VIRUSES have a bad reputation. They are responsible for the COVID-19 pandemic and a long list of maladies that have plagued humanity since time immemorial. Is there anything to celebrate about them?

Many biologists like me believe there is, at least for one specific type of virus – namely, bacteriophages, or viruses that infect bacteria. When the DNA of these viruses is captured by a cell, it may contain instructions that enable that cell to perform new tricks.

THE MIGHTY POWER OF BACTERIAL VIRUSES

Bacteriophages, or phages for short, keep bacterial populations in check, both on land and at sea. They kill up to 40% of the oceans' bacteria every day, helping control bacterial blooms and redistribution of organic matter.

Their ability to selectively kill bacteria also has medical doctors excited. Natural and engineered phages have been successfully used to treat bacterial infections that do not respond to antibiotics. This

process, known as phage therapy, could help fight antibiotic resistance.

Recent research points to another important function of phages: They may be nature's ultimate genetic tinkers, crafting novel genes that cells can retool to gain new functions.

Phages are the most abundant life form on the planet, with a nonillion – that's a 1 with 31 zeroes after it – of them floating around the world at any moment. Like all viruses, phages also have high replication and mutation rates, meaning they form many variants with different characteristics each time they reproduce.

Most phages have a rigid shell called a capsid that is filled with their genetic material. In many cases, the shell has more space than the phage needs to store the DNA essential for its replication. This means that phages have room to carry extra genetic baggage: genes that are not actually necessary for the phage's survival that it can modify at will.

HOW BACTERIA RETOOLED A VIRAL SWITCH

To see how this plays out, let's take a deeper look at the

phage life cycle.

Phages come in two main flavors: temperate and virulent. Virulent phages, like many other viruses, operate on an invade-replicate-kill program. They enter the cell, hijack its components, make copies of themselves and burst out.

Temperate phages, on the other hand, play the long game. They fuse their DNA with the cell's and may lay dormant for years until something triggers their activation. Then they revert to virulent behavior: replicate and burst out.

Many temperate phages use DNA damage as their trigger. It's sort of a "Houston, we have a problem" signal. If the cell's DNA is being damaged, that means the DNA of the resident phage is likely to go next, so the phage wisely decides to jump ship. The genes that direct phages to replicate and burst out are turned off unless DNA damage is detected.

Bacteria have retooled the mechanisms controlling that life cycle to generate a complex genetic system that my collaborators and I have been studying for over two decades.

Bacterial cells are also interested in knowing if their DNA

is getting busted. If it is, they activate a set of genes that attempt to repair the DNA. This is known as the bacterial SOS response because, if it fails, the cell is toast. Bacteria orchestrate the SOS response using a switch-like protein that responds to DNA damage: It turns on if there is damage and stays off if there isn't.

Perhaps not surprisingly, bacterial and phage switches are evolutionarily related. This prompts the question: Who invented the switch, bacteria or viruses?

Our previous research and work by other researchers indicates that phages got there first. In our recent report, we discovered that the SOS response of Bacteroidetes, a group of bacteria that comprise up to a half of the bacteria living in your gut, is under control of a phage switch that was retooled to implement the bacteria's own complex genetic programs. This suggests that bacterial SOS switches are in fact phage switches that got retooled eons ago.

It's not just bacterial switches that appear to be phage inventions. Beautiful detective work has shown that a

bacterial gene needed for cell division also arose through "domestication" of a phage toxin gene. And many bacterial attack systems, such as toxins and the genetic guns used to inject them into cells, as well as the camouflage they use to evade the immune system, are known or suspected to have phage origins.

THE UPSIDE OF VIRUSES

OK, you may think, phages are great, but the viruses that infect us are certainly not cool. Yet there is mounting evidence that the viruses that infect plants and animals are also a major source of genetic innovation in these organisms. Domesticated viral genes have been shown, for instance, to play a key role in the evolution of mammalian placentas and in keeping human skin moist.

Recent evidence suggests that even the nucleus of a cell, which houses DNA, could have also been a viral invention. Researchers have also speculated that the ancestors of today's viruses may have pioneered the use of DNA as the primary molecule for life. Not a small feat.

So while you may be used to thinking of viruses as the quintessential villains, they are arguably nature's powerhouses for genetic innovation. Humans are likely here today because of them.

MDT/THE CONVERSATION

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MACAU'S LEADING NEWSPAPER



President of the Macau Lawyers Association Jorge Neto Valente

JUDICIARY YEAR OPENING

AAM president criticizes those profiting from 'patriotic' propaganda

RENATO MARQUES

PRESIDENT of the Macau Lawyers Association (AAM) Jorge Neto Valente has openly criticized those profiting from 'patriotic' propaganda.

Neto Valente was speaking at the AAM's opening ceremony for the new judiciary year, held yesterday afternoon at the Macao Cultural Centre.

In his speech, Neto Valente stated that he believes Macau's status as a Special Administrative Region of the People's Republic of China has never been under threat, and that patriotic sentiments can be found throughout the population. However, he said that those sentiments are not enough to Macau's aims and position within China. He rebuked those who have been using their 'patriotism' as a means to obtain advantages for themselves.

"We need smart and talented, forward-thinking patriots, able to work for the common good and for the realization of social justice – not just those who with subservience and shortsightedness insistently tout their patriotism to gain notice and advantages for themselves," Valente said.

He asserted that without the former, it would not be possible to fulfill the objectives of the Central government concerning the political, economic and social development of the Region or the role of Macau in the context of the Greater Bay, nor would it be possible to preserve the city's platform for relations with Portuguese-speaking countries or the city's role in the Belt and Road initiative.

Valente also repeated criticisms, made on several previous occasions, regarding the lack of development and innovation of the local courts and judiciary system.

His chief concerns were "smart justice" tools and the implementation of advanced electronic solutions to ease the workload on the courts and to deliver faster, better justice.

Neto Valente also noted that during the unprecedented situation the world has been living through for almost two years, the legal community has, like many other professional and commercial sectors, suffered huge losses.

"Due to the isolation imposed by the zero-case health policy, and the ban on entry to non-residents, the slowdown in economic growth was inevitable, and many small and medium-sized companies face difficulties that not all will be able to overcome. The downturn in business is peaking, and has led to the reduction and complete halt of many activities, with negative consequences in terms of jobs and savings," he remarked.

Valente called for a change to the current health policies, and special support for liberal and independent professionals.

SOME LAWYERS EXCLUDED FROM CEREMONY

During his speech, the AAM President did not forget the recent debate concerning the need for a vaccination record for those participating in several events.

Neto Valente noted that several lawyers had been barred from participating in the official opening ceremony of the judiciary year due to this policy.

At the top of his speech, Valente remarked that, for the first time in the last 20 years, some lawyers could not participate in the ceremony due to access restrictions informed by the Covid-19 pandemic, and he expressed hope that such restrictions would soon end.

JUDICIARY YEAR OPENING

Top judge claims courts have always interpreted Basic Law correctly

RENATO MARQUES

ALL three of the judicial levels in Macau have always respected and correctly interpreted the Basic Law, president of the Court of Final Appeal (TUI) Sam Hou Fai said yesterday at the opening ceremony of the new judiciary year.

Sam was addressing cases related to the interpretation of the Macau Basic Law that have raised the number of cases in 2020/2021 to a total of 24 (+20%) compared to the previous judiciary year. The TUI president stated that "In these matters, the courts of the three instances of the Macau SAR have faithfully exercised the competence conferred by the Basic Law to interpret the provisions of this Law in the judgment of cases, having promoted, through interpretation and application of the precepts of the Constitution and the Basic Law." He concluded that the courts have, "thus [ensured] the complete, correct and effective implementation of the 'one country, two systems' policy."

