



February 4, 2016

American English edition

Issue Number 268

In this issue

Syrian peace talks begin
Cooking eggs and bird extinction
Land Rover's last Defender
Lazy storks
The Earth, the Moon, and Theia?
"Three minutes to midnight"
Plants that can count
Dissuading migrants
North Sea whale strandings
Plan for world's oldest temple
Race for the White House starts
Secretarybird's stamp measured
New Beatrix Potter book
African Union summit
Robotic lettuce farm
World Cancer Day
Military rule ends in Myanmar
Devils Hole and its pupfish
Glossary Crossword and Wordsearch Puzzle



Aedes aegypti mosquito, the carrier of the Zika virus (Centers for Disease Control)

ZIKA VIRUS SPREADS

Dilma Rousseff is the president of Brazil. She recorded a message about the Zika virus. On February 4, it was broadcast on Brazil's main television channels. Ms. Rousseff said that the country must "declare war" on the mosquitoes that carry the virus.

Three days before Ms. Rousseff's broadcast, the World Health Organization (WHO) made an important announcement. Its leader, Margaret Chan, described the spread of the Zika virus as "an extraordinary event". She declared that the virus, and a disease, or disorder, called microcephaly, was now an international public health emergency.

Virologists, or scientists who study viruses, say that Zika has "exploded" over the last six months. It has quickly spread throughout most of South America and the islands of the Caribbean. A mosquito called *Aedes aegypti* carries the virus.

Health experts now suspect that the Zika virus and microcephaly are connected. No one is sure if this is true, but it seems likely.

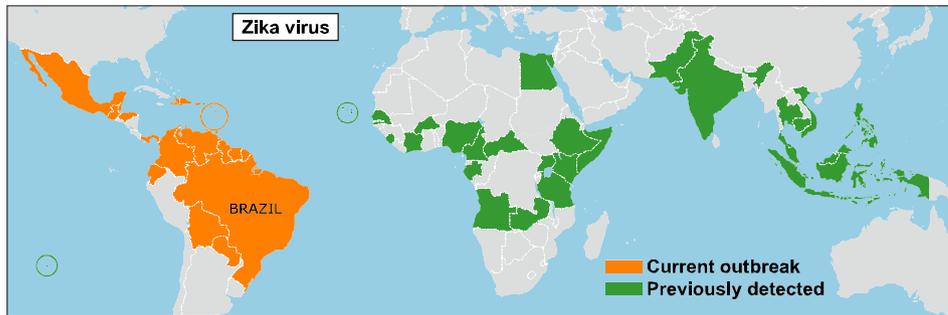
People most at risk from the Zika virus are expectant mothers. Microcephaly is a birth defect. If a woman gets the virus while pregnant, her child may have the disorder. New-born babies with microcephaly have small heads and less developed brains. Some babies with the disorder die at a young age. Others grow up with smaller heads, but seem to be unaffected. However, as they get older, many suffer from learning troubles, speech difficulties and health problems. There is no cure for microcephaly.

The Zika virus was first discovered in Africa nearly 70 years ago. Then, it was found in monkeys. These monkeys lived in Uganda's Zika Forest. In 1954 a person in Nigeria got the virus. This was the first time that it had been found in a human.

Learning English as a foreign language?

Newsademic.com

Recommended reading for EFL and ESL



Over the years, the virus appeared in other countries. It does not make people very ill. So it was thought to be far less serious than other mosquito-borne diseases. These include: malaria, dengue fever, yellow fever, West Nile, and chikungunya.

These diseases do not affect the mosquitoes that carry them. Yet the insects pass them from one person to another. There are more than 3,500 types of mosquito. The name comes from two Spanish words. They mean “little fly”. Mosquitoes are found in nearly every part of the world. In warmer climates they are active all year. In colder places the insects appear only in the summer months. Only a few types of mosquito bite humans.

Only female mosquitoes bite for blood. They need it to produce their eggs. If a mosquito bites a person who already has the Zika virus in their blood, the mosquito becomes infected. If this mosquito then bites another person the virus can be passed on.

Many people, including pregnant women, who get the Zika virus do not become ill. The [symptoms](#) of those who are unwell appear about 12 days after the mosquito bites them. They can include: high temperatures, skin rashes, headaches, joint and muscle pains, as well as a lack of energy. These symptoms are usually mild. They last for between two and seven days. There are no treatments or [vaccines](#) for Zika.

In 2007 there was an outbreak of the virus on a small island in the Pacific Ocean. Called Yap, it is a part of Micronesia. This was the first time that the virus was recorded outside Africa. About 100 people on the island became ill. However, none had to go to the hospital. From Yap, the virus spread to other Pacific islands. The virus seems to have arrived in Brazil via the Pacific.

The Zika virus was first recorded in Brazil in April 2015. Normally, about 200 children suffer from microcephaly in the country each year. Yet over the last four months, around 4,000 have been born with the disease. Officials in some South American countries are now advising women not to get pregnant.

Experts say that it will take many years to produce a vaccine for the Zika virus. In the meantime, the best way to stop it spreading is to control the mosquito population. To prevent malaria people are told to sleep under mosquito nets at night. Malaria is caused by a type of parasite. The mosquito that carries the parasite is much more active at night. Yet the Zika virus-carrying mosquito is active during the day and night. It cannot survive in cold weather. Therefore people living in colder countries are unlikely to get the virus.

In recent years several tests have been done with genetically modified mosquitoes. Male and female mosquitoes are bred in a laboratory. Scientists then put a special bacterium

in them. This bacterium stops viruses from multiplying inside the insects. After they are released, the laboratory mosquitoes, or “good” ones, mate with wild (or “bad”) mosquitoes. When a “bad” female mates with a “good” male the eggs she lays do not hatch. Yet when a “good” female mates with a “bad” male her eggs do hatch. However, all of her offspring carry the special bacterium.

Local tests to stop the spread of dengue fever in this way have been successful. Most mosquitoes in a local area are “good” about ten weeks after the bacterium-carrying ones are released. Yet some people worry about genetically modifying insects in this way. What’s more, it would be impossible to create enough “good” mosquitoes to cover an area the size of South America.

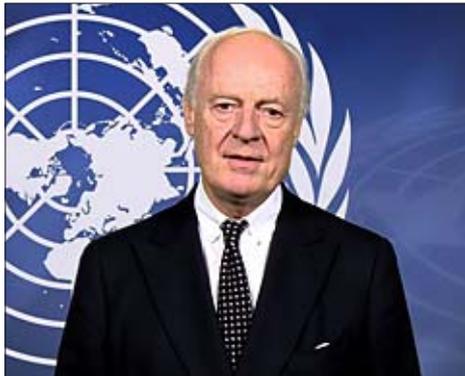
The best way to control mosquitoes is to stop them from reproducing. This is what Ms. Rousseff wants everyone in Brazil to do. To reproduce, the *Aedes* mosquito needs stagnant, or still, water. This is where the females lay their eggs. After hatching, the mosquito larvae grow into adults. If there is no stagnant water, the mosquitoes cannot lay their eggs. So any container that collects water must be emptied or covered. All sidewalks and roads have to be frequently checked to make sure that there are no puddles.

The 2016 Olympic Games begin in Rio de Janeiro on August 5. This is one of Brazil’s biggest cities. The international sporting competition lasts for 16 days. Tens of thousands of people, from all around the world, are expected to visit Rio at this time. Officials in Brazil insist that the Zika virus will not affect the games. The competition takes place in the southern hemisphere’s winter, so there should be fewer mosquitoes. ■

PEACE TALKS BEGIN

Peace talks to try to end the war in Syria began on February 1. They are taking place at the United Nations Palais des Nations building in Geneva, in Switzerland. On one side is a [delegation](#) from the Syrian government. The many Syrian groups that oppose the government are represented by an organization called the High Negotiation Committee (HNC).

It has taken a long time to arrange these talks. They were supposed to start last year. There have been arguments about which opposition groups should be invited. John Kerry and Sergei Lavrov have worked to arrange the talks. Mr. Kerry is the U.S.'s secretary of state. After the president, the secretary of state is one of America's most important politicians. Mr. Lavrov is Russia's foreign minister.



Staffan de Mistura

Russia supports the Syrian president, Bashar al-Assad, and his government. The U.S. and the larger European Union (EU) countries back the groups represented by the HNC. The HNC's main supporter is Saudi Arabia. The HNC representatives were reluctant to go to Geneva. They wanted the Syrian army to stop its attacks before the talks began. Mr. Kerry insisted that

they had to attend the Geneva talks. He said that if the HNC did not take part, countries like the U.S. might withdraw their support.

