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The Russian meteor as it exploded above the city of Chelyabinsk, captured on film by a car driver's video camera

A COSMIC COINCIDENCE

Just before nine thirty in the morning on February 15, a meteoroid entered the Earth's atmosphere over central Russia. People on the ground watched as a huge dazzling light, brighter than the morning Sun, traveled across the sky. Soon afterwards there was the sound of several very loud explosions.

A meteoroid is a piece of space debris. It can be as small as a piece of sand or the size of a large boulder. Around 16 hours after the meteoroid exploded over Russia a large asteroid, about 164 feet (50 meters) wide, sped past the Earth. At its closest it was roughly 17,000 miles (27,350 kilometers) above the Equator. For a space object of this size it was the closest "fly-by" ever recorded.

However, unlike the Russian meteoroid, the asteroid, called 2012 DA14, was expected. It had been spotted, or detected, by astronomers in Spain. Using

a powerful telescope they first saw the asteroid at the beginning of last year. Scientists were then able to predict the time and date that it would fly past the Earth as well as how far away it would be.

As it flew past, the asteroid was about one thirteenth of the distance from the Earth to the Moon. This is within the orbit of many of the communications satellites that travel around the Earth. Although scientists said that they were sure that 2012 D14 would not strike the Earth they admitted that it could hit a satellite.

As the Russian meteoroid and asteroid fly-by happened on the same day many people wondered if the two events were connected. Yet scientists in Russia, the U.S. and Europe said that this was very unlikely. One described it as being a "cosmic coincidence".

Once they enter the Earth's atmosphere meteoroids are known as meteors.

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An event like the one in Russia is often called a “meteor strike”.

Scientists estimated that the meteor that exploded above Russia was roughly 55 feet (17 meters) wide and weighed about 10,000 tons. When it hit the Earth’s atmosphere it was probably traveling at a speed of around 40,000 (64,375 kilometers miles) per hour.

Meteors become very hot and burn up as they fall through the atmosphere. If this happens after the Sun has gone down, a bright trail of light can be seen in the night sky. This is known as a “shooting star”. If a meteor falls to the surface of the Earth before it has completely burned up it is called a meteorite.

Russian scientists said that the meteor shattered into tiny pieces, or fragments, as it exploded about 15 miles (25 kilometers) above the ground. The explosion looked like a huge ball of fire in the morning sky.



As it was traveling faster than the speed of sound the meteor produced a number of very loud sonic booms. The shock waves from these booms shattered glass windows and doors in Chelyabinsk, a city of one million people. One factory building in the city collapsed.

Windows in five other cities were also broken. Flying glass injured as many as 1,500 people. Those standing outside said that they could feel the heat from the fireball and there was a smell in the air that was similar

to gunpowder. The bright light in the sky could be seen in Yekaterinburg, 125 miles (200 kilometers) away, and in parts of Kazakhstan.

Thousands of rescue workers were sent to the area to help to clean up and make repairs. Vladimir Putin, the president of Russia, said that it was lucky that the meteor struck over part of the country where fewer people live. He said that the government would help to pay for all the damage the meteor strike caused.

One of the largest parts of the meteor to reach the ground is believed to have broken through the ice covering Lake Chebarkul. Divers searched the bottom of the lake below a 20 foot (six-meter) diameter hole in the ice. Yet they were unable to find anything. They said that they planned to do a more detailed investigation in the spring when the weather was warmer. Scientists searching around the lake found over 50 tiny meteorites. None were bigger than 0.4 inches (one centimeter) in size.

As the largest **fragment** is believed to have fallen into the lake the meteor strike has been named the “Chebarkul meteorite”. Scientists said that this meteor strike was **exceptional**. This is because it injured so many people and damaged thousands of buildings. This has never happened before.

The Chebarkul meteorite is now believed to be the biggest meteor strike since 1908. That one, known as the “Tunguska Event”, also occurred in Russia. It happened in a far more remote area. The few people who witnessed it said that they saw a large fireball, or flying star, in the cloudless sky. Shortly afterwards there was a big explosion. The sky turned black and large parts of the forest caught fire. The explosion

could be heard over 600 miles (960 kilometers) away.

It was not until 1927, nearly 20 years after the explosion, that a team of scientists finally investigated the area. They were expecting to find a huge crater, or hole, in the ground and even discover large fragments of the space rock that caused the explosion. To their surprise there wasn’t a crater. All they found were millions of trees that had been knocked down.



One of the tiny meteorites found by scientists searching around Lake Chebarkul

NASA (National Aeronautics and Space Administration) tries to identify and track larger space objects that could be a threat to the Earth in the future. Called the Near Earth Objects program (NEO) it began nearly 20 years ago. So far it has discovered about 10,000 objects. Yet this is thought to be only 10% of the total.

If 2012 DA14 had struck the Earth it would have caused far more destruction than the Russian meteor. Yet it would not have been as destructive as the asteroid or comet that hit the Earth around 65 million years ago. That one, which was roughly six miles (ten kilometers) wide, is believed by many people to have killed off all the dinosaurs.

After the meteor strike several politicians in Russia said that more should be done to identify these dangerous space objects. They suggested that scientists from all countries should work together to set up an international warning system. ■

DIAMOND ROBBERY

On February 18, a criminal gang broke through a fence surrounding the international airport in Brussels, the capital of Belgium. Within the next ten minutes they managed to steal at least 120 parcels, which contained diamonds worth €34.5 million (\$45.5 million).

Antwerp, one of the largest cities in Belgium, is the world's most important "diamond center". It has been famous for trading in diamonds for over 500 years. Today it is estimated that diamonds worth around €150 million (\$198 million) are taken in and out of the city every day.

Diamonds are often described as being either "rough" or "cut". After they have been dug up from deep underground they are known as rough diamonds. Once they have been carefully cut into correct shapes and polished they are called "cut" diamonds.



Rough diamonds

Some diamonds are cut and polished in Antwerp before being sold in other countries. Many rough diamonds are also bought and sold in the city.

The robbery took place around eight o'clock in the evening. Workers from a security company had just loaded the parcels containing the diamonds into the hold of a passenger aircraft. The passengers were already on the plane and waiting for it to take off. The flight was going to Zurich, in Switzerland.

A black car and a van, with flashing lights, drove quickly towards the aircraft. Inside were eight masked men. All were dressed in police uniforms. Some were armed with machine guns. The gang had cut a large hole in the airport's [perimeter](#) fence through which they had driven the vehicles.

