

IN BRIEF



Beyoncé releases surprise album

WASHINGTON Singer Beyoncé has dropped a record with no warning: a live album to go with an upcoming Netflix documentary on her performance at Coachella last year. The album entitled *Homecoming*, just like the film, was released on Wednesday across streaming platforms and consists of 40 tracks. AFP



Botswana unveils rare 20-carat blue diamond

GABARONE Botswana's state-owned Okavango Diamond Company on Wednesday unveiled the biggest blue diamond ever discovered in the country. At 20.46 carats, the gem is one of the rarest stones in the world, and "sits in the very top bracket of all-time historical blue diamond finds", the company said. AFP



New York considers banning sale of fur

NEW YORK A burgeoning movement to outlaw fur is seeking to make its biggest statement yet in the fashion capital of New York City. Lawmakers are pushing a measure that would ban the sale of all new fur products in the city where style-setters, including Marilyn Monroe, have flaunted the material. AP

Ancient Christian manuscripts digitised at Egyptian monastery

The material will gradually be released online, in full colour, beginning this year

REUTERS
ST. CATHERINES

At St. Catherine's Monastery at the foot of Egypt's Mount Sinai, the silence in the library is broken only by low electrical humming, as an early manuscript is bathed in green light.

A team from Greece are photographing thousands of fragile manuscripts, including some of the earliest copies of the Christian gospels, using a complex process that includes taking images in red, green and blue light and merging them with computer software to create a single high-quality colour picture.

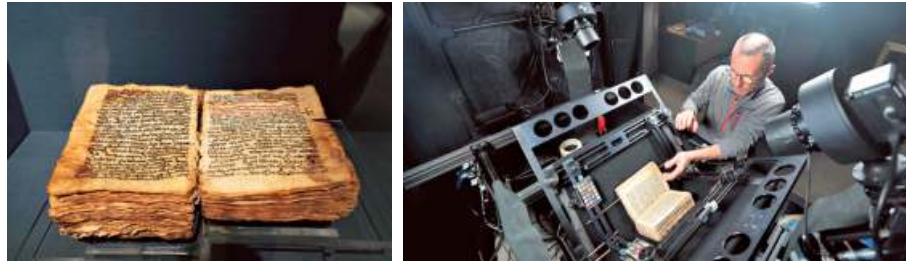
Sense of urgency

There is a tangible sense of urgency to the mission.

Although the monastery has survived centuries of warfare, it lies in a region where militants have destroyed countless cultural artefacts and documents in Syria and Iraq. Egypt's Christian churches have also been targeted by an insurgency in the rugged and thinly populated northern Sinai.

"The Holy Monastery of the God-Trodden Mount Sinai" – which is part of the Eastern Orthodox church – lies in the safer southern half of the Sinai Peninsula. But in 2017, Islamic State claimed responsibility for an attack on a nearby Egyptian police checkpoint, in which one officer was killed.

The aim is to create the first digital archive of all



Painstaking process: Clockwise from top is a view of the library of St. Catherine's Monastery, the digitisation process of a rare manuscript and the *Codex Syriacus*. ■ REUTERS

4,500 manuscripts in the library, starting with around 1,100 in the Syriac and Arabic languages, which are particularly rare.

The task could take more than a decade, using digital cameras and computer arrays alongside sophisticated cradles designed to support the more fragile manuscripts.

The project began last year and is being undertaken by the non-profit research organization Early Manuscripts Electronic Library (EMEL), in collaboration with the monastery and the Library of the University of California, Los Angeles. UCLA Library said it will

start publishing the manuscripts online, in full colour, towards the end of this year.

Global interest

"This library is an archive of the history of Christianity and its neighbours in the Mediterranean world, and therefore is of interest to communities all over the world who find their history here," said Michael Phelps, Director of the Early Manuscripts Electronic Library.

The monastery lies at the foot of Mount Sinai, by tradition the site where Moses received the Ten Commandments.

UNESCO has listed the area as a World Heritage site,

citing its sacred status in Christianity, Islam and Judaism. It says St. Catherine's was founded in the 6th century, and is the oldest Christian monastery still in use for its original function.

The most famous manuscript in the library is the 4th century *Codex Sinaiticus* – a Greek manuscript of the Bible which contains the oldest surviving complete New Testament. Its pages are divided between several institutions.

Another is the *Codex Syriacus*, an ancient copy of the Gospels in Syriac. Other manuscripts cover science, medicine and the Greek classics.