The war in Syria began five years ago. So far, at least 250,000 people have died. Millions of Syrians have been forced to leave their homes. Many now live in large camps in Lebanon, Turkey and Jordan. Over the last 12 months, tens of thousands of Syrians have illegally traveled from Turkey to Greece. From there, they have gone to other European countries such as Germany and Sweden. These people want to get away from the fighting and improve their lives. The number of migrants arriving in Europe from Syria and other countries is causing difficulties. EU countries disagree with what should happen to them. However, all agree that the war in Syria must be stopped.

The Syrian conflict has become very complicated. It has divided the Muslim countries of the Middle East. Mr. al-Assad and his supporters are Alawites. This is a branch of Shia Islam. Iran is the largest Shia country. It has sent soldiers to help the Syrian government. Hezbollah is a Shia political and military organization in Lebanon. Its fighters are also supporting the Syrian army.

Many armed groups oppose the Syrian government. Most of their members are Sunni Muslims. Some groups are described as moderate. They want to elect new leaders in Syria. Other less moderate groups say that strict religious laws should be used to govern Syria. The U.S. and the EU have supported the moderate groups. Saudi Arabia, the most powerful Sunni country, backs the less moderate groups. Turkey also wants Mr. al-Assad to leave Syria.

Traditionally, Russia has been a friend of the Syrian government. Six months ago Vladimir Putin, the Russian president, sent warplanes to Syria. These Russian planes are now working with the Syrian army.



U.N.'s Palais des Nations building in Geneva, where the Syrian peace talks are being held

Several years ago a fanatical organization set up its base in the city of Raqqa, in Northern Syria. It's called the Islamic State (IS). The IS controls a large part of Syria and Iraq. This includes Mosul, Iraq's second largest city. The IS is a Sunni group. It has committed many [atrocities](#). IS fighters have killed thousands of Shia Muslims and people who follow other religions. The Syrian government, Russia, the U.S., the EU, Iran, Turkey, Iraq, and most of the opposition groups in Syria, oppose the IS.

Staffan de Mistura is coordinating the peace talks in Geneva. He is working for the United Nations (U.N.). Mr. de Mistura is an Italian-Swedish [diplomat](#). The U.N. wants the two sides to agree to a long-term plan. First a ceasefire must be agreed. Then, humanitarian aid, or food, medicines and other supplies, can be delivered to Syrian people. The threat of the IS has to be stopped. After this, a temporary government will be appointed to run Syria. A year or so later, new elections are to be organized.

Few people think that the peace talks will succeed. Currently the two

sides will not even sit in the same room. Instead they are taking part in proximity talks. The two groups are in different parts of the building. U.N. officials move from one group to the other trying to find things that they agree on. These proximity talks are expected to last for at least six months. ■

AUSTRALIAN BIRD EXTINCTION

Genyornis newtoni was a huge bird. It lived in Australia thousands of years ago. The bird, which laid very large eggs, could not fly. Researchers from the U.S. have been studying broken pieces of ancient eggshell. Some have burn marks. The burned eggshells probably mean that early humans cooked and ate the flightless bird's eggs. This might explain why the birds died out.



Computer generated image of what *Genyornis newtoni* may have looked like

The large birds were seven feet (2.1 meters) tall. They were much bigger than today's large flightless birds such as the emu and ostrich. The ancient birds had powerful legs, but very small wings. From the shape of its beak, scientists think that *Genyornis newtoni* was a plant-eater, or herbivore. The birds lived in many parts of Australia. They seem to have liked grassland areas. Many shell fragments from their eggs have been found in sand

dunes. So the giant birds may have used these places to nest. The birds' eggs were the size of large melons.

Giant creatures were once common in Australia. Together they are known as megafauna. Many fossils of these big animals have been discovered in the country. They often look like very large versions of animals that exist today. For example, fossils have been found of giant wombats, kangaroos, koalas, lizards, tortoises, and platypuses. The giant kangaroos were over ten feet (three meters) tall.

Most megafauna species are thought to have died out around 50,000 years ago. Yet some survived for another ten thousand years. Nobody knows why all of Australia's megafauna became extinct. One idea is that early humans hunted these animals until none were left. Some scientists think that the more likely reason was either a sudden or gradual change in the climate. Huge wildfires are not unusual in Australia. Lightning often starts these blazes. In Australia they are known as bushfires. Some suspect that wildfires may have helped, or contributed to, several megafauna extinctions.

Megafauna also existed in most other parts of the world thousands of years ago. They too died out. Today, Africa is the only part of the world where many megafauna-like animals exist. Examples are: elephants, rhinos, giraffes, and hippos.

Modern humans (*Homo sapiens*) originally came from Africa. They began to spread to parts of the Middle East roughly 70,000 years ago. After crossing Asia they arrived in Australia about 20,000 years later. This was around the time that the Australian megafauna began to disappear. These early humans did not

grow their own food. They traveled around hunting animals and gathering edible fruit, nuts and berries. It would have been easy for them to collect *Genyornis newtoni*'s large eggs.



Rock art picture of *Genyornis newtoni*? (Ben Gunn)

The researchers studied pieces of eggshell with burn marks. They were found at 200 places in different parts of Australia. The researchers are sure that campfires and not wildfires made the burn marks. None of the burned eggshells were less than 47,000 years old. The researchers say that this was probably when *Genyornis newtoni* died out. It therefore seems likely that ancient humans were the reason, or part of the reason, for the giant birds' extinction.

In a remote part of Northern Australia there is a drawing on a flat rock. It looks like a picture of two large flightless birds. If they are *Genyornis newtoni*, the drawing could be the oldest rock art in Australia. ■

LAST DEFENDER

On January 29, a car factory in Britain completed a special vehicle. It was the 2,016,933rd Defender to be made at the factory. It was also the last. The first Defender was made at the same factory almost 70 years ago. Now, the company that makes the vehicles has decided to stop production.

Defenders used to be called Land Rovers. They are designed for "off-road" driving. Armies, farmers,

companies, and explorers all use these vehicles. Queen Elizabeth the Second, the head of the British royal family, owns one.

The Land Rover name originally belonged to the Rover Company. This British car company was set up over 100 years ago. During the Second World War (1939 – 1945) American soldiers used an open-top vehicle called a Jeep. These vehicles could drive over rough [terrain](#), through floods and across sand and mud. After the war, Rover's head engineer used a Jeep on his farm. He decided to design a similar type of car. Named the Land Rover, it was the first vehicle to be made with aluminum. The first Land Rovers were sold in 1947.

Twenty years later the Rover Company became part of a larger organization called the Leyland Motor Corporation. In 1975, the British government took control of this company. It was renamed British Leyland, or BL. British Leyland included well-known car names such as Rover, Jaguar and Mini.



The final three editions of the Defender

British Leyland was unsuccessful. It then became the MG Rover Group. The bosses of this group sold Jaguar Cars to Ford, an American company. Land Rover was bought by BMW, the German car manufacturer. Later, Ford agreed to buy Land Rover from BMW. It created a new company, based in Britain, called Jaguar Land Rover.

By this time Land Rover was making a different vehicle called the Range Rover. It became very popular. A new type of Range Rover was launched in 1990. It was named the Land Rover Discovery. To avoid confusion, the original Land Rover was renamed the Defender. In 2008 Ford sold Jaguar Land Rover to the Tata Group. This is the largest company in India. Since the Tata takeover, Jaguar Land Rover has become a very successful company. Its vehicles are now sold all over the world.



One of the first Land Rovers (Sicrag)

Jaguar Land Rover claims that 70% of all Land Rovers or Defenders ever made are still working. A special ceremony was held at the factory on the day that the last one was finished. Around 700 people were invited. Many were former factory workers. Old Land Rovers drove around the factory. They included the eighth one that was made. This vehicle is now worth around \$358,000.

The Tata Company said that it had to stop making Defenders. This was because of many new car design rules and regulations. Most are for safety reasons. For example, the seats in the back of Defenders face each other. This layout is believed to be dangerous and no longer allowed. Tata says that it still plans to use the Defender name. However, new vehicles with this name will have a different design. ■

NON-MIGRATING STORKS

Ornithology researchers in Germany have been following European white storks. (Ornithologists are scientists who study birds.) Small tracking devices were attached to 70 young storks. The birds were in eight separate countries. Readings from the devices show that many of the birds are changing their behavior. Normally, the storks migrate and fly south for the winter. Now, many are deciding not to do so.

There are at least 17 different types of stork. European white storks are large birds. Adults are 3.3 feet (one meter) tall. Most of their feathers are white. Yet, they have black feathers along the back edge of their wings. The birds' wingspan, or measurement from one wingtip to the other, is five feet (1.5 meters). The storks have long thin legs. So it is easy for them to walk or wade through wetland areas.