Some of the gang pointed their weapons at the security workers. The others took the parcels out of the plane's hold and quickly loaded them into the two vehicles. It's thought that the parcels contained both rough and cut diamonds. They then drove off. No shots were fired. The passengers on the plane were not aware of what had happened. The car and the van were driven out through the same hole in the fence. Later the police found the van not far away. It had been set on fire.

Some people were surprised that diamonds were being sent to Switzerland in this way. Yet it seems that, at Brussels airport, it is not unusual for large quantities of diamonds to be loaded onto planes just before they take off. Others have questioned airport security. This is because the gang seemed to be able to easily cut through the fence without anyone noticing.

This was not the first big diamond robbery in Belgium. Ten years ago thieves managed to steal a large quantity of diamonds and gold from a high-security [vault](#) in Antwerp. ■

POPE BENEDICT RETIRES

On February 11, Pope Benedict the Sixteenth, the leader of the Roman Catholic Church, made a surprising announcement. He said that because of his age and poor health he had decided to retire.

NEWSCAST

FLIPPER VEST — Workers at an aquarium in Japan have managed to improve the life of a large loggerhead turtle. The turtle was caught in a fishing net in 2008. It was still alive but parts of its front flippers were missing. It's thought that a shark had attacked it. The aquarium workers made some false rubber flippers for the turtle. These were fitted over the remaining parts of its real flippers. Yet they kept falling off. To stop this from happening they were made tighter, but they then hurt the turtle. The workers have now come up with a new design. It's a vest that goes over the turtle's head. The false flippers are attached to the vest's arms. Now the turtle is able to swim just like it could with real flippers.

The Pope's announcement was unusual. Normally popes continue to lead the Catholic Church until they die. Then another person is selected to take over. Only a few popes have retired in the past. The last one to do so was Pope Gregory the Twelfth in 1415.

Pope Benedict is 85 years old. He has been the leader of the world's 1.3 billion followers of the Roman Catholic Faith since 2005. For many years, before becoming pope, he worked closely with his [predecessor](#), John Paul the Second.

Pope Benedict is from Germany. Before he became the Catholic Church's leader there had not been a German pope for nearly 1,000 years. His real name is Joseph Ratzinger.

Pope Benedict was born in southern Germany in 1927. During the Second World War (1939 – 1945) he was forced to join the Hitler

Youth. In 1944, he was trained to be a soldier. Like many other German soldiers he spent a few months in a prison camp when the war ended.

He became a priest in 1951 and later taught in several German universities. In 1977, he was named as the Archbishop of Munich, the largest city in southern Germany. He also became a cardinal. Several years later he went to work at the Vatican, the headquarters of the Roman Catholic Church. The Vatican is in Rome, the capital of Italy, but it is a separate city-state. Vatican City is the smallest independent state, in both size and population, in the world.



Pope Benedict the Sixteenth

Pope Benedict will officially stand down at the end of February. The Roman Catholic Church now has to select the person who will take over from him. There is a special procedure for choosing a pope, which is called a papal conclave. Popes are also known as the Bishop of Rome.

The Catholic Church has 203 cardinals. These people are its most senior officials. Currently the cardinals come from 69 different countries. However, only those under 80 years of age can vote in a papal conclave. This means that 117 cardinals will take part. The new pope is likely to be one of them.

The cardinals meet over several weeks to discuss which person they think would be best. A series of secret votes are held until they eventually all agree on one person.

It's expected that the new pope will have been chosen by March 24. This is the beginning of Holy Week, which is an important time in the Christian calendar.

After he steps down Pope Benedict will live in a small [monastery](#) inside Vatican City. ■

PRIME MINISTER RESIGNS IN TUNISIA

On February 19, Hamadi Jebali, the prime minister of Tunisia, announced that he had resigned. He explained that he had decided to do this because members of the Ennahda (Renaissance) Party had refused to agree to his plan of forming a new different type of government. Mr. Jebali is also a member of Ennahda.

Recently, several mass protests by opposing political groups have taken place in Tunis, the capital of Tunisia. The trouble began on February 6. Then, Chokri Belaid, the leader of one of the country's smaller political parties was shot and killed by a gunman when he was on his way to work.



Hamadi Jebali, former Tunisian prime minister

Thousands of people attended Mr. Belaid's funeral two days later. On the day of the funeral many workers agreed to go on strike. Their leaders blamed the government, which is led by the Ennahda Party, for what had happened. However,

Mr. Jebali insisted that his government had nothing to do with Mr. Belaid's death.

Two years ago, a revolution took place in Tunisia. The country's president, Zine El Abidine Ben Ali, was forced to leave the country after there were huge street protests. Mr. Ben Ali had run the country for over 20 years. The demonstrators were angry about government corruption, the power of the police and the lack of proper elections. They wanted to be able to elect their own leaders.

Similar protests then began in several other Arab countries such as Egypt, Yemen, Libya, Bahrain and Syria. In these countries the demonstrators had similar complaints. All of these protests are now often called the "Arab Spring". Tunisia was where the Arab Spring first began.

Elections for a new Assembly, or parliament, were held in Tunisia in 2011. The Ennahda Party got 89 out of the 217 seats. This was more than any other party. Ennahda then agreed to work with several other smaller parties to form a new government.

One of the new Assembly's most important jobs is to write a new constitution for the country. These are the rules by which Tunisia will be governed in the future. Once the new constitution has been approved new elections will be held.

Both Ennahda and the smaller parties that agreed to work with it are described as Islamist. Their supporters believe that certain religious laws should be included in the new constitution.

However, other political parties, such as the one led by Mr. Belaid, believe that Tunisia should be a [secular](#) state. This means that religion and the way in which a country is governed are kept separate.

Many who want Tunisia to be a secular nation have recently been complaining about a group called the Salafis. These people believe that everyone should live according to very strict Islamic laws. Some Salafis have attacked certain shops and art galleries that they claim are un-Islamic. Before he was killed Mr. Belaid had complained that the Ennahda Party and its government ministers had not been doing enough to control the Salafis.

Because of Mr. Belaid's death Mr. Jebali announced that he wanted to form a new **technocrat** government. This means that it would be made up of important people who had not been elected. The technocrats, he explained, would run the country until new elections were held. However, other members of the Ennahda Party disagreed with him.

Many people believe that Mr. Jebali wanted to form a new type of government because he fears that Tunisia has now become dangerously divided. ■

MIND READING DOGS?

Researchers based in Germany have completed a new study on pet dogs. The results of their experiments suggests that dogs have a better understanding of human awareness than was previously thought.