Most of the cases referred to by Sam concerned either the banning of the annual June 4 vigil enforced by the authorities, or the disqualification of candidates during the Legislative Assembly elections: cases in which the TUI backed all the decisions taken by the government.



President of the Court of Final Appeal Sam Hou Fai

CRIME AMONG STRANDED FOREIGNERS A CONCERN

Sam also used his speech yesterday to call on the authorities to address growing concerns over the crime rate related to stranded foreigners in Macau.

"Attention should be paid to the problem of crimes committed by foreigners stranded in Macau. According to statistics, in the judicial year that has just ended, the number of criminal cases of illegal lodgings and illegal hiring has increased substantially. Among them, the number of illegal lodgings rose from 215 (in 2019/2020) to 385 in the previous year, with an increase of 79.07%, while the number of illegal hiring cases also growing by almost 18%,"

Sam outlined. He added that crimes related to drug trafficking have also spiked, and that most of those charged with these crimes were stranded former foreigner workers "forced to stay in Macau because they were unable to obtain renewal of their employment contracts."

In a veiled manner, Sam called on the government to address both the current border restrictions as well as the provisions of the Law on the Employment of Non-Resident Workers. His reasoning was that "most of these people cannot be granted permission to remain as a worker, so they cannot have a legal income, which causes a series of problems."

AD

Região Administrativa Especial de Macau Regime jurídico das empresas de capitais públicos

Consulta Pública

Período da consulta: De 20 de Outubro a 18 de Dezembro de 2021

♦ Obtenção e descarregamento do documento de consulta

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♦ Sessões de consulta pública

| Data | Hora |
|-------------------------------|--------------------|
| - 26 de Outubro (Terça-feira) | Das 20H00 às 21H30 |
| - 13 de Novembro (Sábado) | Das 15H00 às 16H30 |

Local: Salão de Convenções do Centro de Ciência de Macau

Dado que o número de lugares no local das sessões e o tempo são limitados, solicitamos aos cidadãos que pretendam participar ou intervir que efectuem uma pré-inscrição.

♦ Formas de inscrição e de apresentação de opiniões

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Gabinete para o Planeamento da Supervisão dos Activos Públicos da Região Administrativa Especial de Macau

SCIENCE

MUST PREPARES FOR MOON ROCK ANALYSIS

THE State Key Laboratory of Lunar and Planetary Sciences of the Macau University of Science and Technology (MUST) will analyze the moon rock samples collected by the Chang'e-5 Lunar Explorer.

At the end of 2020, the Lunar Explorer carried 1,731 grams of moon rock samples – samples which are of enormous value for scientific research – back to earth. Due to the specifics of its landing position, the sample will provide key data on many major issues, including the timeframe of lunar magma activity and the limitations of the impact flux of the inner solar system.

Under the support of the National Space Administration and the Science and Technology Development Fund, the State Key Laboratory of the university established the first celestial sample analysis experimental platform in Hong Kong and Macau, and is actively preparing for the analysis and preparation of lunar samples.



Chair Professor Zhang KeKe, director of the laboratory, led a team applying to be a recipient in the sample's distribution on October 8. After expert review, a total of 17 scientific research institutions received approval.

The State Key Laboratory of the MUST is the only non-mainland institution selected. Samples assigned to the MUST are lunar soil samples (No. CE5C0400) and cutting samples (No. CE5Z0403YJYX012). **AL**

GBA

Cross-boundary wealth management

THE landmark Wealth Management Connect (WMC) pilot program in the Guangdong-Hong Kong-Macau Greater Bay Area (GBA) saw solid results on its first day of operations this week, with strong demand for cross-boundary wealth management products, marking another crucial development in the ever-closer financial cooperation in the GBA, Global Times has reported.

The WMC was first announced in September to allow individual investors on the mainland and the Hong Kong and Macau special administrative regions (SARs) to make cross-boundary investments in a wider range of wealth management products.

The program, which consists of the Southbound program and the Northbound program, made its debut on Tuesday, with 41 transactions totaling around

2.5 million yuan (\$391,132) completed under the Northbound program within one hour after operations started, according to media reports.

Under the Southbound program, 115 investment accounts made eight transactions totaling 398,000 yuan within one hour. Transactions were seen in nine mainland cities and the two SARs within one hour.

Analysts quoted by Global Times stressed that the WMC will further expand the two-way opening-up of financial markets, while boosting financial cooperation in the GBA.

The launch showcases that the mainland has been promoting and diversifying channels for the opening-up of its financial market, Xi Junyang, a professor at the Shanghai University of Finance and Economics, told the Global Times. **MDT**

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XINHUA



GBA

130th Canton Fair concludes, attracting over 600,000 visitors

THE 130th China Import and Export Fair (Canton Fair), concluded successfully in Guangzhou this week, attracting 7,795 exhibitors and over 600,000 visitors in the 5-day offline exhibition. Under the pandemic, the 130th Canton Fair was held in both offline and online forms for the first time, opening up a new model for the fair.

The 5-day online event received more than 30 million visits on its official website, and its 43,000 livestreaming programs attracted over 350,000 viewers, said Xu Bing, spokesperson for the fair.

There were about 26,000

domestic and overseas enterprises which participated in the online exhibition, with over 2.87 million uploaded products, saw an increase of 113,600 pieces of products over the previous session. Among them, 898,200 are new products, 112,700 are smart products, and 248,600 are independent intellectual property products.

Highlighting "driving China's dual circulation", the fair has invited domestic and foreign buyers to participate online and offline, boosting both the domestic and foreign trade.

In general, the fair has attracted 378,000 registered buyers from 228 countries and regions. The num-

ber of buyers has grown steadily, and the place of origin has hit a new record, which is a hint of a higher level of globalization of the Canton Fair.

Zafar Uddin Mahmood, Former Special Envoy for China Pakistan Economic Corridor believed that Canton Fair has successfully displayed to the world China's progressive technological developments and innovations.

"In a world still struggling with the pandemic challenges, China's resilience and openness, as demonstrated by the Canton Fair, is as laudable as it is encouraging — a twinkle of hope for those who seek a share of our in-

terconnected future," said Angelica Anton, Founder and Managing Partner of SILK Ventures, UK.

Overseas buyers and procurement representatives still actively participated in the fair. 18 industrial and commercial institutions including the American Chamber of Commerce in South China and the Korea Trade-Investment Promotion Agency have organized more than 500 member companies to attend the offline exhibition. And 18 internationally renowned companies such as Wal-Mart, French Auchan Group also sent a number of buyers for procurement.

MDT/GDTODAY

SPORTS FACILITIES REOPEN TODAY

All facilities under the supervision of the Sports Bureau (ID) are set to reopen to the public today, the ID announced in a statement. According to the statement, as the preventive measures related to Covid-19 are still in force, people entering the facilities must have their temperature measured and provide a green Macau health code every day. The ID also stated that youth sports academies and recreational classes will also resume on October 22 and 25, respectively. Other sports-related formation sessions, as well as sports competitions organized by local sports associations, will also begin to resume.