White storks have a long, thin bill, or beak. They use it to spear their prey. The birds are carnivores, or meat-eaters. They feed on frogs, toads, insects, fish, earthworms, [rodents](#), lizards, snakes, and small birds. The birds often make their nests near to places where humans live. They are made from sticks. White storks will build their nests in tall trees and on chimneys and rooftops. In some countries, special platforms are put up for the birds to nest on. These are to stop the storks building nests on electricity pylons and telegraph poles.

European white storks live in Spain and Portugal, parts of North Africa, Central Europe, Turkey, northern Iraq and Iran, and Uzbekistan, in Central Asia. These are breeding areas, or places where the birds mate and lay their eggs.

Normally, the storks fly south at the end of summer. They spend the northern hemisphere's winter months south of the Sahara Desert. Some fly all the way to the southern part of the African continent. Storks in Uzbekistan fly south to India.

When flying south, the birds make use of air currents high in the sky. These are called air thermals. This saves energy, as the birds do not have to flap their wings so much. The storks fly over Spain and Israel. They do not cross the Mediterranean Sea. This is because there are no air thermals above the Mediterranean. In the fall, large flocks of storks can be seen flying over Spain at the western end of the Mediterranean and above Israel in the east.

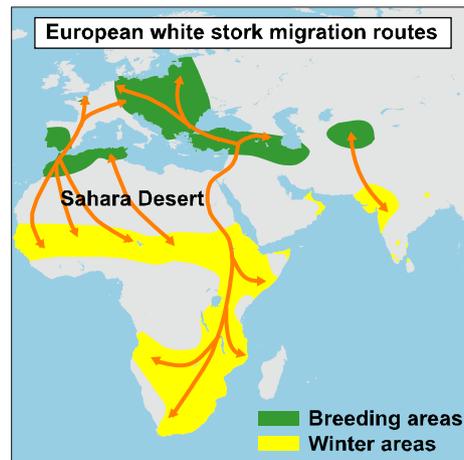
European white storks are monogamous. This means that they always mate with the same male or female. The birds return to their own nests. The male usually arrives a few days before the female. During this time, the male rebuilds or repairs the nest.



White storks on nesting platform in Poland (M. Betley)

The researchers attached tracking devices to white storks in Tunisia, Spain, Germany, Poland, Greece, Russia, Armenia, and Uzbekistan. The birds in Uzbekistan did not migrate. The researchers believe that these storks feed in local fish farms. As this food is available all year, the birds no longer

fly to India. The storks from Poland, Greece and Russia all flew to southern Africa. However, the others did not cross the Sahara Desert. They survived the winter months by finding food in garbage dumps in places like Morocco.



The researchers say that European white storks do a helpful job in parts of Africa, south of the Sahara. There, they feed on insects that can damage, or destroy, food crops. Locusts are an example. If more storks decide not to migrate, it could cause problems for farmers in southern Africa. □

WHAT MADE THE MOON?

Researchers from America have carried out a new study. They compared “chemical fingerprints” in Moon rocks and rocks from the Earth. The researchers wanted to find out if the rocks were the same or different.

A popular theory says that the Moon was created after another planet hit, or collided with, the Earth. Some scientists suspect that this was a direct hit. Others believe it hit the Earth at an angle. Therefore it was a glancing blow. Pieces of the Earth and the other planet then merged, or coalesced, to form the Moon.

The Moon is much larger than the moons, or natural satellites, of the Solar System's other planets. Jupiter and Saturn have over 60 satellites. Most are very small. Some moons were formed at the same time as the planets they circle. Others were caught, or captured, by a larger planet's gravity at a later time.

The Moon's size is unusual. It is almost one-third the size of the Earth. There are several theories, or ideas, that explain why a planet the size of the Earth has such a large satellite. The theory about the Earth being hit by another planet was first suggested about 30 years ago. This “other” planet has even been given a name. It's called Theia (pronounced thay-eh). Theia was about the same size as Mars. In Greek mythology, Selene was the goddess of the Moon. Theia was her mother.

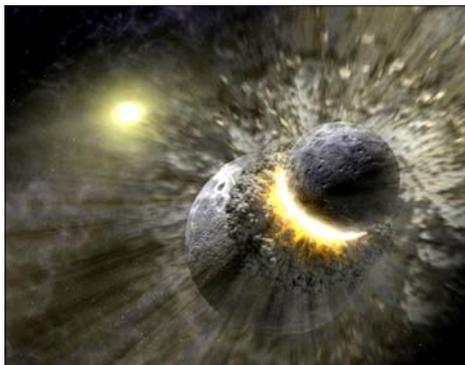
The Solar System is about 4.6 billion years old. The collision between the Earth and Theia happened 4.5 billion years ago. Then, the Earth was new-born, or a proto-planet. It was only 100 million years old.

Nearly 100% of the Earth's oxygen is what's known as O-16. This means that each oxygen atom has eight protons and eight neutrons. So far, rocks found from other planets in the Solar System have different oxygen isotopes. In rocks, these isotopes are sometimes called “chemical fingerprints”.

The researchers studied rocks brought back from the Moon by the Apollo 12, 15 and 17 missions. These missions were part of NASA's Apollo space program. Apollo 11 was the first Moon landing. Ancient Greeks and Romans believed that Apollo was one of the most important gods. He was the son of Zeus, or the king of the gods. Apollo was god of many things. These

included: music, poetry, art, medicine, the Sun, light, and knowledge.

The researchers also looked at a Moon meteorite. This rock was probably thrown into space when an asteroid crashed onto the Moon's surface. After traveling in space, the rock landed on the Earth. The researchers compared the oxygen isotopes in the Moon rocks with those in rocks from the Earth. The Earth rocks came from Hawaii and the state of Arizona, in the U.S. These rocks originally came from the Earth's mantle. This is a layer of super-hot liquid rock that's deep under the Earth's surface.



Artist's impression of the direct collision between Theia and the proto-Earth about 4.5 billion years ago (NASA)

The researchers say that the fingerprints of the Moon and Earth rocks are exactly the same. This suggests that Theia directly hit the young Earth. The two “mixed together” to form a single proto-planet. Afterwards, pieces broke off. Captured by the Earth's gravity, they eventually coalesced to create the Moon. If it hit at an angle, the fingerprints of the Moon and Earth rocks would be different. This is because Theia would have formed most of the Moon.

Measuring oxygen isotopes in rocks is not easy. Scientists in Germany did a similar study a few years ago. They said that the isotopes in rocks from the Moon and the Earth

rock were slightly different. However, the American researchers claim that the technology used to measure these isotopes is now more accurate. ■

“THREE MINUTES TO MIDNIGHT”

In 1947 the *Bulletin of the Atomic Scientists* created a Doomsday Clock. Nowadays, this American publication is an online magazine, or journal. Each year, the *Bulletin's* directors decide if the clock's minute hand should move forwards, backwards, or stay the same. On January 26, the directors announced that the Doomsday Clock had not changed. It's still three minutes to midnight.

The Doomsday Clock is not a real clock. It is a symbol. “Midnight” is a [metaphor](#) for a man-made event that destroys the world. This “day” can be described as doomsday, Armageddon or the apocalypse. Armageddon and the apocalypse are mentioned in the Bible, or the holy book of the Christian faith.

In 1947 the clock was set at seven minutes to midnight. Then, the number of minutes to midnight represented the likelihood of a nuclear war. A group of American nuclear scientists started the *Bulletin* at the end of the Second World War (1939 – 1945). This was after American warplanes dropped two atomic bombs on Japan. The bombs destroyed the cities of Hiroshima and Nagasaki. Japan's leaders surrendered soon afterwards.

The destruction of the Japanese cities was the first and only time that nuclear weapons have been used in war. The scientists who set up the *Bulletin* had helped to create them. They believed that everyone should be told about the dangers of

nuclear war. The scientists wanted to explain that these weapons could destroy the world.

In recent years, the *Bulletin* has included other things it believes endanger the human race. These include climate change, diseases and certain new technologies. The *Bulletin* thinks that man-made viruses, military robots or even computers could wipe out mankind. This, they argue, might happen if these types of technologies became out of control.



Throughout each year scientists working for the *Bulletin* meet with other experts. They talk about different threats and the chances of them happening. The *Bulletin* then decides whether the Doomsday Clock's hands should change. Moving them forwards means that the likelihood of a [catastrophic](#) event has increased. Moving them back shows that the threat is less likely. The clock's minute hand last changed 12 months ago. Then, it moved forward by two minutes.

Since it was first created, the Doomsday Clock has gone backwards or forwards 22 times. The closest the clock's minute hand has come to midnight was in 1953. At that time, it was only two minutes away. This was when the U.S. and the Russian-led Soviet Union began

testing new and more destructive nuclear weapons.

The farthest the clock's minute hand has been from midnight was in 1991. Then, it was 17 minutes away. This year marked the end of the Cold War. It was not a real war. The name is often used to describe the period between 1947 and 1991. This was when the Russian-led Soviet Union and the U.S. (together with its allies in Western Europe) were enemies. At the end of the Cold War Russian and American leaders agreed to destroy many of their nuclear weapons.