For their experiments the researchers used 84 pet dogs and their owners. Half of the dogs were male and the other half female. All were about one year old. The dogs were only selected for the experiment if they were happy to be in a completely darkened room without their owners. They also had to be interested in food.

Each dog and its owner were put in the same room. Also in the room

was some food, which the dog was able to reach. However, the owners had to give the dog strict instructions not to touch the food. While they were in the room the light was altered. It ranged from being similar to daylight to being totally dark.



The experiments showed that the dogs were much more likely to start eating, or stealing, the food they had been ordered not to touch when it was dark. The researchers say that it is unlikely that the dogs just forgot that their owners were in the darkened room. Instead the dogs seemed to be able to work out when their owners could see what they were doing and when they were unable to.

The experiments were changed to make sure that the dogs were not reacting to other things. This was to make sure that the dogs did not think that people gave them some food to eat when it got suddenly dark. The results of what the dogs did in a dark and well-lit room were very different. In a darkened room the dogs were four times more likely to disobey their owners.

It is not known how well dogs can see in the dark. Yet the experiments show that they are aware of what others can see in different types of light. If dogs know when humans cannot see them it may mean that they understand a human's perspective, or awareness.

It has always been thought that only humans have an understanding of the mind and what other minds are thinking. However, other research has been done that suggests chimpanzees also know when someone is unable to see them.

The researchers say that their work could be useful for both dog owners and people who train dogs. ■

NORTH KOREAN NUCLEAR TEST

A huge military parade took place in Pyongyang, the capital of North Korea on February 16. The parade was held to both celebrate the birthday of the previous leader, Kim Jong-il, and the country's most recent underground nuclear test, four days earlier.



North Korea's leader, Kim Jong-un

Members of one family have ruled North Korea for 65 years. Kim Jong-un took over after his father died at the end of 2011. Little is known about North Korea's new leader, but he is thought to be about 30 years old.

North and South Korea became separate countries soon after the end of the Second World War (1939 – 1945). In 1950, the North invaded the South. This led to the Korean War, which lasted for three years. The United Nations (U.N.), with mainly American troops, helped the South. China supported the North. The war ended in a truce. Yet no

peace treaty has ever been signed between the North and the South.

The border between the countries is where the two opposing armies ended up facing each other at the end of the war in 1953. The border, called the De-Militarized **Zone** (DMZ), is a narrow strip of land covered in mines and barbed wire. Today thousands of soldiers still face each other across the DMZ.

North Korea is a very secretive country. Many believe that North Koreans have been “brainwashed”, or persuaded to believe that their leaders are god-like and never do anything wrong. People living there may not leave the country without special permission and few visitors are allowed. Even though many people in the country do not have enough to eat North Korea spends most of its money on weapons and its huge army.



Just over ten years ago, it was discovered that North Korea had started a project to develop nuclear weapons. It first tested one of these weapons in 2006. This was done deep underground. The test alarmed many countries, especially those nearby such as South Korea and Japan. The United Nations (U.N.) has unsuccessfully tried to persuade

North Korea to cancel its nuclear weapons program.

On February 12, scientists, who use special equipment to monitor earthquakes, first detected an underground explosion in North Korea. Around three hours later North Korea officially announced that it had successfully tested a smaller nuclear weapon. Yet scientists in other countries said that the explosion was twice as big as North Korea’s previous underground test in 2009. This suggests that the North Koreans are now able to make a much smaller but more powerful nuclear weapon.

A few months ago, North Korea successfully launched a long-range rocket, or missile, for the first time. It was used to put the country’s first satellite into space. Some people believe that North Korea may now be able to put a small nuclear device, or warhead, onto a long-range rocket. If this is true it means that North Korea could threaten many other countries, including the U.S.

However, North Korea insists that its nuclear weapons would only be used if it were attacked. It frequently accuses the U.S. of planning to take over the country.

North Korea still gets many of the things it needs, especially oil, from China. Most people therefore believe that China is the only country that can persuade North Korea to stop developing these types of weapons. ■

FLYING SQUID

Some types of squid living in the oceans are known to be able to glide over the surface of the sea. For this reason they are often called “flying squid”. Now, for the first time, scientists from Japan have recorded

the distance and speed that one type of squid can travel through the air. They have also managed to work out how the squid do it.

The scientists followed a large group, or shoal, of squid in the north western part of the Pacific Ocean. They managed to take a number of photographs of the squid as they came out of the water and then glided through the air. Some photographs have been taken of flying squid before. However, the Japanese scientists are the first to have recorded so many coming out of the water at the same time.



Flying squid (Geoff Jones)

From their photographs the scientists were able to work out that, while in the air, the squid traveled at 37 feet (11.2 meters) per second. This is even faster than an Olympic gold medal sprinter. They flew for around three seconds, covering a distance of about 108 feet (33 meters), before landing back into the sea again.

Squid normally swim backwards through the water using their fins. They are also able to force a sudden jet of water through a nozzle, or small hole, near their heads. This is like a form of jet **propulsion**. It quickly increases their speed if they need to get away from any danger.

The scientists say that the squid used the same **technique** to “shoot” out of the water and into the air. Once out of the water they spread out their fins and tentacles. These provide “lift” and help to keep the

squid “flying” for long distances. Just before the squid land back in the water they fold their fins back.

The scientists explain that the squid have developed a way of using their bodies to help them to fly. They do not just jump out of the water. The scientists say that squid should therefore be thought of as creatures that live in both water and air.

Many marine creatures live off squid. Therefore, one of the reasons that they fly is a way of escaping when being chased by predators. Yet the scientists think that certain types of sea birds might be able to catch the squid while they are in the air. ■

CIGARETTE PACKAGING

The government of New Zealand has announced that it plans to make new laws about cigarette packaging. This would mean that all cigarettes sold in the country would have to be in boxes that have a special design.

The proposed cigarette packaging law would be similar to one that was introduced in Australia last year. Many countries have strict laws about buying cigarettes and smoking. People are often not allowed to smoke in public places or on trains and buses. However, Australia was the first country to introduce a law about cigarette packaging.

Most people now understand that smoking is bad for their health. Often, during their lives, those who smoke need more healthcare than those who don't. Nowadays many governments spend much time and money trying to persuade those who smoke to stop. One reason is that it can cost a lot of money to look after those with smoking related illnesses.