F&B AND RETAIL BUSINESS CONTINUE TO FALL

A survey conducted by the Statistics and Census Service (DSEC) indicates that the business performance of both retail, and restaurants & similar establishments (F&B) have continued to decline throughout August this year. In the survey results, only one-third of the interviewed restaurants & similar establishments reported a year-on-year rise in receipts in August, a drop of 31% from July. Meanwhile, 66% of the interviewed retailers said they were recording a year-on-year sales rise in August, a figure that also represents a 16% drop in comparison with the previous month. Only the Motor Vehicle Retailers and the Supermarkets were able to grow in August, registering rises of 16 and 11%, respectively.

LUSOFONIA FESTIVAL POSTPONED TO DECEMBER

Initially scheduled to take place this month, the 24th Lusofonia Festival has been officially rescheduled for December, the Cultural Affairs Bureau (IC) announced in a statement. The event was postponed due to border restrictions and local Covid-19 prevention and control measures. Instead, it will be running alongside this year's "Arts and Cultural Festival between China and Portuguese-speaking Countries." According to IC, the idea is to postpone the event to December so they can present a "vibrant artistic feast for residents and tourists," indicating they expect by then more tourists will be allowed to visit Macau. The activity program will be announced at a later date.

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THE Olympic flame arrived in Beijing yesterday amid calls from overseas critics for a boycott of the Feb. 4-20 Winter Games.

Beijing's Communist Party Secretary Cai Qi, the top official in the Chinese capital, received the flame at a closely-guarded airport ceremony.

Beijing successfully hosted the Summer Olympics in 2008, although the event failed to produce the more open political and social environment in China that many had hoped for.

Activist groups disrupted the flame lighting ceremony in southern Greece on Monday, accusing the International Olympic Committee of granting legitimacy to rights abuses in China. IOC officials have said they are committed to seeing the competition go ahead and that rights issues are not part of their remit.

Speaking in the ancient stadium of Olympia, IOC President Thomas Bach said the Games must be "respected as politically neutral ground."

Activists said human rights in China have deteriorated since 2008, claiming that the Summer Games "emboldened" China. Over those years, Communist Party leader Xi Jinping has con-

OLYMPIC FLAME ARRIVES IN BEIJING AMID CONTROVERSY ABROAD



solidated power over virtually all aspects of Chinese society.

Beijing is the first city to be awarded hosting rights to both the Summer and Winter Games,

largely as a result of the reluctance of European and North American cities to bid for the 2022 edition.

China says spectators from

outside China won't be allowed to attend the Winter Games because of the COVID-19 pandemic, and athletes must remain in a bubble to guard against the

spread of coronavirus. China has largely stamped-out domestic transmission of the disease, the first cases of which were detected in the central Chinese city of Wuhan in late 2019.

At yesterday's flame handover ceremony, Deputy Beijing Mayor Zhang Jiandong said the city was committed to holding a "simple, safe and excellent Games."

China and the IOC have collaborated to design a truncated torch relay that reduces the number of routes and personnel involved, Zhang said.

"We insist on prioritizing public health and safety, and coordinate the torch relay with pandemic control and prevention requirements," Zhang said.

The flame will be placed on display over the next few months, with a three-day relay scheduled to start Feb. 2, involving around 1,200 torchbearers in Beijing, suburban Yanqing and Zhangjiakou in neighboring Hebei province where ski jumping and other outdoor events will be held. **MDT/AP**

HONG KONG

Mother of Taiwan slay victim blasts authorities

ZEN SOO, HONG KONG

THE Hong Kong mother whose daughter was killed in Taiwan in 2018 yesterday lambasted authorities in the SAR for letting the man who confessed to the crime walk free, while Hong Kong blamed self-ruled Taiwan for "political manipulation" in the case.

Chan Tong-kai was suspected in the death of Poon Hiu-wing — his girlfriend at the time — while on vacation in Taiwan before returning to Hong Kong.

As Hong Kong lacks an extradition agreement with Taiwan, Chan could not be sent to stand trial and was instead prosecuted and sentenced on money-laundering offences, serving a 29-month prison sentence in Hong Kong. He confessed to killing Poon and expressed remorse, and said he was ready to face justice in Taiwan.

But the case could not proceed because of lack of cooperation between Hong Kong, the semi-autonomous Chinese city,



Poon Hiu-wing, the mother of a young woman killed in Taiwan, speaks to the media outside the government headquarters in Hong Kong

and Taiwan. China claims Taiwan as part of its territory.

Taiwan has yet to issue Chan a visa to enter the self-ruled island, according to Peter Koon, a priest who has been helping Chan.

Taiwan has insisted on

meeting Hong Kong authorities to exchange evidence and sort out travel arrangements for Chan, but Hong Kong rejected such a proposal citing a lack of mechanism for mutual legal assistance.

Hong Kong Secretary

for Security Chris Tang said yesterday that he was "sympathetic" to Poon's mother, and he was aware of Chan's intention to travel to Taiwan to surrender.

"The fact of the matter is that Taiwan is not willing to allow him to travel to

Taiwan based on political reasons," he said. "The murder happened in Taiwan. All evidence was found in Taiwan. Only Taiwan can let him go to Taiwan, and settle the whole matter."

Tang criticized Taiwan for "manipulating politics."

"Taiwan is part of China. No matter how much Taiwan would like to manipulate politics, they can never change the fact that Taiwan is part of China," he said. "I hope Taiwan would stop political manipulation, bring justice to light and allow Chan Tong-kai to go to Taiwan."

Poon's mother has bemoaned the political clash between Hong Kong and Taiwan over the case.

"This is very unfortunate. I'm just a mother. I'm not a political person. I don't understand why my daughter's case gets involved in politics," she said.

The case led Hong Kong authorities to propose an extradition bill in 2019, which would allow Hong Kong to extradite suspects to places with which it does

not have extradition agreements including Taiwan and mainland China.

But the proposal sparked mass protests and political strife in 2019, as residents were concerned that the bill would allow suspects to stand trial in China's opaque legal system. The proposed extradition bill was eventually withdrawn, and the ruling Communist Party in China clamped down on the protests and silenced the opposition in Hong Kong.

Chan was released in October 2019 after his sentence was reduced for good behavior, and spent nearly two years living at a police "safe house," where he was offered protection. He has since left the safe house and is living in a remote area, according to the local newspaper South China Morning Post.

"My daughter ... she will never be able to know if justice is done for her killer," said Mrs. Poon, the mother of the victim who is known only by her last name.

"This can never be solved and goes on forever, and it's really difficult for us. We brought up our daughter for 20 years, but this government just doesn't do anything and doesn't care about us," she said. **MDT/AP**

North Korea confirms missile test designed for submarine launch

HYUNG-JIN KIM
& KIM TONG-HYUNG, SEOUL

NORTH Korea said yesterday that it had test-fired a newly developed ballistic missile from a submarine, in its first such underwater test-launch in two years and one it says will bolster its military's undersea capabilities.

The test Tuesday was the fifth round of missile launches since September and came as North Korea steps up pressure on Washington and Seoul to abandon what Pyongyang sees as hostile policies such as joint U.S.-South Korea military drills and international sanctions on the North.

North Korea's state-run Korean Central News Agency said the latest test "will greatly contribute to putting the defense technology of the country on a high level and to enhancing the underwater operational capability of our navy." It said the new missile has introduced advanced control guidance technologies including flank mobility and gliding skip mobility.

The North's neighbors said Tuesday that they detected the North's missile firing and said the weapon landed in the waters between the Korean Peninsula and Japan. South Korea's military described the missile as a short-range, submarine-launched ballistic

AP PHOTO



This photo provided by the North Korean government shows a ballistic missile launched from a submarine Tuesday in North Korean waters

missile and said the launch was made from waters near the eastern port of Sinpo, where North Korea has a major shipyard building submarines.