Scientists revive a flicker of activity in brains of dead pigs

Fluid that mimics blood was used to rehydrate the organs

AGENCE FRANCE-PRESSE
PARIS

Scientists said on Wednesday that they had managed to restore cell function in the brains of pigs hours after the swine died.

Authors of the U.S.-based study said their research could one day be used to help treat victims of heart attacks and strokes and unravel the mysteries of brain trauma.

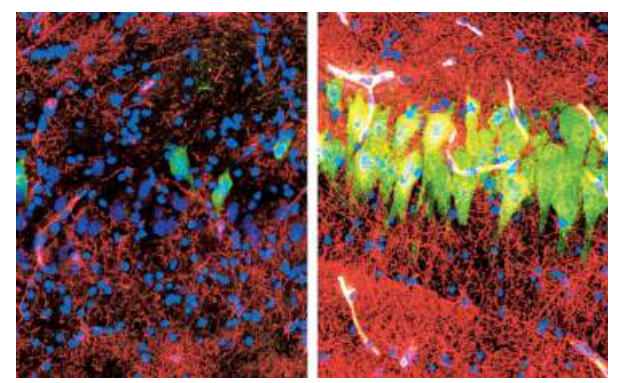
In human and large mammal brains, cells crucial for neural function begin to degrade as soon as blood supply is cut – a process long considered to be irreversible. But the findings of the trial, published in the journal *Nature*, show that the brains of pigs can have their blood flow and cell function restored even hours after death.

The team from the NIH BRAIN initiative, a federally funded U.S. research programme, used the brains of 32 pigs that had been slaughtered for food and discarded, without blood or glucose flow, for four hours each. Then, using a tissue support system that pumps a liquid designed to mimic blood through organs, they rehydrated the brains for a further six hours.

Some brains received the patented life-support solution and others were given a control substance.

The results were astonishing: the brains that received the artificial blood had basic cell function restored. Their blood vessel structure was revived, and the team even observed some localised processes – including in synapses and immune responses – flickering back to life.

Those that received the control solution turned within hours to what re-



Immunofluorescent stains for neurons (green), astrocytes (red), and cell nuclei (blue) in slaughtered pig brains that were either untreated for 10 hours after death (left) or subjected to perfusion with artificial blood. ■ AFP/NATURE

Cell death in the brain occurs across a longer time period than we previously thought

NENAD SESTAN
Yale University

searchers described as "something a bit like yoghurt". "I was tremendously surprised," said Nenad Sestan, a researcher at Yale University and lead study author. "We were surprised how well the structure was preserved. We found that cell death is reduced, which is very exciting and promising."

"The main conceptual finding is this: cell death in the brain occurs across a longer time period than we previously thought," Dr. Sestan added.

'No functional activity' The team stressed that they saw no "higher level functional activity" such as electric signalling associated with consciousness in the revived brains. "That is a clinical sign that the brain is alive, and we never found it," said Dr. Sestan. "This is not a living brain, it is a cellularly active brain."

Had any such activity

been detected, the team said they would have had to deliver anaesthetic to the brains to null any pain – despite them having been dead for hours.

"If some activity shows up that indicated consciousness, we would have to stop the experiment," said Stephen Latham, from Yale's Centre of Bioethics.

For experts invited to comment on the study, it raised deeper questions.

Writing in a linked editorial, Nita Farahany, a Professor of law and philosophy at Duke University, said that the study "throws into question long-standing assumptions over what makes an animal – or a human – alive." She said researchers had inadvertently created an ethical grey area where the pigs used were "not alive, but not completely dead."

Dominic Wilkinson, professor of medical ethics at the University of Oxford, said that the study could have vital implications for future brain research.

"This research reminds us that 'death' is less an event, and more of a process that occurs over time," he said.

Robot paints moonscapes in traditional Chinese style

The artworks sell for an average of £10,000 at London show

REUTERS
LONDON

A Hong Kong artist has created an artificial intelligence (AI) robot which creates its own paintings.

Victor Wong took three years to build and programme the robot called A.I Gemini and teach it artistic techniques.

Randomness has been written into its algorithm, meaning Mr. Wong does not know what it will paint before it begins.

The project is called 'Far Side of the Moon'. The robot's AI was fed NASA 3D images of the moon and imagery taken by China's Chang'e-4 lunar rover. It captured images of the dark side of the moon in January.