In many countries, cigarette companies have to print warnings

about the effects of smoking on the packets. These warnings are normally in large black letters. Yet the cigarette companies are able to design the remainder of the packaging. The designs are often colorful and highlight the brand or name of the cigarettes. Cigarette companies often spend a lot of money on the design of their packets. For them it is an important form of advertizing.

Research in Australia showed that plain olive green is one of the least attractive colors. Many people seem to be put off by it. For this reason the Australian government chose olive green for all cigarette packets sold in the country.



Example of plain cigarette packets with “warning pictures” printed on them

Cigarette companies can no longer use special designs of their names or the brand when selling cigarettes in Australia. Instead their name and the type of cigarette appear in a small point size and plain typeface. All cigarette packets are the same color. What's more the packets have “warning pictures” printed on them. These are deliberately chosen to discourage people from smoking. One example is a picture of the inside of a heavy smoker's lungs.

The Australian government claims that its new cigarette packaging law has been a success. It says that since all cigarettes had to be sold in this way more people are choosing to stop smoking.

However, international cigarette companies are unhappy about the new rules. They believe that it is illegal to stop a company from using its own brand design. A number of cigarette companies took the Australian government to court. Yet the judges ruled against them. More recently several countries that produce a lot of tobacco have taken the cigarette companies' complaint to the World Trade Organization (WTO). One of the WTO's jobs is to act as a referee when countries argue about buying and selling, or trading, with each other.

Officials in New Zealand say that the new rules will mean that all cigarette packets in the country will have to be similar to the ones in Australia. The new ruling will probably become law later this year. Many people predict that more countries will now decide to introduce these types of cigarette packaging laws. ■

HORSE MEAT SCANDAL

On February 18, Nestlé, one of the world's biggest food companies, said that it had discovered that some of the beef pasta meals it makes contained a small amount of horse meat. Nestlé is one of several large European food companies and supermarkets that have recently found horse meat in some of their processed food products. These products should have contained beef and not a mixture of beef and horse meat.

What many people are now calling the “horse meat [scandal](#)” has affected at least 13 countries in Europe. All are members of the European Union (EU). Officials say that if the horse meat in these types of meals is eaten it will not cause any harm. The problem is that buyers of these food products have been

misled. If the packaging, or labeling, says that the food contains beef then it is against the law for it to contain any other type of meat. If people knew that there was horse meat in the food then they would probably not have bought it.

For religious reasons some people do not eat certain types of meat. For example, Hindus do not eat beef and both Muslims and Jews do not eat pork. In some countries horse meat is not eaten while in others it is. However, this is for “cultural” and not religious reasons.

Horse meat is not eaten in countries such as the U.S., Britain, Argentina, Australia and Ireland. In these places horses are often thought of as pets. In the past horses were used to help farm workers and as a means of transport. Many people therefore think that horses are different to animals that are bred for their meat such as pigs and cattle. Yet

in other countries people have different ideas about horses. In many places including France, Belgium, China, and Japan horse meat is very popular.



Horse meat

The horse meat scandal first began in January. Government food inspectors in Ireland announced that they had found some horse meat in beef burgers. An Irish company was making these burgers that were then sold in supermarkets in Britain.

Food companies and supermarkets then began testing products they sell that contained processed meat. To their surprise many contained some horse meat. Findus, a company based in Sweden, discovered that the meat in one of its “ready made” lasagne meals was 100% horse meat. All those food products, which were labelled as beef but contained some horse meat, were removed from the supermarkets and smaller shops.

Government ministers in several countries met with officials from the big food companies. All wanted to know where the horse meat had come from and why it was in some of the food products that these companies sold.

It appears that the way these companies buy, or source, the beef for their processed food products is very complicated. They order it from one company that then buys it from another in a different country. It seems that most of the horse meat came from Romania.

However, when the company in Romania sent its meat to another meat company in France it was correctly marked as horse meat. The French company then sent it to a different meat company in Luxembourg. There it was either used to make products for the big food companies and supermarkets or sent to other meat companies in other countries. Somewhere in this “supply chain” the meat was incorrectly marked as beef and not horse.

The police are now investigating. Some suspect that the meat was deliberately mislabelled so someone could make extra money. Many people blame the big food companies for the scandal. They say that these companies should have been more careful in checking where the beef in their processed meat products comes from. ■

DINOSAUR EXTINCTION DATE

From the study of fossils it is known that the dinosaurs disappeared roughly 65 million years ago. Many believe that their disappearance is linked to either a large asteroid or comet hitting the Earth.

Dinosaur fossils are found in rocks below a certain level of the Earth’s surface. Above this level different types of fossils are found, but these are not of dinosaurs. Geologists, or scientists that study rocks, have worked out that the time at which the “fossil record” changed was around 66 to 65 million years ago.

Recently, some American geologists have managed to work out a more exact date of the asteroid impact. From studying the rocks that date back to this time they believe that the impact happened about

NEWSCAST

BRAKE FAILURE — A man in France has had a frightening journey. When driving at a speed of 60 miles (96 kilometers) an hour his car’s accelerator pedal jammed. What’s more when he tried the brakes the car went faster. The man steered his car onto a motorway and used his phone to call the police. By this time his car was traveling at 125 miles (200 kilometers) per hour. Police cars joined the motorway to escort the speeding car and tollgates were opened. An engineer called the driver’s phone to try to fix the problem. Eventually the car came to a stop after it ran out of fuel. The man was unhurt. Yet he had traveled 150 miles (240 kilometers) and crossed the border into Belgium.

66,038,000 years ago. This, they say, suggests that it was an asteroid or comet crashing into the Earth that killed off the dinosaurs.

The idea that an impact of this type may have caused the extinction of the dinosaurs was first thought of in 1980. Later scientists discovered that there had been a large impact around this time at a place on the coast of modern-day Mexico. The crater formed by the asteroid is known as the Chicxulub impact crater. It has a diameter of 110 miles (180 kilometers).

The crater is named after the Mexican town now at its center. The huge crater is difficult to see as the impact that caused it happened so long ago. Geologists have drilled below the seabed near Chicxulub. There they discovered rocks that could only have been formed by a huge impact.



Artist's impression of Chicxulub impact

Scientists calculate the asteroid or comet that made the Chicxulub impact crater was about six miles (ten kilometers) wide. It's thought that it must have struck the planet 20 times faster than the speed of a bullet. The explosion is estimated to have released over one billion times as much energy as the atomic bombs that were dropped on Japan at the end of the Second World War in 1945.

The impact would have set off huge fires, earthquakes, landslides, and giant waves. Dust, ash and dirt

would have been thrown high into the atmosphere. This would have quickly spread around the globe and blocked out the Sun for several years. The reduced amount of sunlight would have killed off many of the plants that needed lots of sunshine to survive.