KCNA said the launch was made from "the same 8.24 Yon-gung ship," a submarine that Nor-

th Korea said it used to conduct its first submarine-launched strategic ballistic missile test in 2016. Photos published by North Korea show a missile rising and spewing bright flames above a cloud of smoke from the sea. One image shows the upper parts of what

looks like a submarine on the surface of the sea.

North Korea last performed a SLBM test in October 2019. Foreign experts said the North used a submersible barge, rather than a submarine, for the launch at the time.

Tuesday's launch was the highest-profile weapons test by North Korea since President Joe Biden took office in January. The Biden administration has repeatedly said it's open to resuming nuclear diplomacy with North Korea "anywhere and at any time" without preconditions. The North has so far rebuffed such overtures, saying U.S. hostility remains unchanged.

The U.N. Security Council scheduled emergency closed consultations on North Korea yesterday afternoon at the request of the United States and United Kingdom.

Kim Dong-yub, a professor at Seoul's University of North Korean Studies, said the North Korean weapon tested Tuesday was likely derived from its land-based, nuclear-capable KN-23 missile whose highly maneuverable and lower-trajectory flight provides it with greater chances of evading missile defense systems.

In 2019, North Korea unveiled a 2,000-ton-class submarine with several missile launch tu-

bes but there has been no official confirmation that it's been deployed for operational use. North Korea is pushing to build bigger submarines including a nuclear-powered one.

Kim, the analyst, said the new missile tested Tuesday was likely a small-sized weapon displayed during a defense exhibition last week. The professor said North Korea likely plans to load this missile on the submarine it disclosed in 2019 while placing bigger SLBMs on larger submarines under development.

In a report this month on North Korea's military capabilities, the U.S. Defense Intelligence Agency said the North's pursuit of submarine-launched ballistic missile capabilities along with its steady development of land-based mobile long-range weapons highlight Pyongyang's intentions to "build a survivable, reliable nuclear delivery capability."

Some experts say North Korea might continue its weapons tests for a couple of more months until it halts them in consideration of the Winter Olympics slated for February in China, its last major ally and economic pipeline. They say the North may even test-launch long-range missiles directly threatening the U.S. mainland in a breach of a 2018 self-imposed moratorium on such weapons tests to maximize its pressure campaign.

Nuclear negotiations between the U.S. and North Korea have been stalled for more than two years because of disagreements over an easing of crippling U.S.-led sanctions against North Korea in exchange for denuclearization steps by the North. **MDT/AP**

DIPLOMACY

Russia hosts Afghan talks, calls for inclusive government

VLADIMIR ISACHENKOV,
MOSCOW

RUSSIA hosted talks on Afghanistan yesterday involving senior representatives of the Taliban and neighboring nations, a round of diplomacy that underlines Moscow's clout.

Russian Foreign Minister Sergey Lavrov opened the talks and emphasized that "forming a really inclusive government fully reflecting the interests of not only all ethnic groups but all political forces of the country" is necessary to achieve a stable peace in Afghanistan.

Russia had worked for years to establish contacts with the Taliban, even though it has designated

the group a terror organization in 2003 and never took it off the list. Any contact with such groups is punishable under Russian law, but the Foreign Ministry has responded to questions about the apparent contradiction by saying that its exchanges with the Taliban are essential for helping stabilize Afghanistan.

Unlike many other countries, Russia hasn't evacuated its embassy in Kabul and its ambassador has maintained regular contacts with the Taliban after they took over the Afghan capital in August.

Lavrov commended the Taliban for their efforts to stabilize the military-political situation in the country and ensure the opera-

tion of state structures.

"We are satisfied with the level of practical interaction with Afghan authorities, which allows to effectively ensure security of Russian citizens in Afghanistan and unimpeded operation of our embassy in Kabul," Lavrov said in his opening speech at the conference.

At the same time, he emphasized the importance of respecting human rights and pursuing well-balanced social policies, adding that he discussed those issues with the Taliban delegation before the talks.

Abdul Salam Hanafi, a deputy prime minister in the Taliban's interim government, who attended the talks, said "the mee-

ting is very important for stability of the entire region."

Lavrov said that Russia would soon dispatch a shipment of humanitarian aid to Afghanistan and urged the international community to quickly mobilize resources to prevent a humanitarian crisis in the country.

The Soviet Union fought a 10-year war in Afghanistan that ended with its troops withdrawing in 1989. In recent years, Moscow has made a strong comeback as an influential power broker in international talks on Afghanistan, hosting the Taliban representatives and members of other factions for bilateral and multilateral meetings.

AP PHOTO



Members of the political delegation from the Afghan Taliban's movement attend talks involving Afghan representatives in Moscow

Along with the Taliban and other Afghan factions, the so-called Moscow format talks held since 2017 also include representatives of China, Pakistan, Iran, India and ex-Soviet nations in Central Asia.

Yesterday's talks were preceded earlier this week by a meeting of top diplomats from Russia, China and Pakistan. The U.S., which is also part of that "extended troika" format didn't attend the meeting. **MDT/AP**



A surgical team at the hospital in New York examines a pig kidney attached to the body of a deceased recipient for any signs of rejection

SCIENCE

Pig-to-human transplants come a step closer with new test

CARLA K. JOHNSON

SCIENTISTS temporarily attached a pig's kidney to a human body and watched it begin to work, a small step in the decades-long quest to one day use animal organs for life-saving transplants.

Pigs have been the most recent research focus to address the organ shortage, but among the hurdles: A sugar in pig cells, foreign to the human body, causes immediate organ rejection. The kidney for this experiment came from a gene-edited animal, engineered to eliminate that sugar and avoid an immune system attack.

Surgeons attached the pig kidney to a pair of large blood vessels outside the body of a deceased recipient so they could observe it for two days. The kidney did what it was supposed to do — filter waste and produce urine — and didn't trigger rejection.

"It had absolutely normal function," said Dr. Robert Montgomery, who led the surgical team last month at NYU Langone Health. "It didn't have this immediate rejection that we have worried about."

This research is "a significant step," said Dr. An-

drew Adams of the University of Minnesota Medical School, who was not part of the work. It will reassure patients, researchers and regulators "that we're moving in the right direction."

The dream of animal-to-human transplants — or xenotransplantation — goes back to the 17th century with stumbling attempts to use animal blood for transfusions. By the 20th century, surgeons were attempting transplants of organs from baboons into humans, notably Baby Fae, a dying infant, who lived 21 days with a baboon heart.

With no lasting success and much public uproar, scientists turned from primates to pigs, tinkering with their genes to bridge the species gap.

Pigs have advantages over monkeys and apes. They are produced for food, so using them for organs raises fewer ethical concerns. Pigs have large litters, short gestation periods and organs comparable to humans.

Pig heart valves also have been used successfully for decades in humans. The blood thinner heparin is derived from pig intestines. Pig skin grafts are used on burns and Chinese surgeons have used pig corneas to restore sight.

In the NYU case, researchers kept a deceased woman's body going on a ventilator after her family agreed to the experiment. The woman had wished to donate her organs, but they weren't suitable for traditional donation.

The dream of animal-to-human transplants — or xenotransplantation — goes back to the 17th century with stumbling attempts to use animal blood for transfusions

The family felt "there was a possibility that some good could come from this gift," Montgomery said.