A.I Gemini takes an average of 50 hours to create a blend of landscapes on tra-



Victor Wong posing with one of the paintings. ■ REUTERS

ditional, fresh xuan paper made from bark and rice straw.

The average price for a piece on sale in London is £10,000 (£9 lakh).

Mr. Wong designed the robot to use the ancient Chinese art of shuimo to create

its paintings, using mainly black ink and water.

Mr. Wong said it felt good to display the work and have people praise it.

Asked if work created by robot can be art, Mr. Wong added: "I think so, at this moment."

Keeping company



Still life: Tsukimi Ayano arranging life-size dolls in the village of Nagoro in Japan. The dollmaker is working to counter the emptiness and loneliness felt in the rapidly ageing village by dotting public spaces with her creations. ■ AFP

Unseen Kafka works may be revealed soon

ASSOCIATED PRESS
JERUSALEM

A long-hidden trove of unpublished works by Franz Kafka could soon be revealed following a decade-long battle over his literary estate that has drawn comparisons to some of his surreal tales.

A court in Zurich upheld Israeli verdicts in the case last week, ruling that several safe deposit boxes in the Swiss city could be opened and their contents shipped to Israel's National Library.

At stake are untouched papers that could shed light on one of the major figures of 20th century literature. Though the contents of the vaults remain unknown, experts have speculated the cache could include endings to some of Kafka's major works, many of which were unfinished when they were published after his death.

Mars base simulator unveiled in Gobi desert

C-Space, the company behind the project, plans to allow tourists into the currently educational facility in 2020

AGENCE FRANCE-PRESSE
JINCHANG

In the middle of China's Gobi desert sits a Mars base simulator, but instead of housing astronauts training to live on the red planet, the facility is full of teenagers on a school trip.

Surrounded by barren hills in northwestern Gansu province, "Mars Base 1" opened on Wednesday with the aim of exposing teens – and soon tourists – to what life could be like on the planet.

The facility's unveiling comes as China is making progress in its efforts to catch up to the United States and become a space power, with ambitions of sending humans to the moon someday. The white-coloured base



Great expectations: "Mars Base 1" in the Gobi desert. ■ AFP

has a silver dome and nine modules, including living quarters, a control room, a greenhouse and an airlock.

Built at a cost of 50 million yuan, the base was con-

structed with help from the Astronauts Centre of China and the China Intercontinental Communication Centre, a state television production organisation.

The teenagers go on treks in the desert, where they explore caves in the martian-like landscape. The closest town is Jinchang, some 40 kilometres away.

On Wednesday, over 100 students from a nearby high school walked on the arid Gobi plains, dressed in suits like that of astronauts.

"There are so many things here that I've not seen before, I'm very interested in it," said 12-year old Tang Ruitian.

For space geeks

The company behind the project, C-Space, plans to open the base – currently an educational facility – to tourists in the next year, complete with a themed hotel and restaurant to attract space geeks.

"We are trying to come up with solutions ... the base is still on earth, it's not on Mars, but we have chosen a landform that matches clos-

est to Mars," said C-Space founder Bai Fan.

It follows a similar Mars "village" that opened last month in the Qaidam Basin of neighbouring Qinghai – a brutally hot and dry region which is the highest desert in the world, considered the best replica of Mars' surface conditions.

As budding astronauts explore "Mars" on Earth, China is planning to send a probe to the real red planet next year. Beijing is pouring billions into its military-run space programme, with hopes of having a crewed space station by 2022.

Earlier this year, it made the first ever soft landing on the far side of the moon, deploying a rover on the surface.

U.S. astronaut to spend 11 months in space

Koch keen to set women's record

ASSOCIATED PRESS
CAPE CANAVERAL

A NASA astronaut will spend nearly a year at the International Space Station, setting a record for women.

Station astronaut Christina Koch will remain on board for about 11 months, until February. That approaches but doesn't quite break Scott Kelly's 340-day U.S. record.

She knew before launching last month that her flight might stretch into 2020. She says it's awesome.

Another NASA astronaut will also have an extended stay.

Andrew Morgan will launch to the space station this summer for a nine-month mission, also consid-



Christina Koch

erably longer than the usual six months.

NASA announced the extended assignments this week.

Ms. Koch will break the record of 288 days for the longest single spaceflight by a woman at the end of December. Retired astronaut Peggy Whitson is the current record-holder.