Even though scientists agree that the dinosaurs became extinct around this time, not all believe that the asteroid was the cause. Some think that their numbers had greatly decreased by the time of the impact. Others believe that dinosaurs had already disappeared when the asteroid hit.

It is known that a huge volcanic eruption took place, in an area called the Deccan Traps in India, around this time. This eruption might have lasted for as long as one million years. The volcanic ash thrown into in the atmosphere may have caused the climate to get much colder. Some scientists therefore think that this is the more likely reason for the extinction. ■

BRAZIL'S ANNUAL CARNIVAL

Every year, Rio de Janeiro, one of the largest cities in Brazil, hosts a huge carnival, or street party. The carnival in Rio de Janeiro lasts for five days and is often described as "one of the greatest shows on Earth". At the same time many other towns and cities in Brazil hold their own celebrations and street parties. This year's carnival began on February 8.

Brazil was once a Portuguese colony. Most Brazilians are Roman Catholics. The carnival takes place 40 days before the Christian festival of Easter and marks the beginning of Lent. In the Christian tradition the 40 days of Lent are a time when people should go without some types of food.

The Portuguese first arrived in Brazil in the early 1500s. The carnival is thought to date back to before this time. The Portuguese **ad-opted** the custom and turned it into a big party before the start of Lent. Over the years the Rio carnival has changed and new themes have been added such as the samba, which is a type of Brazilian music and dance.



Samba school carnival float

Nowadays, one of the highlights of the Rio carnival is a huge dance competition in which different samba groups, called samba schools, take part. Twelve different samba schools usually enter the competition, which lasts for two days.

Samba schools are large organizations that represent different areas of the city. Each school spends around eight months preparing for the annual carnival. Huge floats and thousands of brightly colored and **flamboyant** costumes are made by groups of volunteers.

Local officials said that six million people attended this year's Rio carnival. It has also become a popular tourist attraction. Nowadays tens of thousands of people travel to Rio de Janeiro from other countries to take part.

Over the past 100 years, groups of people from many other countries, such as Italy, Germany and Japan left their homes and moved to Brazil. This year, as part of the celebrations, there were special parades to mark the 50th anniversary of the

first Koreans to move to the country. Today there are around 50,000 Brazilians whose families originally came from Korea.

Even though the carnival is a time when all Brazilians like to enjoy themselves this year was slightly different. This was because many people in Brazil were still shocked by what happened just a few weeks earlier. Then 238 people were killed in a fire at a nightclub in the city of Santa Maria, in the south of the country. Most were students who were studying at the city's university. Around 60 people injured in the fire are still in the hospital.

Dilma Rousseff, the president of Brazil, attended a special church service the evening before the carnival began. It took place in Brasilia, the capital city. The service was held to remember all those who had died in Santa Maria. Ms. Rousseff chose not to attend any of the carnival events over the five-day holiday. Some cities decided to have smaller celebrations than usual as a sign of [respect](#) for those who had died in the fire. ■

STATE OF THE UNION ADDRESS

On February 12, Barack Obama, the president of the U.S., delivered the State of the Union speech, or address. This speech is an annual event. It normally takes place between the second half of January and mid February.

The president's address is made to the American Congress, all the elected members of the House of Representatives and the Senate. Nowadays the speech is also broadcast live on American television and radio. Therefore, even though, the president is speaking in front of Congress

the address is used as a way of talking to everyone in the country.

The speech used to be made during the day. Yet nowadays it happens at around nine o'clock in the evening. This is so the largest possible television [audience](#) will see or hear what the president has to say. Traditionally the president uses the address to report on what has happened during the last year. He also announces his plans for the next 12 months.



Barack Obama making the State of the Union address to the American Congress

Usually the address lasts for about one hour. Loud clapping, or applause, frequently interrupts it. There are two main political parties in the U.S., the Democrats and the Republicans. Mr. Obama is a member of the Democratic Party. So this time most of the applause came from those elected members of the House of Representatives and the Senate who are Democrats.

During his address, Mr. Obama spoke about the country's economy. He admitted that the economy still had problems but insisted that the decisions he has recently made will mean that it will soon improve. He also talked about the number of people without jobs in the country. Mr. Obama agreed that this figure was still far too high. Yet, he said, the number would come down as the economy begins to grow stronger.

Mr. Obama announced that 34,000 American troops would soon be withdrawn from Afghanistan.

This is about half of the total that are currently in the country. The remainder, he said, would leave Afghanistan by the end of next year.

The president said that talks would continue with Russia about reducing the number of nuclear weapons each country has. Forthcoming discussions about new trade agreements with Asian countries and the 27 countries of the European Union (EU) were also announced.

Mr. Obama also spoke about gun control. In the U.S. the law allows many people to own guns. In recent years there were several mass shootings in the country. For unknown reasons gunmen have killed many people before being arrested or killing themselves. The most recent incidents took place in a school and a movie theater. Many Americans, but not all, claim that the reason for these shootings is that it is too easy to buy guns in the U.S. Mr. Obama said that he wants Congress to vote

NEWSCAST

APPLE SHOP — After 20 years a family in Britain has finally decided to change the name of their shop. Called the Apple Shop it sells locally made cider, a drink made from apple juice. When the shop first opened there was no such thing as an iPad or an iPhone. Yet, in recent years, more and more people have been telephoning the shop to ask how to get their Apple devices fixed. At first this was not too much of a problem. However, since an Apple store opened in the nearby city of Norwich a few years ago, the problem has become far worse. The shop's name has just changed to the Norfolk Cider Shop and the owners are looking forward to fewer phone calls.

on changing the country's gun ownership laws.

Since the 1960s the State of the Union address has been followed by what's known as the "opposition response". This is a speech made by a member of the opposing political party. However, this speech, which is also shown on live television, is not made in front of members of Congress. Instead it is filmed in an office or television studio. The person making the "response" will explain why their party disagrees with some of the president's plans.

Marco Rubio gave this year's opposition response. He is a 41 year old Cuban American. Mr. Rubio, who is a Republican member of the Senate, made his speech in both English and Spanish. Many people predict that he will be selected by the Republican Party to be their candidate when the next presidential election is held in 2016. ■

RED CROSS ANNIVERSARY

On February 17, the Red Cross celebrated its 150th anniversary. The organization's official name is the International Committee of the Red Cross (ICRC). It was founded in Switzerland on February 17, 1863. Today, it is a worldwide humanitarian organization with thousands of workers.