The *Bulletin* explains that nuclear weapons are one of the main reasons why the clock is still close to midnight. There are at least 16,000 nuclear weapons in the world. Most are owned by Russia and the U.S. The U.S. has recently announced plans to modernize its nuclear forces over the next ten years. This will cost \$350 billion. China, Pakistan, India, and North Korea have all decided to increase the number of their nuclear weapons. ■

COUNTING PLANTS

There are many carnivorous, or meat-eating, plants in the world. The Venus flytrap is probably the best known. Researchers from a German university have recently studied the plants. They believe that they have discovered one of their secrets. Venus flytraps can count.

There are more than 500 carnivorous plant species. Most grow in areas with plenty of sunlight but poor soil. The plants cannot get the nutrients, such as nitrogen, that they need from the ground. They therefore have to find it in other places. Scientists think that this is why they

became “meat-eaters”. Venus flytraps catch and digest ants, spiders, beetles, grasshoppers, and flies. The plants' colors and smell of sweet nectar attract their prey.



Venus flytrap with insect

Venus flytraps are found near the East Coast of the U.S. Most grow in the states of North Carolina and South Carolina. The plants can have four, five, six or seven leaves. Each is between one and four inches (three and ten centimeters) long. The leaves' upper parts have two halves. These are hinged, so they can open and close. If a small creature is between the leaves when they shut, it is trapped. After six or seven hours, the creature dies from a lack of air. The plant produces a liquid, or juice. It contains acids and enzymes. These break down the creature's body and digest it. This process can take several days. After a week, the plant releases what's left of the body.

The Venus flytraps' leaves shut if they detect certain types of movement. Small hairs on the sides of the leaves facing each other sense if anything is moving. The plant seems to know the difference between insects moving and other movements. The other movements, or “false alarms”, might be caused by wind or raindrops. The researchers set up several experiments. They wanted to find out how the plants knew what was a false alarm and what wasn't.

Mechanical and electrical signals were directed onto a Venus flytrap's leaves. These signals were similar to insect movements. The first time the hairs were touched, the plant did not move. Yet the more times the hairs were touched, the more alert the flytrap became. The researchers realized that the plant can count the times the hairs are touched.

Further experiments showed that if the plant's hairs were touched once, its leaves did not shut. The leaves only closed if the hairs sensed movement twice within 20 seconds. What's more, it wasn't until the fifth movement that the plant started to release its digestive juices into the leaves. More than five movements tell the plant that it has trapped a bigger creature. It therefore produces an extra amount of digestive liquid. False alarms are ignored. The right amount of fluid is produced to digest larger prey. The researchers think that these actions mean that the plant does not waste energy.



Venus flytrap plant (H. Zell)

The researchers say that Venus flytraps still have other secrets. For instance, the plants absorb extra sodium, or salt, from the creatures they eat. It is not known why. The researchers are now studying the plant's genes. They hope that this work will explain how and why Venus flytraps became meat eaters. ■

DISSUADING MIGRANTS

Members of Denmark's parliament took part in a [controversial](#) vote on January 26. They decided to pass a new immigration law. Now, migrants entering the country may have to hand over money and other valuable items they own. Many people from other countries and refugee organizations criticized the new law.



Christiansborg Palace, Denmark's Folketinget building

Denmark's parliament (or the Folketing) meets in the Christiansborg Palace, in Copenhagen, the country's capital city. Denmark is a member of the European Union (EU). It is home to 5.7 million people. In 2015 about 21,000 migrants, or [asylum](#) seekers, were allowed to stay in the country. After Germany and Sweden, Denmark is the most popular migrant destination.

Last year tens of thousands of migrants traveled to Europe. Some people now call this the European migrant (or refugee) crisis. Many of the migrants are from Syria. Most are trying to get away from fighting in their country. The war in Syria began five years ago. Millions of Syrians have been forced to leave their homes. Many are now living in large camps in Turkey, Lebanon and Jordan. Other migrants who have traveled to Europe come from Afghanistan, Iraq, countries in North Africa, Bangladesh, and Pakistan.

The migrants hope to find jobs and improve their lives. They enter

Europe illegally. To get there, the migrants must cross the Mediterranean Sea. They pay people smugglers, or people traffickers, for a place on small, overcrowded boats. Some boats have sunk and many have drowned. Most migrants trying to get to Europe are younger men. Yet some older people and couples with children have also been making the journey.

Some migrant boats sail to Spain, Italy and Malta from North Africa. Yet most migrants travel from Turkey to Greece. Several Greek islands are close to the Turkish coast. Many expected fewer people to cross the sea during the winter. However, in January, 55,000 arrived in Spain, Italy, Malta, and Greece.

Eight months ago, Angela Merkel, the chancellor of Germany, declared that her country would accept 800,000 refugees. German Government officials think that 1.1 million arrived in 2015. At the time, many people praised Mrs. Merkel. Others believe that what she said was wrong. They argue that it encouraged more migrants to try to make the journey. The migrant crisis has caused disagreements between European countries. EU leaders say that all EU member countries must accept some of the migrants. Several are refusing to do so.

European political parties that agreed to accept large numbers of migrants are losing supporters. Mrs. Merkel became Germany's chancellor over ten years ago. She has been a popular leader. Yet many Germans now want her to resign. Some countries have decided to deter more migrants from coming. Austria and Sweden have announced that they will deport, or send back, tens of thousands of people. Mrs. Merkel seems to have changed her mind.

When the war in Syria was over, she recently said, most Syrian migrants should go back to their country.

The new law in Denmark means that police officers can search migrants and their luggage. The migrants can keep 10,000 Danish kroner (£1,024). Any money or possessions worth more than this can be taken. This money will be used to pay for the migrants' food and places where they live. Officials explain that this is what happens to Danish people, if they need government help. Another part of the new law is about family members. Migrants will have to live in Denmark for three years before family members in other countries can join them.



Migrants from the countries in the Middle East and Afghanistan in Austria, travelling to Germany (Bwag)

European countries such as the Netherlands and Switzerland have similar laws. Danish officials admit that most migrants are unlikely to have this amount of money. They say the law is [symbolic](#). It is meant to deter migrants from traveling to their country. ■

NORTH SEA STRANDINGS

Over 28 sperm whales washed up on North Sea coasts between January 9, and February 4. The animals were found on the shores of Britain, the Netherlands, Germany, and France. The whales died soon after washing up on beaches and mudflats.

There are two types of large whales: baleen and toothed whales. Baleen whales have comb-like filters, or baleen plates, along their upper jaws. Even though the whales are huge, they eat tiny shrimp-like sea creatures called krill. Baleen whales take in big mouthfuls of water. This is pushed out through their baleen plates. The krill in the water are too big to pass through the filters. They remain in the whale's mouth and are swallowed. The blue whale is the world's biggest animal. It is a baleen whale.



Sperm whale

The sperm whale is the largest toothed whale. It has a row of large, pointed teeth around the lower jaw. When the whale closes its mouth, its teeth fit into holes, or empty sockets, in the upper jaw. Sperm whales mainly eat squid. They also feed on some types of fish and octopuses. A sperm whale eats at least 400 squid every day.

Sperm whales are found in most of the world's oceans. Adult males can be 67 feet (20.5 meters) long. The head makes up about one-third of the whale's body. Of all the world's animals, the sperm whale has the biggest brain. It weighs about 17 pounds (7.8 kilograms). This is more than five times the weight of an adult human brain. Sperm whales usually live for more than 70 years. Females stay in groups called pods. They look after their offspring, or calves, for over ten years.

Fully-grown males are solitary. They live on their own.

The whale's name comes from a liquid, white waxy substance in the upper part of its head. It's called spermaceti. Scientists are not sure what it's for. Some believe that the substance controls buoyancy, or how the whale floats. Others think it has something to do with echolocation. This is a type of sonar. The whales make noises. They then listen for the echoes the sounds make. The animals then use the echoes to work out an image of their surroundings.

Years ago spermaceti was very valuable. It was used to make candles. Spermaceti oil was burned in lamps. In the 1700s and early 1800s hundreds of whaling ships set sail every year. Many thousands of sperm whales were hunted and killed for their spermaceti. In the 1850s kerosene (also known as paraffin) was invented. At first, it was made from either coal or oil. Kerosene replaced spermaceti wax and oil.



Sperm whales prefer deep waters. They can dive to depths of 3,280 feet (1,000 meters). The whales must come to the surface to breathe. On deep dives, sperm whales hold their breath for 90 minutes. Many sperm whales live in the North Atlantic Ocean. Normally, they do not

enter the North Sea. This is because it is too shallow.