Montgomery himself received a transplant three years ago, a human heart from a donor with hepatitis C because he was

willing to take any organ. "I was one of those people lying in an ICU waiting and not knowing whether an organ was going to come in time," he said.

Several biotech companies are in the running to develop suitable pig organs for transplant to help ease the human organ shortage. More than 90,000 people in the U.S. are in line for a kidney transplant. Every day, 12 die while waiting.

The advance is a win for Revivicor, a subsidiary of United Therapeutics, the company that engineered the pig and its cousins, a herd of 100 raised in tightly controlled conditions at a facility in Iowa.

The pigs lack a gene that produces alpha-gal, the sugar that provokes an immediate attack from the human immune system.

In December, the Food and Drug Administration approved the gene alteration in the Revivicor pigs as safe for human food consumption and medicine.

But the FDA said developers would need to submit more paperwork before pig organs could be transplanted into living humans.

"This is an important step forward in realizing the promise of xenotransplantation, which will save thousands of lives each year in the not-too-distant future," said United Therapeutics CEO Martine Rothblatt in a statement.

Experts say tests on nonhuman primates and last month's experiment with a human body pave the way for the first experimental pig kidney or heart transplants in living people in the next several years.

Raising pigs to be organ donors feels wrong to some people, but it may grow more acceptable if concerns about animal welfare can be addressed, said Karen Maschke, a research scholar at the Hastings Center, who will help develop

ethics and policy recommendations for the first clinical trials under a grant from the National Institutes of Health.

"The other issue is going to be: Should we be doing this just because we can?" Maschke said. **MDT/AP**

this day in history

2001 ANTHRAX CLAIMS THIRD VICTIM IN US



A third person has been diagnosed in the US with the most serious form of anthrax.

The unnamed Washington postal worker is being treated for inhalation anthrax but doctors expect him to make a full recovery.

This is the ninth confirmed case of anthrax in the United States since infected mail began turning up in Florida, Washington and New York following the 11 September attacks.

The only person to die from anthrax in this scare had the inhalation form of the disease but it was not caught as early.

The other victims have been infected through the skin, a less serious form of the disease.

The latest victim works at the Washington mail centre which processed an anthrax-tainted letter sent to Senate Majority leader Tom Daschle.

But it is not known whether he was exposed to the disease through this letter.

US Homeland Security Chief Tom Ridge said that the strain of anthrax used in the attacks on US media companies and the Senate appeared to be the same.

"We are obviously preparing for more," he said.

Nearly 40 people in the United States, including 28 who work at the US Senate, have been exposed to anthrax bacteria in the past month.

Teams of hazardous material experts have been checking the House of Representatives after an anthrax-tainted letter was found in the Ford House Office Building mailroom.

The US is offering \$1m for information on who is behind the anthrax attacks.

The US postal service is sending cards to every home and business - 147 million addresses - telling people how to deal with suspicious post.

Courtesy BBC News

IN CONTEXT

There were a total of 18 cases of anthrax in the United States in 2001, five people died. The offices of prominent politicians and media figures were among the targets.

All mail addressed to the US Government is now irradiated to kill anthrax.

Investigations in 2002 concluded the spores used in the 2001 attacks were less than two years old. This proved that the spores had been grown and could therefore be grown again.

It is not yet known who was behind the attacks. Original suggestions pointed to the al-Qaeda network as the attacks began shortly after the 11 September attacks but experts now believe it was the work of a lone man with a highly scientific background.

YOUR STARS**ARIES****Mar. 21-Apr. 19**

Thursday's cosmic landscape poses some challenging terrain to scale, Aries. Your ruling planet, soldiering Mars, spends the day in an emotionally-potent square with truth-revealing Pluto.

**TAURUS****Apr. 20-May. 20**

As a Taurus, you tend to choose peace-keeping over unnecessary conflict. This mode of behavior may be challenged today, as Today's skies present some emotionally difficult obstacles to overcome.

**GEMINI****May. 21-Jun. 21**

Let your introverted twin take center stage today, Gemini. You need some quiet downtime to sort through all of the potent emotions coming to the surface today.

**CANCER****Jun. 22-Jul. 22**

Let your introverted twin take center stage today, Gemini. You need some quiet downtime to sort through all of the potent emotions coming to the surface today.

**LEO****Jul. 23-Aug. 22**

It's easy to get worked up under Thursday's skies, Leo. Aim to give yourself a physical outlet today, so your mental stress doesn't bottle up and explode in harsh outward comments.

**VIRGO****Aug. 23-Sep. 22**

Hotheaded Mars forms a riled-up square with frustration-releasing Pluto, helping you move through any stress around finances, romance, or creative endeavors.

**LIBRA****Sep. 23-Oct. 22**

Thursday's cosmic landscape is shaping up to be less than pleasant, Libra. Let honest feelings guide your ability to speak up, even if it means ruffling some feathers.

**SCORPIO****Oct. 23-Nov. 21**

This potent pairing feels similar to a volcano erupting, especially when it concerns addressing your own self-sabotaging patterns and communication issues.

**SAGITTARIUS****Nov. 22-Dec. 21**

Energetic Mars spends the day in a tense configuration with frustration-releasing Pluto, highlighting any unacknowledged stresses existing between your long-term aspirations and current financial situation.

**CAPRICORN****Dec. 22-Jan. 19**

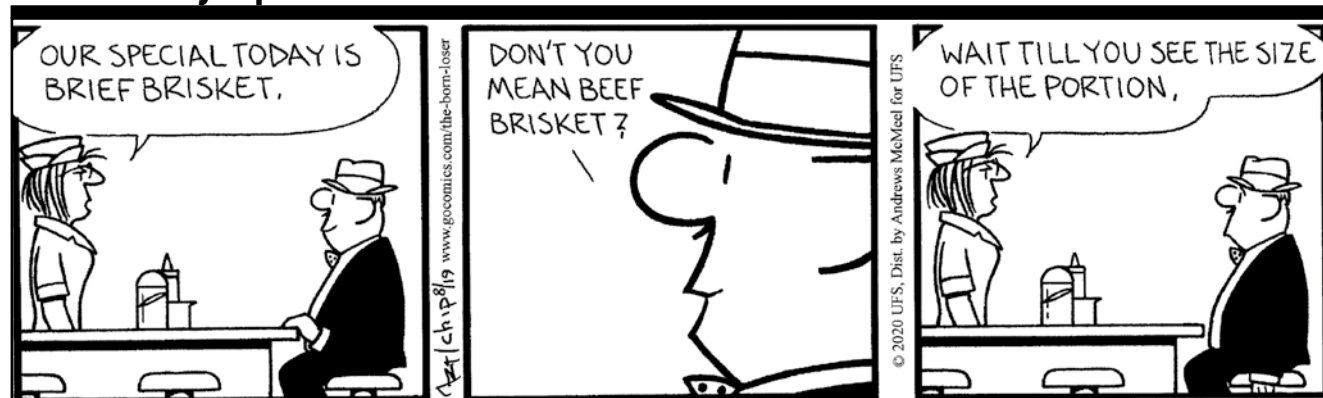
Your career has always played an important role to you, Capricorn. In recent weeks you've made some strides forward or have at least uncovered deeper stories stirring around your own drive for accomplishment.

**AQUARIUS****Jan. 20-Feb. 18**

It's a good day to stay out of the public eye. You're likely to be wrestling with a variety of mental tensions that need some private working through as hotheaded Mars squares off with frustration-releasing Pluto.