A businessman from Switzerland called Henry Dunant set up the organization. At first, it was called the International Committee for Relief to Wounded Soldiers.

In 1859, Dunant visited a small town in Italy called Solferino. While he was there a large battle was fought, near the town, between the armies of France and Austria. About

40,000 soldiers from both sides died or were left wounded on the battlefield. Dunant spent several days trying to organize medical treatment for those who were wounded.

Dunant was shocked by what he had seen at Solferino. He later decided to set up an organization that would help wounded soldiers in times of war. It would not take sides, and would try to help anyone who needed medical care.

The Red Cross was chosen as the symbol of the new organization. It is the reverse of the Swiss flag, which is a white cross on a red background. Switzerland has been neutral in all wars since 1515, although it did fight back against a French invasion in the early 19th century.

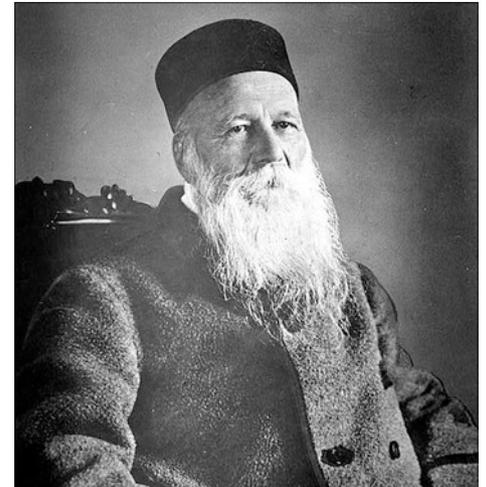
Dunant also proposed an agreement that said Red Cross workers could help people on battlefields without being fired at by either side. So if someone is wearing the Red Cross symbol, he or she is safe from attack. Later this agreement became part of what is known as the Geneva Conventions. The agreement was named after the city in Switzerland where Dunant lived. The Geneva Conventions also set rules on how prisoners of war should be treated.

Today over 190 countries have signed the Geneva Conventions. This means that, in times of war, these countries must follow certain rules. For example, Red Cross workers must be allowed to go to where fighting is taking place so they can help those that are wounded. Red Cross workers should also be able to check that soldiers captured from the opposing side are not mistreated while they are being held prisoner.

The ICRC still has its headquarters in Geneva. For the money it

needs the organization relies on donations. These come from governments, international organizations and ordinary people.

Dunant jointly won the first Nobel Peace Prize in 1901. Since then the ICRC has been awarded the Peace Prize three times, in 1917, 1944 and 1963.



Henry Dunant in 1901

Nowadays, the Red Cross does not just help soldiers where wars are being fought. It also helps civilians who are affected by the fighting. However, warfare today is very different to what it was in Dunant's time. Many more civilians are now likely to be killed in times of war. It's thought that one civilian died at the Battle of Solferino. Yet in Syria, where fighting has now be going on for two years, tens of thousands are believed to have been killed. ■

NEW PRIME NUMBER DISCOVERED

Curtis Cooper, a professor at a university in the U.S. has announced the discovery of the largest known prime number. It is 17 million digits long. If you wrote the number down, at a speed of two digits every second for 24 hours each day, it would take over 100 days to complete it.



ICRC

A prime number, or prime, is a whole number that can be divided only by one and itself. Examples of prime numbers are 2, 3, 5, 7, 11, 13, 17, 19 and 23. The number 2 is the only even prime number.

×	2	3	×	5	×	7	×	9	×
11	×	13	×	×	×	17	×	19	×
×	×	23	×	×	×	×	×	29	×
31	×	×	×	×	×	37	×	×	×
41	×	43	×	×	×	47	×	×	×
×	×	53	×	×	×	×	×	59	×
61	×	×	×	×	×	67	×	×	×
71	×	73	×	×	×	×	×	79	×
×	×	83	×	×	×	×	×	89	×
×	×	×	×	×	×	97	×	×	100

Prime numbers between 1 and 100

Around 300 BCE the Ancient Greek mathematician Euclid proved that there are an infinite, or never ending, number of prime numbers. Since then some mathematicians have found it a challenge to discover larger and larger ones.

The invention of computers made it easier to find larger prime numbers. The first time that a computer was used to discover a new prime was in 1952. Nowadays a lot of computer power is needed to discover these numbers.

Over ten years ago an American organization called the Electronic Frontier Foundation (EFF) set up a competition for the discovery of new prime numbers. It did this to try to get people to use lots of different computers and the internet to solve complex calculations.

To find the new prime number Professor Curtis used the Great Internet Mersenne Prime Search (GIMPS). This is a network that uses the spare power of tens of thousands of computers all around the world, which are connected to the internet. If anyone wants their computer to be part of this network all they need

to do is download and install some free software from GIMPS.

GIMPS is named after Marin Mersenne. He was a French mathematician who lived in the 1600s. He studied rare prime numbers. Mersenne prime numbers are so big they have to be written in the code, or formula, $2^P - 1$, where P is also a prime number. Using this formula for the newly discovered prime number P represents 57,885,161.

The last new prime number was discovered just over four years ago. It has nearly 13 million digits. An American mathematician working at a different university found this one. At the time he received a prize of \$100,000 from the EFF. This was because the prime he found was the first to be over ten million digits long.

The first EFF prime number prize was awarded in 2000. This was for the first prime with over one million digits. The next prize of \$150,000 will be given to the person who discovers the first prime with over 100 million digits.

Smaller prime numbers are used in complex mathematical calculations and some computer encryption, or security, programs. These are often used when making credit card payments over the internet.

The new highest-known prime number was the third found by Professor Cooper. To discover it he made use of nearly 1,000 computers at the university all of which have the GIMPS software installed. The number is so big that it took one of the computers almost 40 days to check that it was correct.

Professor Cooper admits that, today, these huge prime numbers are of no real use. However, he predicts that they might prove to be useful at some time in the future. ■

CROCODILE LOLONG

An unusual funeral ceremony was held in the town of Bunawan, in the Philippines, on February 13. During the ceremony a pig was killed, candles were lit and food and drink offered to the spirits, which local people in this part of the country believe in. The funeral was for Lolong, a 21 foot (6.4 meter) long saltwater crocodile that had died three days earlier. Before the huge reptile died it was believed to be the world's largest living crocodile.