Scientists say that the dead whales found on the North Sea coasts belonged to the same pod. They may have been chasing squid. After swimming into the North Sea, the whales probably became confused. They got stuck in shallow waters. Winds and waves then washed them onto the shore. ■

WORLD'S OLDEST TEMPLE

The Doğu Group is a large Turkish [conglomerate](#). Its bosses say that they plan to spend \$15 million on Göbekli Tepe. The money will be used to preserve the ancient site. Many believe that Göbekli Tepe is the "world's oldest temple". Access will also be improved, so more people can visit it.

Göbekli Tepe (pronounced Gubek-lee Teh-peh) is in southern Turkey. Its name means "potbelly hill". The site is close to the Turkish-Syrian border. Some carved stones were found in the 1960s. Then, they were thought to be from a 500-year-old building. The site is on high ground. It has impressive views of the surrounding mountains and plains. Today, there is not much rainfall in this area. The ground is dry and dusty.

Excavation work at Göbekli Tepe began in 1995. Klaus Schmidt, an archaeologist from Germany, led it. Schmidt worked at the site for 19 years. He died two years ago, aged 60.

So far, stone walls of three circular buildings have been uncovered. Large carved stone pillars are within the walls. Many are T-shaped. The largest pillars are 16 feet (4.9 meters) tall and weigh 16 tons. Carved animals are on many pillars. Some dis-

play human hands. Many carvings have fine details, but others were roughly made. The animals include lions and scorpions. Ground-penetrating radar devices have been used. These record outlines of structures buried under the ground. The radar images show that there are at least 20 other nearby stone circles. These are yet to be excavated.



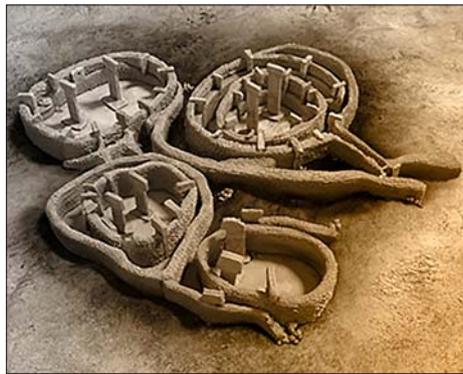
Göbekli Tepe at night

Göbekli Tepe is a mystery. Schmidt was sure that it had a religious purpose. When he discovered how old it was, many experts did not believe him. The oldest pillars were erected, or put up, 11,600 years ago. This means that Göbekli Tepe was built 7,000 years before the pyramids of Egypt. It is 6,600 years older than Stonehenge in Britain. Stonehenge's pillars are roughly carved. Göbekli Tepe's are smooth. The people who built it had only stone tools.

Another mystery is why there are so many stone circles. It seems as if each circle lost its "magic". After a period of around 20 years, the outer circle was filled in. A new one was built inside it. Then, the whole circle was covered over and a new one built nearby. This appears to have continued for hundreds of years. Strangely, the older circles and pillars are better than the later ones. The builders seem to have gradually lost the skills that were used to construct the oldest circles.

The biggest surprise is that Göbekli Tepe was built before what's known as the Neolithic Revolution. Thousands of years ago humans were hunter-gatherers. They did not grow their food. Instead they traveled around hunting wild animals and collecting fruit, nuts and berries. Yet, over a long period, farming slowly took over. Then, people did not move from place to place. They lived in small settlements, grew food crops, and **domesticated** wild animals.

The Neolithic Revolution is the name given to the change from hunter-gatherers to farmers. It was an important time in human history. This "revolution" happened at different times in different parts of the world. The first farmers are thought to have lived in the Middle East about 10,000 years ago. Farming then spread west and north into Europe. If this is correct, Göbekli Tepe must have been built by hunter-gatherers.



*Artist's impression of Göbekli Tepe 12,000 years ago
(Republic of Turkey, Ministry of Culture and Tourism)*

Schmidt believed that Göbekli Tepe was an important meeting place. No nearby settlements, or villages, have been found. Therefore the people who built the circles did not live close by. The German archaeologist suspected that people started growing food because large numbers gathered at sites like Göbekli Tepe.

Most historians think that it was the other way around. They believe that ancient people were only able to build large religious sites after they became farmers. ■

WHITE HOUSE RACE BEGINS

Every four years, a presidential election is held in the U.S. This is an election year. The vote for the president will be held on November 8. However, selecting the candidates for the two main political parties takes a long time. It starts at the beginning of the year with the Iowa caucus. This contest took place on February 1.

The Republicans and the Democrats are the two main political parties in the U.S. People are able to vote for the person who will represent their party in the presidential election. The two people who are eventually selected are known as the Republican and Democrat nominees.

Each of America's 50 states holds a vote. The contests are called "caucuses" or "primaries". The name depends on how the votes are counted. Voting takes place in different states on different dates. The votes are spread over a five-month period. The first is usually in Iowa. The last states to vote do so in June.

Barack Obama is a member of the Democrat Party. He won the last two presidential elections in 2008 and 2012. In the U.S. a president can serve for two successive four-year terms. Mr. Obama will hand over to a new president in January next year. Therefore, this year both Republicans and Democrats will have new nominees.

Three people want to be the Democratic nominee. There is much

more competition in the Republican Party. At the Iowa caucus, 12 Republican candidates took part. With 27.6%, Ted Cruz came first. Donald Trump was second and Marco Rubio third. It was almost a tie, or draw, in the vote for the Democratic nominee. Hillary Clinton got 49.8% and Bernie Sanders 49.6%.

Most people expect Mrs. Clinton to become the Democratic nominee. Yet Bernie Sanders did much better than many expected. He describes himself as a “Democratic socialist”. Mr. Sanders believes that the wealth created within the country should be shared more equally between all Americans. Mrs. Clinton is married to Bill Clinton. He was the U.S.’s president for eight years in the 1990s. Mrs. Clinton was the American secretary of state during President Obama’s first four-year term. The secretary of state is one of America’s most important politicians.

Mr. Cruz’s win in Iowa surprised some people. Many thought that Mr. Trump would get the most votes. Mr. Trump is a wealthy businessman. He has never been a politician before. He often says things that

anger or upset some people. Yet, many Americans seem to like him. They admire what Mr. Trump has achieved and his “straight talking”.

However, it seems that senior Republican politicians do not want Mr. Cruz or Mr. Trump to win their party’s nomination. Mr. Cruz is unpopular with many Republican politicians. They claim that he is divisive. This describes a person who causes hostility and disagreements between people. Some newspapers and news channels predict that Mr. Rubio will be the Republican candidate in the presidential election.

The next states to hold their caucuses or primaries are New Hampshire on February 9, and South Carolina on February 20. Normally, after ten or 20 states have voted, it’s clear who is going to win each party’s nomination. Then, those who are doing badly usually withdraw.

Around the end of August and beginning of September, the Republican and Democratic Parties hold big meetings called conventions. The results from each state are added together. The name of the person



Symbols, or logos, of the Republican Party (elephant) and the Democratic Party (donkey).

who will represent his or her party in the presidential election is then formally announced.

This long process to select the parties’ nominees and the presidential election is often called the “race for the White House”. This building is in Washington DC, the country’s capital city. It’s where the American president lives and works. ■

SECRETARYBIRDS’ STAMP

The secretarybird is unusual. It hunts and feeds on smaller animals. Yet, it is the only bird of prey, or raptor, that walks more than it flies. When looking for something to eat, the secretarybird walks on the ground. Most birds of prey search for small animals while up in the air. Researchers in Britain have managed to work out how these birds stun and kill their prey. Their results are surprising.

The birds have eagle-like bodies and very long legs. They are four feet (1.2 meters) tall. Like most raptors, secretarybirds have a hooked beak. The feathers on their legs and wing-tips are black. The others are mostly white or gray. The birds have a few long black feathers on the back of their heads. These may explain the name. Hundreds of years ago, people who wrote official documents were called secretaries. They often kept quill pens (which were made



from feathers) behind their ears. The birds look like secretaries. Another possibility comes from Arabic. The Arabic name for the bird sounds like the French word for secretary.

Secretarybirds live in Africa. They are found in many Sub-Saharan countries. These are places that are to the south of the Sahara Desert. Secretarybirds like open grasslands, or savannas. During the day, the birds spend most of the time on the ground. At night they prefer to sleep or roost in Acacia trees. The birds feed on snakes (including poisonous ones), lizards, frogs, hares, rats, mice, and other small mammals.

When hunting, the birds tread on clumps of vegetation. If an animal is disturbed and runs out, the bird quickly stamps on it. It will keep stamping until the animal is dead or stunned. Then, as long as it is

small enough, the animal is swallowed whole. Secretarybirds have been seen near wild grass fires. There, they stamp on the small animals that are trying to get away from the flames.