**PISCES****Feb. 19-Mar. 20**

Today's skies host a variety of tense cosmic contacts to navigate. Relationship tensions are likely to come to a boiling point as action-taking Mars locks into a hard configuration with renewal-seeking Pluto.

The Born Loser by Chip Sansom**SUDOKU****EASY**

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WEATHER

| | MIN | MAX | CONDITION |
|--------------|-----|-----|---------------|
| CHINA | | | |
| Beijing | 12 | 14 | rain |
| Harbin | 5 | 14 | cloudy |
| Tianjin | 19 | 31 | cloudy |
| Urumqi | 17 | 20 | rain |
| Xi'an | 22 | 29 | overcast |
| Lhasa | 11 | 15 | rain |
| Chengdu | 24 | 32 | cloudy |
| Chongqing | 24 | 35 | fine |
| Kunming | 27 | 36 | cloudy |
| Nanjing | 19 | 29 | fine |
| Shanghai | 25 | 30 | thunderstorms |
| Wuhan | 22 | 31 | rain |
| Hangzhou | 4 | 14 | cloudy |
| Taipei | 20 | 27 | cloudy |
| Guangzhou | 8 | 13 | rain |
| Hong Kong | 12 | 15 | rain |

WORLD

| | MIN | MAX | CONDITION |
|-----------|-----|-----|-----------|
| Moscow | -1 | 11 | overcast |
| Frankfurt | 8 | 13 | rain |
| Paris | 11 | 16 | overcast |
| London | 10 | 14 | rain |
| New York | 16 | 21 | rain |

CROSSWORDS

ACROSS 1- Driver's invitation; 6- Tin Pan Alley org.; 11- Took in; 14- Wear down, physically or emotionally; 15- Strong Australian horse; 16- Fall from grace; 17- Din; 18- Wonderland girl; 19- Are we there ____?; 20- Slender missile; 22- Ogles; 24- Mayor having judicial powers; 28- Grownups; 30- Appeared indistinctly; 31- One in a black suit; 32- Bandleader Skinnay ____; 33- Pseudo-intellectual speech; 37- Rule, for short; 38- Capture; 39- Legal matter; 40- Carry; 43- Enumerate; 45- Piece of music written for a solo instrument; 46- Stiff; 47- Dress; 49- Window cover; 50- Fastening device; 51- Ale, e.g.; 52- College cheer; 53- Big name in printers; 56- Trunk line; 61- Comedian Philips; 62- Part of TNT; 63- 9 to 5; 64- Heartache; 65- Challenger; 66- One of the Muses;

DOWN: 1- Female fowl; 2- Acapulco gold; 3- Hawaiian food; 4- Bartender's requests; 5- Teases; 6- Alert; 7- Tar; 8- Second-century date; 9- Former nuclear agcy.; 10- Overture; 11- Until now; 12- Rows; 13- Tolkien tree creatures; 21- Tack on; 23- K-6; 24- Attentive, warning of danger; 25- Hermit; 26- Line dance; 27- Parisian pal; 28- Separated; 29- Miami's county; 31- Frighten; 33- Battery terminal; 34- Blow one's top; 35- Psychics claim to have a sixth one; 36- Oil of wintergreen, e.g.; 38- Boot attachment; 41- Devices for fishing; 42- Salary; 43- Bravery; 44- Meal crumb; 46- Friend of Fidel; 47- Budget alternative; 48- Lake in the Sierra Nevada; 49- Spanish Mister; 50- Ship's company; 51- Dullard; 54- Actress Zadora; 55- Orch. section; 57- Bruins great Bobby; 58- Narrow inlet; 59- Big bang cause; 60- Flurry;

Yesterday's solution

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| N | A | B | A | A | R | O | N | G | U | N | N | Y |
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| A | N | E | M | I | A | C | A | I | N | E | | |
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Crossword puzzles provided by BestCrosswords.com

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MARKETS

AS BITCOIN GOES MAINSTREAM, WALL STREET LOOKS TO CASH IN

STAN CHOE, NEW YORK

LOVE cryptocurrencies or hate the very idea of them, they're becoming more mainstream by the day.

Cryptocurrencies have surged so much that their total value has reached nearly \$2.5 trillion, rivaling the world's most valuable company, Apple, and have amassed more than 200 million users. At that size, it's simply too big for the financial establishment to ignore.

Firms that cater to the world's wealthiest families are increasingly putting some of their fortunes into crypto. Hedge funds are trading Bitcoin, which has big-name banks starting to offer them services around it. PayPal lets users buy crypto on its app, while Twitter helps people show appreciation for tweets by tipping their creators with Bitcoin.

And in the latest milestone for the industry, an easy-to-trade fund tied to Bitcoin began trading on Tuesday. Investors can buy the exchange-traded fund from ProShares through an old-school brokerage account, without having to learn what a hot or cold wallet is.

It's all part of a movement across big businesses that see a chance to profit on the fervor around the world of crypto, as a new ecosystem further builds up around it, whether they believe in it or not.

"The one thing you can say for certain is that the advent of the era of the Bitcoin ETF opens up the opportunity for Wall Street to make money on Bitcoin in a way



that it hadn't been able to previously," said Ben Johnson, director of global ETF research at Morningstar. "The winners in all of this are the exchanges and the asset managers and the custodians. Whether investors win or not is a big, bold question mark."

Bitcoin has come a long way since someone or a group of someones under the name Satoshi Nakamoto wrote a paper in 2008 about how to harness computing power around the world to create a digital currency that can't be double-spent. The price has more than doubled this year alone to roughly \$62,000. It was at only \$635 five years ago.

Supporters of cryptocurrencies say they offer an ultra-important benefit for any investor: something whose price moves independently of the economy, rather than tracking it like so many other investments do. More high-minded fans say digital assets are simply the future of finance,

allowing transactions to sidestep middlemen and fees with a currency that's not beholden to any government.

Critics, meanwhile, question whether crypto is just a fad, say it uses too much energy and point to all the stiff regulatory scrutiny shining on it. China last month declared Bitcoin transactions illegal, for example. The chair of the U.S. Securities and Exchange Commission, Gary Gensler, said in August that the world of crypto doesn't have enough investor protection and "it's more like the Wild West."

That hasn't been enough to halt the immense momentum for crypto, as it's gone from an online curiosity to a bigger part of the cultural and corporate landscape.

U.S. Bank earlier this month said it has begun offering a cryptocurrency custody service for big investment managers. That means it essentially holds their Bitcoin in safekeeping for them, and it expects to offer support for

other coins soon.

Other name-brand banks have also announced intentions to offer custodial services for crypto.

"It's not just in the fringes and dark corners of the Web that it's happening," said Kashif Ahmed, president of American Private Wealth in Bedford, Massachusetts.

Ahmed doesn't recommend his clients invest in crypto. Before then, he said he'll need to be able to "go to my local supermarket and buy things for my family and offer crypto and not be laughed out of the store."

But others are more willing to try it.

In a survey by Citi Private Bank of family offices around the world that manage money for wealthy people, roughly 23% said they have made some investments in crypto. Another 25% said they are researching it.

The growing acceptance of crypto on Wall Street has created

a new crop of darlings that help people buy it. Crypto trading platform Coinbase has a market value of roughly \$64 billion, for example, putting it on par with such established companies as Colgate-Palmolive, FedEx and Ford Motor.

At Robinhood Markets, meanwhile, the company that became famous for getting a new generation of investors into the stock market is increasingly becoming a place for crypto trading. This spring was the first time when new Robinhood customers were more likely to make their first trade in cryptocurrencies rather than in stocks.