Saltwater crocodiles live in rivers and [estuaries](#) around the coasts of many countries in South East Asia, as well as the northern part of Australia. The males, which are much bigger than the females, can grow to enormous sizes. Usually saltwater crocodiles spend the wet season in freshwater swamps and rivers. When it is drier they move to where the rivers

NEWSCAST

SLOW TELEVISION — A television company in Norway has been broadcasting an unusual program. Lasting for 12 hours it shows wood burning in a fireplace. People talking in the background give advice about the best ways to cut and stack wood. There is some music and poems are also read out. This is not the first unusual program the company has made. In 2011, it set up cameras on a cruise ship that was sailing along the coast towards the Arctic. Watching the program was like standing on the cruise ship and seeing the scenery pass by. This program lasted for 100 hours. The company said that the number of people who watched some of it surprised them.

flow into the sea. Saltwater crocodiles are also known to be able to swim for long distances at sea. They have been tracked going from one island to another or along the coast.



Lolong

Smaller saltwater crocodiles eat fish, crabs and other small reptiles. However, the bigger ones will attack and eat almost anything that gets too close. They will eat monkeys, snakes, sharks and wild dogs. The crocodiles are also known to attack larger farm animals such as horses and water buffalo and even humans.

Lolong was caught in 2011 by a team of local people and expert crocodile hunters. They set out to catch the huge crocodile after it was spotted in a nearby river. Local people had seen the crocodile attack a water buffalo and it's believed that it killed a fisherman who had gone missing earlier that year. The crocodile was eventually caught in a specially made trap. It then took 100 people, pulling on ropes, to drag the huge reptile to where a crane could lift it onto a truck. It weighed just over 2,200 pounds (1,000 kilograms).

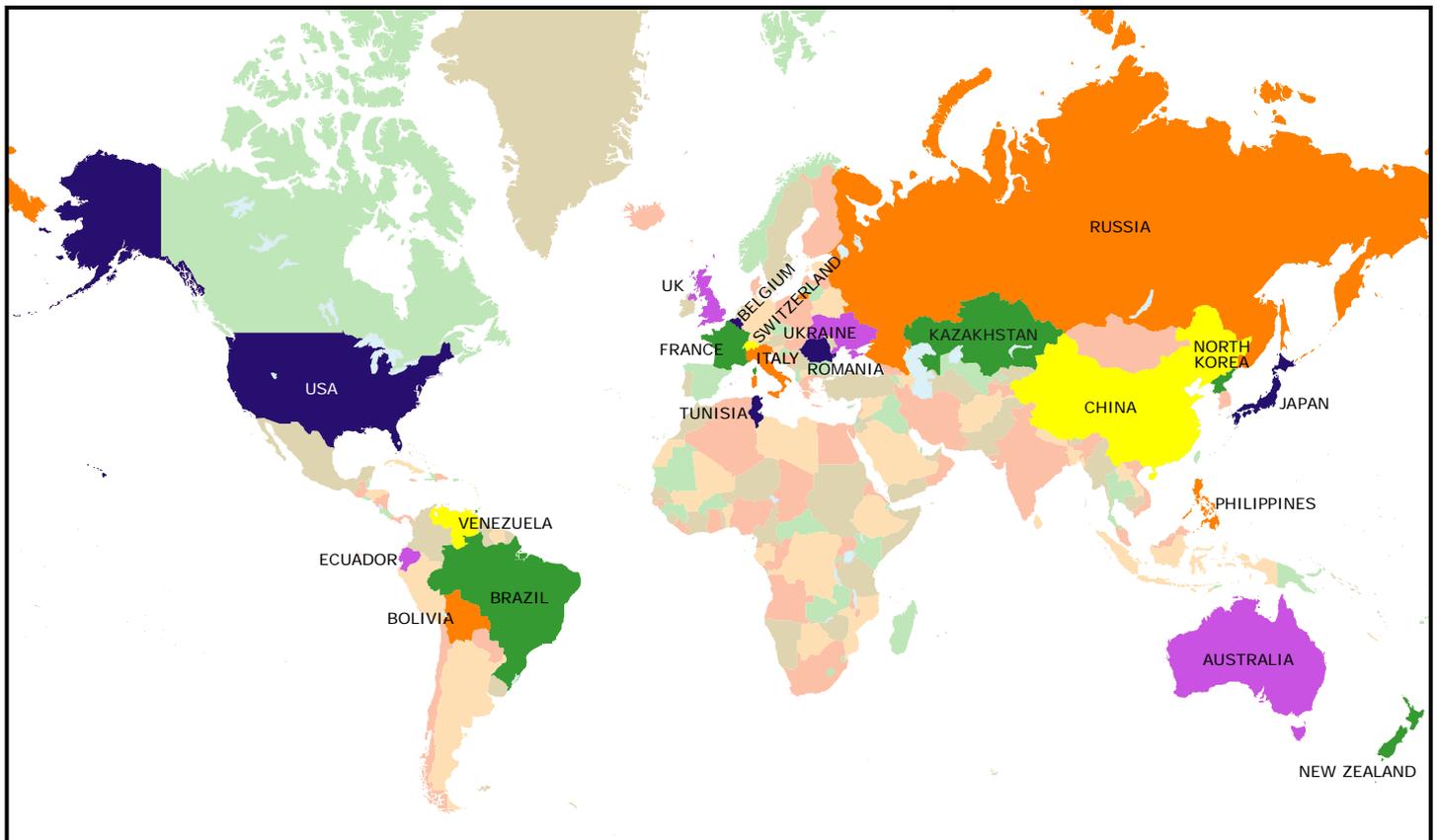
The people of Bunawan decided to build a special park that included all the different types of wildlife that lived in the surrounding area. Lolong was the main attraction. People came to the town from all parts of the country just to see the huge crocodile.

However, last month those looking after the crocodile noticed that

it seemed to be unwell. It was not eating and its stomach had started to swell. Lolong was estimated to be 50 years old. This is middle aged for saltwater crocodiles, as they are known to live for over 100 years.

News of the crocodile's death saddened many people, especially those living in Bunawan. They now fear that fewer people will visit their town. Fewer visitors will mean that local shops will not make as much money as they used to. Yet the town's mayor announced that a special museum would be set up in the park. The stuffed body of the crocodile will be displayed inside it.

After the funeral ceremony the crocodile's skin was cut off. The body was then buried in a grave 6.5 feet (two meters) deep. Later, after the body has rotted away, Lolong's bones will be dug up. They will then be reassembled and put on display in



This map shows countries to which news stories refer in this issue. Visit www.newsademic.com for more detailed world maps.

the museum. Samples of the crocodile's body and organs were sent to Manila, the capital city. There experts will study them to see if they can find out what caused Lolong's death.