Secretarybird

The researchers did some experiments with a captive secretarybird in Britain. They placed a flat device on the ground. Called a force plate, it measures the speed and force of anything that touches it. The researchers attached a long cord to a rubber snake. They then pulled the snake

across the plate. The secretarybird rushed towards it and began to repeatedly stamp on the fake snake.

The force plate showed that each stamp hit the snake for just 0.015 seconds (or 15 milliseconds). When a person blinks an eye it takes 150 milliseconds. The power at which the foot hit the snake was measured. Secretarybirds strike their prey with a force five times their own body-weight. What's more, this happens quicker than a blink of an eye.

Secretarybirds are expert kick-hunters. When attacking poisonous snakes, the birds need to make sure that the snakes are quickly stunned or killed. Large flightless birds used to live in South America. Called terror birds, they died out around two million years ago. After studying their leg bones, scientists think that like secretarybirds they were kick-hunters.



Most countries have a coat of arms. These are official symbols, or emblems, that represent the nation. Coats of arms are usually made up of several different items and animals. Secretarybirds feature on the coat of arms of Sudan and South Africa. ■

NEW BEATRIX POTTER TALE

An unknown story written by Beatrix Potter has been found. The famous children's author completed the tale in 1914. Yet the story was never printed. A person who works for a big publishing company made the discovery. She found the manuscript of the story in a museum archive. When Potter died, all of her papers were given to the museum.



Beatrix Potter

Beatrix Potter (1866 – 1943) wrote books for children. She is one of the world's most popular authors. Potter's best-known book is *The Tale of Peter Rabbit*. It was published in 1902. Potter was also an [illustrator](#) and a naturalist. Naturalists are people who study plants and animals. They mainly do this by observation. Potter wrote 30 books. Like the story about Peter Rabbit, many were called "*The Tale of...*". Over 100 million copies of her books have been sold.

They have been translated into at least 35 languages.

Potter was born in London, the capital of Britain. Her parents were wealthy. They paid for her and her younger brother to have a private governess, or teacher. The family owned houses in the countryside in the north of the country. She became very interested in nature and the natural world after spending her summer holidays at these places. Later, she used this countryside as the setting for many of her books.

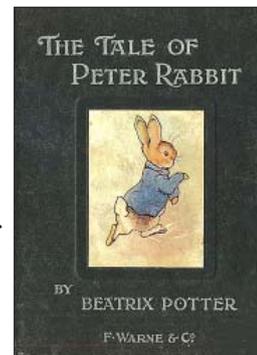
Even in her early years, Potter was very good at drawing. At the age of 19 she was given a pet rabbit. Potter called it Benjamin Bouncer. A few years later, she began to sell some of her drawings. They were used for greeting cards and illustrations. Potter drew many pictures of plants and fungi. Some were used in books. Potter also made sketches of her pet rabbit. She sent some of these to her former governess's child.

At the beginning of 1901, Potter's rabbit died. That year she wrote and illustrated her first book. It was called *The Tale of Peter Rabbit in McGregor's Garden*. She paid to have it printed. Soon afterwards, Potter wrote and illustrated *The Tale of Peter Rabbit*. This book was printed and sold by a publishing company. Between 1905 and 1909, Potter bought two farms in the Lake District. This is an area in the north of Britain. It is well known for its high mountains and lakes.

Potter became an [enthusiastic](#) sheep farmer. At 47 years of age, she married a local lawyer. Potter continued to write books until her eyesight became poor. In 1936 Walt Disney

offered to make a movie of Peter Rabbit. Potter refused. Seven years later she became very ill. Potter died of heart disease at the age of 77.

The newly discovered book is called *The Tale of Kitty-in-Boots*. It includes many of Potter's famous characters, including Peter Rabbit. The person who found the manu-



script says that the story is complete. However, there is only one hand drawn picture. The story was written in 1914. This was the year in which Potter's father died. It was also the start of the First World War (1914 – 1918). By this time, Potter had married and become a farmer. So she probably forgot about the manuscript.

The new Beatrix Potter book is to be published in September. Quentin Blake, a well-known British illustrator, has agreed to draw the pictures. ■

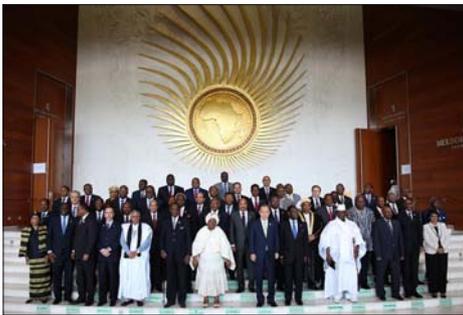
AFRICAN UNION MEETS

Each year, around the end of January, the African Union (AU) holds a two-day summit. These large meetings take place at the AU's headquarters building in Addis Ababa, the capital city of Ethiopia. This year's AU leaders' summit took place on January 30 and 31.

Today, the African Union (AU) has 54 member countries. It dates back to May 25, 1963. Then, the leaders of 32 independent countries in Africa met in Addis Ababa for the first time. They formed a new group called the Organization of African Unity (OAU). The day on which this meeting took place, May 25, was named "[African Liberation Day](#)".

Almost all countries in Africa are former colonies of European nations such as Britain and France. By 1963, around two-thirds of them had become independent states. One of the first things the OAU planned to do was to make sure that all countries in Africa became independent nations. Then, countries such as Angola, Mozambique and Zimbabwe had yet to be given independence. Angola and Mozambique were Portuguese colonies. Zimbabwe, which was a British colony, was called Rhodesia.

Soon after it was set up, the OAU made a decision on what's known as non-[interference](#). This meant that its members would not interfere with what was happening in other member countries. Leaders could therefore do what they wanted without being criticized by the OAU.



Leaders at the African Union summit

Many African leaders refused to hold proper democratic elections. Ruling as dictators, they stayed in power for many years. Often these leaders were corrupt and dishonest. Many became very wealthy while most people in their countries lived in poverty. Military coups (pronounced "coos") and civil wars in Africa were not unusual. A coup is when a military commander uses the army to seize control of a country.

At first, South Africa was not an OAU member. It had a "whites only" government and a policy of [segregation](#) called apartheid.

Apartheid meant that the population was separated into racial groups. In 1990 this began to change. Nelson Mandela (1918 – 2013) was freed after spending 27 years in prison. In 1994 he was elected as South Africa's first black president. The changes in South Africa had an effect on many other African countries. Most people living in Africa no longer wanted to be ruled by dictators. Many African countries began to change.

In 2002 it was decided to replace the OAU with a new organization called the African Union. As part of the change, the old policy of non-interference was dropped. Nowadays, the AU promotes democracy in all African countries. Members can be punished or suspended from the organization. Frequent summits, or meetings, are held in Addis Ababa. During these meetings problems that exist in member countries are discussed.

The AU has two leaders. The organization's members elect both. One is the AU's chairperson, or chair. The other is the head of the African Union Commission, or Commission Chair. The Commission runs the day-to-day management of the AU. The Commission chair is the more powerful of the two. The AU's chairperson does the job for 12 months whereas the Commission chair is elected for a four-year term.

At the latest summit Idriss Déby, the president of Chad, was appointed as the new AU chairperson. Nkosazana Dlamini-Zuma is the head of the Commission. She is from South Africa and the first woman to be elected as the AU's Commission chair.

The AU has an emblem. It is made up of four parts, or elements. The green palm leaves on either



African Union emblem

side stand for peace. The gold represents Africa's wealth. At the base are interlocking red rings. These are for the blood that was shed to "liberate" Africa from colonial rule. An outline of the African continent is in the center. It shows unity, as there are no boundaries between the 54 member countries. ■

ROBOT FARM

The Spread Company is based in Japan. It was set up about ten years ago. The company is based in the city of Kyoto. Spread operates what it describes as a large vegetable factory. It grows large amounts of lettuces. This is a popular food in Japan. Bosses at the company now plan to create the first fully automated farm. Here, lettuces will be grown without the need for human workers.

The Spread Company bosses say that humans will plant the lettuces, but robots will do everything else. The new factory is expected to open in two years' time. Then, the company hopes to harvest leaves from 30,000 lettuce plants every day. The new factory will have many advantages. The company will no longer have to pay for large numbers of workers. Energy-saving LED lights can be used. All water is to be recycled.

The enclosed factory will not need to use any pesticides. These chemicals are used on farms to kill or control insects that damage food crops. As humans will not enter the factory, there is less chance of contamination. The lettuce plants will be grown on racks, or shelves. The climate inside the factory can be easily controlled. Lettuce plants can therefore be grown throughout the year.