In the end, what many on Wall Street see lasting may not be as much Bitcoin and other cryptocurrencies as the technology that underlies them.

Called the blockchain, it allows for a public ledger that everyone can check and trust, and many expect it to lead to a wealth of innovations. It's akin to today's Netflix, Facebook and other services that sprung out of the infrastructure built during the boom and bust of the dot-com bubble.

"The applications built on this new software architecture appear to be growing more quickly than past technologies," Bank of America strategists Alkesh Shah and Andrew Moss wrote in a recent research report positing digital assets are only in their first inning of growth. "New companies are likely to emerge and poorly positioned companies will exit, creating significant upside potential for some and downside for others."

JPMorgan Chase, for example, is already using blockchain technology to improve fund transfers between global banks. That's the same JPMorgan Chase run by CEO Jamie Dimon, who said in an interview with Axios this month that bitcoin has "got no intrinsic value." **MDT/AP**

ENVIRONMENT

EU chief says key to energy crisis is pushing Green Deal

THE European Union's top official yesterday exhorted the bloc's 27-member nations to wean themselves off natural gas not only to speed the transition to clean energy but also to make the bloc a more independent player in the world.

On the eve of an EU summit centering on the energy crisis, European Commission President Ursula von der Leyen told legislators that since the bloc imports 90% of its gas — much of it from strategic rival Russia — "this makes us vulnerable."

As a result she wants the EU to double down on a swift transition to clean energy from wind and sun, which can be domestically produced and will ultimately be a lot cheaper than imported fossil fuels.

The recent spike in gas prices has hit the EU's most vulnerable families first, and von der Leyen again made a call on member states to make sure taxes and levies on energy could be adapted to shield the poorest EU citizens.

But von der Leyen

equally hit the theme of strategic importance to be less reliant on imports. Even if a partner country like Norway upgraded its exports to the bloc to meet the increased demand, one major player did not.

"While (Russia's) Gazprom has honored its long term contracts with us, it did not respond to higher demand, as it did in previous years. So Europe is today too reliant on gas," she said.

As a result, the transition to clean energy wasn't only necessary to become energy neutral by mid-

-century.

"The transition to clean energy is not only vital for our planet. It is also crucial for our economy and for the resilience to energy price shocks," she said.

It was a veiled reference to EU leaders such as Hungarian Prime Minister Viktor Orban, who has specifically blamed the hike in energy prices on the European Commission's Green Deal plans. The project aims to cut greenhouse gas emissions by 55% by 2030 and making the bloc carbon neutral by 2050. **MDT/AP**



Ursula von der Leyen, European Commission President

TALES AZZONI, MADRID

FOOTBALL | CHAMPIONS LEAGUE

ATLETICO 2, LIVERPOOL 3

AFTER a frustrating end to Antoine Griezmann's night with Atlético Madrid, Mohamed Salah came through for Liverpool in a Champions League thriller yesterday [Macau time].

Salah scored twice as Liverpool took advantage of Griezmann's red card to beat Atlético 3-2 and stay perfect after three matches in the European competition.

Griezmann had already scored twice to help Atlético recover from a poor start, but then he was sent off with a straight red card early in the second half for hitting Roberto Firmino's head with his foot while trying to reach for the ball.

Liverpool capitalized on the advantage with Salah scoring the winner from a penalty kick in the 78th minute. The Egypt forward has scored in nine straight games for Liverpool in all competitions, becoming the first player to do that in the club's 129-year history.

Atlético had a penalty a few minutes after Liverpool's third goal but it was reversed after video review.

Naby Keita also scored for Liverpool in the first half as Liverpool took a 2-0 lead as early as the 13th minute at the Wanda Metropolitano Stadium.

"It was a tough game," Liverpool coach Jurgen Klopp said. "How you win it, I couldn't care less. The tricky ones are the really important ones. On a night like this, three points is really massive."

The result left Liverpool at the top of Group B with nine points from three matches, five points more than Atlético. Porto, which beat AC Milan 1-0 at home in the other group match, was level with the Spanish champions. Milan stayed on zero points.

Atlético next visits Liverpool, while Milan hosts Porto.

It was the first meeting between Atlético and Liverpool since the Spanish side eliminated then defending European champion Liverpool in the round of 16 of the 2019-20 season.

AP PHOTO



Liverpool had been winless against Atlético in four Champions League matches.

The English club was in control early and quickly built its lead at the Metropolitano.

Salah opened the scoring in the eighth minute after picking up a ball on the right flank and maneuvering past three Atlético defenders before sending a low

shot into the corner. The ball hit the heel of Geoffrey Kondogbia and span into the corner.

Keita added to the lead five minutes later with a neat volley that curled in by the post. Atlético defender Felipe mis-hit his clearing shot and the ball went straight to Keita for his one-timer from just outside the area.

"We didn't start the game the way we wanted," Atlético coach

Diego Simeone said. "Only after their second goal we could do the things that we had been trying to do."

Griezmann pulled the hosts closer with a redirection from close range in the 20th after Koke Resurrección sent a low shot across the area, then equalized after a good run by João Félix for his sixth double with Atlético in the Champions League, the most by any player for the club.

Griezmann's performance was marred by his red card in the 52nd as he went for a high ball but hit the side of Firmino's head instead. Before leaving, Griezmann apologized to Firmino, who was making his 300th appearance with Liverpool.

Salah scored the winner from the penalty spot after Atlético defender Mario Hermoso shoved Diogo Jota following a long ball sent into the area. **MDT/AP**

AD



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OPINION

World Views

Changyong Rhee, In China Daily



IMF OFFICIAL: PANDEMIC RESURGENCE SLOWS ASIA'S RECOVERY

In its recent Regional Economic Outlook, the International Monetary Fund notes that the COVID-19 pandemic has taken a turn for the worse in Asia since the spring, along with the region's growth outlook. The growth projection for the Asia and Pacific region has been downgraded by more than 1 percent to 6.5 percent compared with the April 2021 forecasts more than for any other region.

The downgrade is mostly due to the fast spread of the Delta variant of the novel coronavirus amid initially low vaccination rates, which has tragically led to further devastating loss of lives, especially in densely populated South and Southeast Asia.

Although demand for Asian manufacturing and exports from Europe and the United States has supported recoveries, real GDP outcomes in the first half of 2021 have been disappointing. Manufacturing held up because of surging demand for pandemic-related supplies, but contact-intensive sectors such as services and retail sales are taking longer to recover.

Despite the downward revision, the Asia-Pacific region remains the fastest growing region in the world. But the divergence between Asia's advanced economies and emerging and developing economies is deepening. High-tech (for example, China, and South Korea) or commodity exporters (for instance, Australia and New Zealand) can take full advantage of the favorable external demand and accommodative financial conditions.

By contrast, tourism-dependent economies such as the Pacific island countries and Thailand, as well as economies with limited room for fiscal stimulus (mostly low-income countries), have been lagging behind.

As vaccination rates accelerate, the region is expected to grow by 4.9 percent in 2022, 0.4 percentage point faster than projected in April. However, output levels in emerging and developing economies are expected to remain below pre-pandemic trends in the coming years.

Accelerating inflation remains a concern for the global economy, although price increases in Asia are more subdued than in other regions. Higher commodity prices, supply chain bottlenecks, and rising shipping costs have impacted exports more than domestic production. Thus, domestic consumer price increases have been contained.

As a result, monetary policies in the region have not been tightened as much as in the rest of the world. While New Zealand was the first advanced economy to taper asset purchases and South Korea the first to raise policy interest rates (mainly due to financial stability considerations), emerging Asia has maintained an accommodative monetary policy to foster the recovery, unlike other emerging markets.