Many Japanese companies are now investing large amounts of money into robots and automated systems. Japanese scientists lead the world in robotic engineering. One of the country's biggest problems is its aging population. Many companies realize that there will be a shortage of workers in the future. Therefore using robots to do tasks currently done by humans may be the best solution. Some large stores in Japan plan to use robots on their check-outs. These robots will also be able to take orders and talk to customers.



Lettuce plants in Japan (Spread)

Six years ago the population of Japan was 128 million. This was the highest it has ever been. Couples are now choosing to have fewer children. An increasing number of women are deciding to work for more years than they used to. This means that they may never have any children. Experts believe that in 2040 Japan's population will be 104 million. It is predicted to fall to 97 million in 2050.

Japanese men and women often live to a very old age. The country's life expectancy is one of the highest in the world. On average women live for 86.6 years and men 80. As the birth rate goes down, the percentage of older people in the country increases. Today, about 25% of the population is 65 or over. In 2060 this figure will be 40%. By this time robots will be looking after older people.

The bosses of the Spread Com-pany believe that robot food farms

will be common in the future. They could be set up in places that are too cold or too hot to grow crops. Robot farms could even be used in space or on the Moon. The company plans to spend \$16 million on its new factory. It hopes that sales of the robot-grown lettuce will total \$8 million per year. ■

WORLD CANCER DAY

Each year World Cancer Day is marked on February 4. The purpose of this day is to make people more aware of the disease and how it can be treated. It is also meant to encourage people to look for early signs of cancer and learn what can be done to prevent it.

Cancer can start in any part of the body. Like other living organisms, the human body is made up of many millions of cells. These cells have different jobs to do. Often they become worn out and die. New ones replace them. Cancer is when some cells "lose control" and keep growing. No one knows why this happens. The continually growing cells crowd out the healthy ones. This causes problems in the part of the body where the cancer started. Once cancer cells start to grow, they can spread to other parts of the body.

Cancer can affect anyone. It does not matter if a person is rich or poor, young or old or where in the world they come from. There are over 100 types of cancer. The five most common cancers that affect men are: lung, stomach, liver, colon, and throat. In women it's: breast, lung, stomach, colon, and cervix (or cervical). Nowadays, if the signs are found early, most cancers can be treated. All health

experts agree on the best ways to reduce the risk of cancer. These are: eat a healthy diet; don't smoke; drink only a small amount of alcohol; and do physical exercise.

Some cancers can spread quickly. Others are slower. Most form a lump, or growth. This is called a tumor. However, not all lumps are cancer. If a lump is cancer it is called malignant. If it is not cancer it is known as benign (pronounced be-nine). Some cancers do not form tumors. Leukaemia is an example. This is also called cancer of the blood.

Humans have always had cancer. It is not a new disease. Animals and plants can get cancer too. Old human bones have been found with tumors. Signs of cancer are often found in Ancient Egyptian mummies. The oldest written record of cancer is about 5,000 years old. It comes from Ancient Egypt and describes several cases of breast cancer.



The first person to use the word cancer was Hippocrates. He was an Ancient Greek physician, or doctor, who lived 2,400 years ago. Hippocrates is often called the "Father of Medicine". Today, when doctors first start work they have to make a pledge, or promise. The pledge is a version of an ancient text called the Hippocratic Oath. It's believed that

Hippocrates, or one of his students, wrote the words. By taking this oath, doctors promise to practice medicine honestly and never harm any of their patients.

Hippocrates used the word “carcinoma” to describe a malignant tumor. It comes from the Greek word for crab. The way that “fingers” of a tumor spread may have reminded Hippocrates of the shape of a crab. About 400 years later a Roman doctor translated the Greek word. “Cancer” is Latin for crab. Another Greek doctor used “oncos” to describe a tumor. This word means swelling. In today’s medical [profession](#) oncology is the study and treatment of cancers. ■

MYANMAR MILITARY RULE ENDS

The first day of February was a historic day in Myanmar. Over 200 members of the National League for Democracy (NLD) entered the country’s parliament for the first time. Some are former political prisoners. Aung San Suu Kyi, the NLD’s leader was among them. Many people believe that this day finally marked the end of military rule in Myanmar. It began in 1963, or over 50 years ago.

Burma, as Myanmar was previously called, is a former British colony. In 1947 Aung San (Ms. Suu Kyi’s father) became the leader of a newly independent Burma. However, later that same year, his rivals murdered him. Then, Ms. Suu Kyi was two years old. Her father had fought against the Japanese when they occupied Burma in the Second World War (1939 – 1945). Today, many people in Myanmar still call Aung San the “father” of their country.

After the death of her husband, Ms. Suu Kyi’s mother and her family left Burma. Later, Ms. Suu Kyi studied at Oxford University, in Britain. She then moved to New York City, in the U.S. There, she worked for the United Nations (U.N.). She married a British man whom she had met at university. They had two children.



Aung San Suu Kyi (second right) arriving at the parliament building in Naypyidaw, in Myanmar

In 1963 a group of army generals took control of Burma. After living in India for many years, Ms. Suu Kyi’s mother returned to Myanmar. In 1988 she became ill. Ms. Suu Kyi went back to look after her. She left her husband and children in Britain. At that time, there were many demonstrations. The protesters wanted to end military rule. Ms. Suu Kyi helped to set up the NLD, a new political party. Soon afterwards she was arrested.

Ms. Suu Kyi was put under house arrest. She could live in her own home, but could not go out. In 1990 the generals arranged for elections to be held. They expected political groups that supported them to get the most votes. Even though Ms. Suu Kyi was under house arrest, the NLD won easily. The generals ignored the results. Large street demonstrations followed. Thousands of NLD supporters were killed and hundreds put in prisons.

Ms. Suu Kyi was awarded the Nobel Peace Prize in 1991. As she was under house arrest, she was unable to receive it. In 1997 Ms. Suu Kyi’s husband was told that he had cancer. The generals refused to let him visit his wife. He died two years later.

The generals set up a political party called the Union Solidarity and Development Party (USDP). As leader of the USDP, Thein Sein became Myanmar’s president. He is a former army general. A new capital city called Naypyidaw was built in the center of the country. It included a large parliament building. An election was held in 2010. The NLD and its many supporters refused to take part. One quarter of the seats in the parliament were reserved for military leaders. The USDP won most of the others.

Ms. Suu Kyi was released from house arrest six days after the 2010 election. She had spent 15 of the previous 21 years either in prison or under house arrest. Elections in Myanmar are now held every five years. The last one took place three months ago. Thein Sein declared that, this time, the military would not ignore the result. The NLD won more than 80% of the available seats. The newly elected parliament began on February 1. Twenty-five percent of the seats are still reserved for the military.

Thein Sein will step down at the beginning of March. As the party with the most seats, the NLD has to appoint a new president. A long time ago the generals made a new law. It says that people with family members who are not citizens of Myanmar cannot be president. Ms. Suu Kyi’s two sons are British nationals. She may arrange for a senior member of her party to be president.

However, many people want her to change the old law. If this were done quickly, Ms. Suu Kyi could be Myanmar's new president. ■

DEVILS HOLE PUPFISH

Devils Hole pupfish are sometimes described as “the rarest fish in the world”. They live in an **isolated** rock pool, called Devils Hole. Scientists thought that the fish had lived in this pool for at least 10,000 years. However, recent tests on the fish's DNA tell a different story. The results suggest that the pupfish have lived in the rock pool for only a few hundred years.



Devils Hole pupfish (Olin Feuerbacher/USDI)

Devils Hole is in Death Valley. This area of desert is in the American state of Nevada. Devils Hole is very deep. It is a vertical limestone cavern that's full of water. From the ground, it looks like a small rock pool. Yet the cavern is more than 328 feet (100 meters) deep. Divers have never found the bottom. At the surface, the opening is 11.5 feet (3.5 meters) wide and 72 feet (22 meters) long.

The water inside Devils Hole comes up from deep under the ground. It is a geothermal pool, so the water is always warm. Throughout the year, the water temperature is 92°F (33°C). It contains only a small amount of oxygen. Devils Hole is not a good fish habitat. Most

fish would not survive in its warm, oxygen-poor water. However, it is the only place in the world where Devils Hole pupfish live.

There are many species of pupfish. The ones in Devils Hole are blue and about 0.75 inches (19 millimeters) long. Other pupfish can be found in different pools in Nevada. The population of fish in Devils Hole goes up and down. The numbers depend on several things. The fish live on a rock platform at one end of the pool. This platform creates an area of shallow water. Here, algae, or tiny water plants, grow on the rock. This is what the fish feed on. However, for about two months of the year the water's surface does not get any sunlight. This means that the algae stop growing and there is little food.

Another problem is inbreeding, or breeding with only close relatives. In the animal world, inbreeding over long periods creates weak and unhealthy individuals. Scientists first started to study the fish in Devils Hole in the 1970s. The most they have ever counted is 578. At times the numbers have been as low as 35.

The pupfish that live in pools not far away are different. Over time, the different populations have evolved in different ways. Compared to other pupfish, the ones in Devils Hole are a darker blue and less aggressive. Another difference is that they do not have the same number of fins on either side of their bodies. Devils Hole pupfish might have “lost” these fins because they were not needed on their shallow rock shelf. Alternatively, the fins may have disappeared because of inbreeding and faulty genes.

Devils Hole is believed to have formed around 60,000 years ago. This part of Death Valley was under water, or flooded, 10,000 years ago.

Scientists presumed that the pupfish became isolated in Devils Hole, and other pools, when the floodwater receded, or went down.



Devils Hole in Death Valley, Nevada

Nowadays, DNA studies can provide a lot of information. Devils Hole pupfish's DNA shows that the fish arrived in the limestone cavern between 105 and 830 years ago. This was a surprise. The scientists now wonder how the fish got there. Another question is: how and why did the fish change so quickly?

There was a flooding event in Death Valley in 1862. This might have washed the fish into Devils Hole. Another possibility is that pupfish eggs from other pools stuck to the legs of birds. The birds then carried them to the limestone cavern. Some people now think that Native Americans deliberately put the pupfish in Devils Hole. ■

Newsademic.com

Editor: Rebecca Watson

American Editor: Chris Tarn

Acknowledgements:

News story photographs by gettyimages

For further details about Newsademic and subscription prices visit

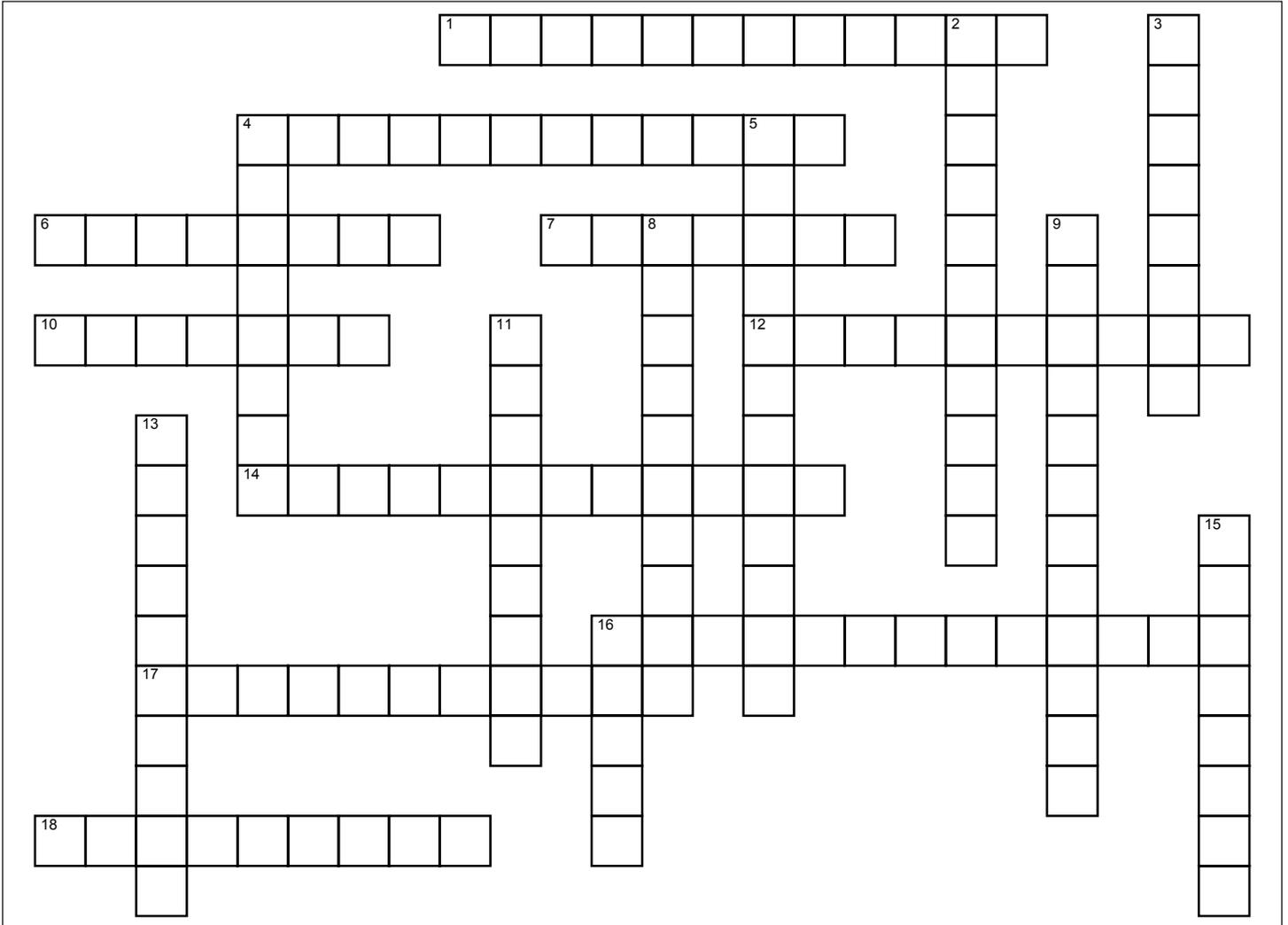
www.newsademic.com

© Newsademic 2016

ISSUE 268

GLOSSARY PUZZLE

INSTRUCTIONS: ① Complete the crossword. The answers are highlighted in orange in the news stories. There are 25 words highlighted and you need 20 of them to complete the crossword. ② Once you have solved the crossword go to the word search on the next page ➡



Across

- 1** *Adjective* Describes something that suddenly cause great damage, destruction or suffering
- 4** *Noun* Unwanted involvement in the affairs of other countries
- 6** *Adjective* Describes something that is meaningful because it represents something else
- 7** *Noun Plural* Small mammals, such as mice or rats, with large front gnawing teeth
- 10** *Noun* An area of land, or the physical features of an area of land
- 12** *Noun* Freedom and equal rights for people who have experienced discrimination or been unfairly treated
- 14** *Verb* To have brought animals or plants under human control for transport, food, power or companionship
- 16** *Adjective* Likely to cause arguments
- 17** *Noun* Keeping apart different racial groups
- 18** *Noun* Near, or being close together

Down

- 2** *Noun* A person who draws pictures, especially for books
- 3** *Noun* Word or phrase that are not literally true but are a way of explaining or symbolising something
- 4** *Adjective* Separate or far away from other places or people
- 5** *Noun* A large corporation that is made up of many companies, which are involved in many different types of businesses
- 8** *Noun* A group of people specially selected to attend a meeting or make speeches
- 9** *Adjective* Showing great excitement and interest
- 11** *Noun* A feeling of not being friendly to another person or country
- 13** *Noun* A job, occupation or career that needs special training
- 15** *Noun* A short report made for immediate broadcast
- 16** *Noun* The main part of the large intestine

ISSUE 268

GLOSSARY PUZZLE *CONTINUED*

INSTRUCTIONS: ③ Find 19 of the 20 crossword answers in the word search. Words can go vertically, horizontally, diagonally and back to front. ④ After finding the 19 words write down the 20th (or missing) word under the puzzle.

L I B E R A T I O N S M G U U B D I
 A B G N L V I L L U S T R A T O R N
 I P P C I M H T Y S A O J Y W C C T
 S R O M F L L O Y W D I X Q P I E E
 R O J Y U P D M S E O K R D D T O R
 E F D T S Q B Q N T L Q A O F S C F
 V E W I N O S T T B I C M M S A C E
 O S Q M L O S E Z U I L X E N I H R
 R S P I C F I Q G H J U I S A S W E
 T I C X J O Q T P R I I Y T L U W N
 N O B O Y G M O A E E Q E I Y H G C
 O N U R J G R E J G A G X C S T Y E
 C R L P K T U I T G E E A A B N W S
 U M L C S E D K T A U L S T P E C R
 R Z E A E D C P V A P C E E I O U P
 L O T E R R A I N B W H D D L O T Q
 S A I L K F X W Z Z H E O O I K N P
 C O N G L O M E R A T E N R K E R O

Demics are tokens that Individual and Family Subscribers can earn. They are awarded for answering this Glossary Puzzle and/or the Daily News question – accessible by logged in users – correctly. Demics earned can be used by Family and Individual Subscribers in the Newsademic online store.



GET EXTRA DEMICS*

* Only applies to those who have purchased a Newsademic Individual or Family Subscription

If you wish to earn additional Demics please email the missing word answer to: subscriptions@newsademic.com Puzzle entries need to be submitted by 10pm on 17th February 2016 (GMT/UTC).*

MISSING WORD ANSWER =

ISSUE 267 ANSWERS

B E T R A Y A L