There are downside risks to the region's economic outlook. On the health front, the uncertain path of the pandemic and weakening vaccine efficacy against the virus's variants is a risk. On the economic side, global supply disruptions and potential financial spillovers from the US Federal Reserve scaling back its support for the US economy is a concern for the region.

Structural reforms and investments to develop new growth engines, including in the digital, education and green sectors, would help raise productivity and ensure more equitable outcomes for students and workers who have been dealt a blow by the pandemic's upending of their learning and lives.

To explore the policies to foster a strong and durable recovery, the IMF's Regional Economic Outlook presents two studies. The first study provides new empirical evidence on the health and economic benefits of swift vaccinations. The analysis quantifies how these inoculations can spill over across borders, demonstrating that no single nation can fully recover until all countries enjoy broad access.

The second study highlights how trade has historically been a powerful driver of growth in Asia, stalled, in part due to waning liberalization amid still high trade restrictions. The analysis underscores how reducing non-tariff barriers which are significantly higher in Asia than in other regions can help to accelerate inclusive prosperity. This would also build on the past progress achieved through regional agreements, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership.

[Abridged]

CHINA'S FDI INFLOW UP 19.6% IN FIRST 9 MONTHS

Foreign direct investment (FDI) into the Chinese mainland, in actual use, rose 19.6% year on year in the first nine months of the year, the Ministry of Commerce said yesterday.

During the Jan.-Sept. period, non-financial FDI into the country totaled 859.5 billion yuan. In U.S. dollar terms, FDI into the Chinese mainland totaled 129.3 billion U.S. dollars, up 25.2% year on year.

FDI into the service sector increased 22.5% in yuan terms, while high-tech industries saw FDI inflow jumping 29.1% year on year, data from the ministry showed.

Foreign investments from the Association of Southeast Asian Nations and countries along the Belt and Road into the Chinese mainland jumped 31.4% and 31.9 percent, respectively.

THE BUZZ

CHOPIN INTERNATIONAL PIANO COMPETITION CLOSES IN ON WINNER

THE jury of the Frederic Chopin international piano competition was hearing the last finalists early today [Macau time] in Warsaw before announcing the winner of the 40,000 euro (\$45,000) first prize in the prestigious event that launches world careers.

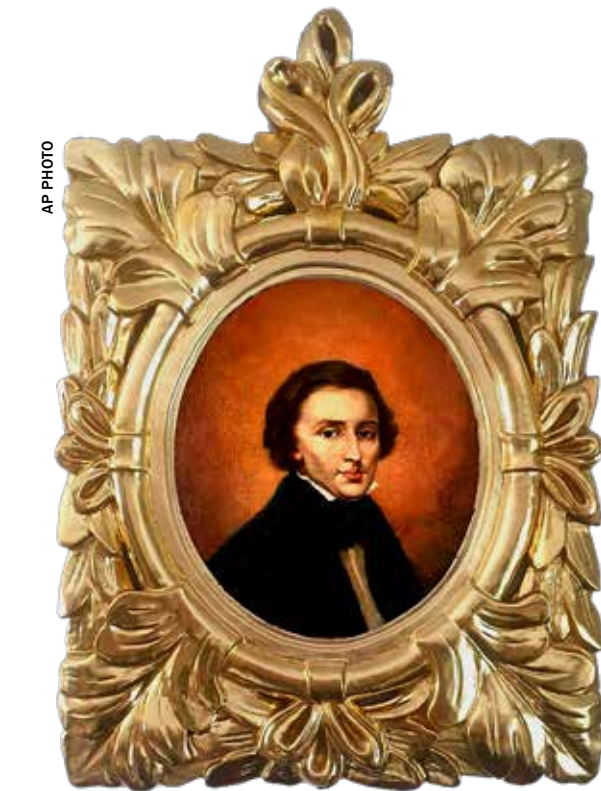
The jury will gather for deliberations in the evening after hearing the last four among the 12 finalists play a Chopin concerto with the orchestra during the day. The eight other finalists played Monday and Tuesday.

The verdict is expected late at night at the National Philharmonic in Warsaw.

The finalists are Leonora Armellini of Italy; Canada's J.J. Jun Li Bui and Bruce (Xiaoyu) Liu; Alexander Gadjiev, representing Italy and Slovenia; Martin Garcia Garcia of Spain; Eva Gevorgyan representing Russia and Armenia; Jakub Kuszlik and Kamil Pacholec of Poland; Japan's Aimi Kobayashi and Kyohei Sorita; China's Hao Rao; and Hyuk Lee of South Korea.

Bowing to their artistry, the 17-member jury allowed two more finalists this year than usual. The competition, held every five years, was postponed by a year due to the pandemic.

The winner will receive



AP PHOTO

a gold medal and the financial prize funded by Poland's president, as well as prestigious recording and concert contracts.

The second prize is worth 30,000 euros (\$35,000), third prize is 20,000 euros (\$23,000) and the fourth is 15,000 euros (\$17,000). There are also prizes for the fifth, sixth and seventh place as well as other awards for the finalists, funded by Poland's government, music institutions and by private donors.

Chopin, Poland's best known and beloved classical music composer and pia-

nist, was born in 1810 in Zelazowa Wola near Warsaw to a Polish mother and a French father. He left Poland at 19 to broaden his music education in Vienna and then in Paris, where he settled, composing, giving concerts and teaching piano. He died on Oct. 17, 1849, in Paris and is buried at the Pere Lachaise cemetery. His heart is at the Holy Cross Church in Warsaw.

The auditions can be followed live on the Chopin Institute YouTube channel and on Polish state radio. MDT/AP

UK Under pressure from rising infections and alarmed health experts, the British government yesterday urged millions of people to get booster vaccine shots but resisted calls to reimpose coronavirus restrictions such as mandatory mask-wearing. Britain is relying heavily on vaccines to keep the virus at bay during the fall and winter months. Almost 80% of people 12 and over in the U.K. have received two vaccine doses and millions are being offered a booster shot.

Ethiopia New airstrikes hit the capital of the Tigray region, residents said yesterday, as video showed injured people with bloodied faces being rushed to vehicles and thick black smoke rising in the sky. Ethiopia's government said it targeted facilities to make and repair weapons, which a spokesman for the rival Tigray forces denied. Meanwhile, the United Nations told The Associated Press it is slashing by more than half its Tigray presence as an Ethiopian government blockade halts humanitarian aid efforts.



Brazilians will turn their focus today to the Senate, where a report six months in the making will recommend President Jair Bolsonaro be indicted on criminal charges for allegedly bungling the response to the COVID-19 pandemic, and pushing the country's death toll to second-highest in the world. A draft of the report arising from a Senate committee's investigation, a copy of which was reviewed by The Associated Press on Tuesday, recommended the president be indicted on 11 charges, from charlatanism and inciting crime all the way up to homicide and genocide.



Haiti A gang that kidnapped 17 members of a U.S.-based missionary group demanded \$1 million ransom per person, a top Haitian official said. The official, who was not authorized to speak to the press, told The Associated Press that someone from the 400 Mawozo gang made the demand Saturday in a call to a leader of the ministry group shortly after the abduction.

THE DECISIVE MOMENT

AP Photo/Esteban Felix



Dance instructor Rodolfo Robles entertains commuters in a subway car while traveling to a friend's house to prepare for a performance, in Santiago, Chile.