Before Lolong was captured the largest known saltwater crocodile was one that was caught in Australia. Called Cassius it is 18 feet (5.48 meters) long. With Lolong's death Cassius now becomes the world's largest known living saltwater crocodile once again. ■

BAYEUX TAPESTRY COMPLETED?

People living on the small island of Alderney have recently finished a large tapestry. They claim that their tapestry finally completes a very famous one that was made around 950 years ago.

The original tapestry, which is nearly 230 feet (70 meters) long, contains hundreds of figures. Known as the Bayeux Tapestry it tells the story of the Norman **conquest** of England. The wording on the tapestry is in Latin.



Part of the original tapestry on display in Bayeux, in northern France

The Norman invasion of England took place in 1066. Normandy is now a region of northern France. Yet then it had its own ruler, William Duke of Normandy. Nowadays he is normally called William the Conqueror.

At the beginning of 1066, the English king, Edward, known as Edward the Confessor, died. He had no children. William was related to Edward's uncle. He therefore believed that he should become the next king of England. William also claimed that King Edward had told him that the crown would pass to him after his death.



Part of the Bayeux Tapestry showing a scene from the Battle of Hastings

However, immediately after Edward died Harold Godwinson was declared to be the new king. Harold was the head of the most powerful family in England at the time. Angry at what had happened William decided to invade England. He began to build hundreds of ships and organize an army. His invasion force sailed across the English Channel later in the year.

King Harold knew that William was planning an attack but he did not know where or when his ships would arrive. Before they did another invading force from Norway landed in the North of England. King Harold and his army quickly traveled to meet it. After defeating this force Harold heard the news that William had just landed in the south.

After his ships landed and his army disembarked William waited for King Harold to arrive. The two armies eventually met at the Battle of Hastings. William's army won. King Harold was killed during the fighting. William then traveled to

London where he was crowned the new king of England.

Historians think that William's half-brother arranged for the tapestry to be made. It's believed to have been completed by 1077. It's thought that the tapestry was displayed in the newly built cathedral in the Norman city of Bayeux, from which the tapestry gets its name. It is not clear what happened to it after that.

However, in the 1400s, the tapestry was "rediscovered" in a wooden chest in the cathedral. Today thousands of people visit Bayeux each year to see it. The end piece, which is thought to be about ten feet (three meters) long, appears to be missing. The end of the real story is William being crowned king of England in London, but this is not shown. It is possible that this part was never completed or moths or other types of insects destroyed it.

The island of Alderney is one of a group of islands not far from the coast of Normandy. Called the Channel Islands they were once part of William's lands. Today, unlike the rest of Normandy, the Channel Islands are still part of Britain.

Kate Russell is an American who lives on Alderney. She is the island's librarian and it was her idea to recreate, or make, the missing bit of the tapestry. She and several others decided what the final scenes, such as the crowning of King William, and the Latin wording was likely to have been. Local people and those visiting Alderney were then invited to come and help to do the stitching. It has taken almost two years to complete.

The tapestry will now be displayed in the island's museum. Even though she thinks it is unlikely to happen Mrs. Russell says that it would be wonderful if it could be placed alongside the original in Bayeux. ■

CHERNOBYL ROOF COLLAPSE

Part of the roof that was built over the damaged Chernobyl nuclear power plant in Ukraine has collapsed. The roof was built in 1986, soon after the explosion at the power plant that caused the world's most serious nuclear accident.



The "ghost town" of Pripyat with the Chernobyl nuclear power plant in the distance

Recently, there has been a lot of snow in this part of Ukraine. Officials said that it was the weight of the snow on the roof that caused it to fall down.

In 1986, one of the Chernobyl nuclear plant's reactors blew up. Thirty-one workers at the plant were killed. The explosion also spread radioactive material over a large area of Ukraine and the nearby countries of Belarus and Russia. At the time of the accident Ukraine was part of the Russian-led Soviet Union.

Soon after the explosion the authorities evacuated about 350,000 people from the nearby city of Pripjat and the surrounding area.

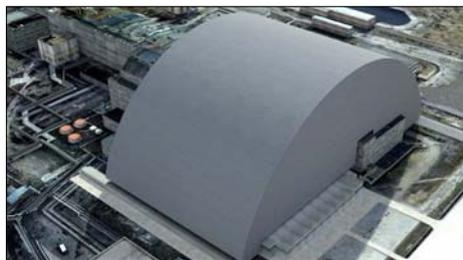
Today there is still a 19 mile (30 kilometer) "no-go" zone around the ruins of the plant. This is because radioactive material continues to be dangerous for a very long time. One example given by experts is that it will be unsafe to eat any vegetables grown near the Chernobyl nuclear plant for at least the next 1,000 years. The city of Pripjat is now a "ghost

town". Even though all the buildings still exist no one lives there.

Some believe that, so far, at least 3,000 local people have died because of the explosion. These people died of certain illnesses such as cancer that may have been caused by the high levels of radiation. Yet others are not so sure. They believe that the number of deaths caused by the accident is much lower than this.

Soon after the explosion the damaged reactor was quickly covered in thick concrete and a roof built over the top of it. This concrete "sarcophagus", or stone coffin, was meant to be temporary. Today, over 25 years later, radioactive material continues to leak from the damaged nuclear reactor.

Two years ago, several French companies started work on building an enormous steel shield, or cover, at Chernobyl. When it is finished the shield will completely enclose the damaged reactor. The steel cover is expected to cost at least \$1.2 billion. Around 28 governments and international organizations, such as the European Union (EU), have agreed to help to pay for it.



Artist's impression of the Chernobyl steel cover after its completion

It is too dangerous to work directly above the concrete sarcophagus. The shield is therefore being built close by, on a set of rails. Once the first half has been completed it will be moved, on the rails, so that it is positioned over part of the damaged reactor. The second half will

then be built and joined to the first. Once this happens, the nuclear fuel rods still inside the reactor will be taken out and safely stored.

The steel shield should be finished by 2015. When completed it will be the biggest moveable structure in the world. It will be large enough to cover the Statue of Liberty, in New York, or Saint Paul's Cathedral, in London. It will also be three times as heavy as the Eiffel Tower, in Paris.

After the recent roof collapse around 80 people, who were working nearby, were ordered to move away. Officials explained that this was for safety reasons while they carried out some checks. Later they said that they had not detected any increased amount of radiation around the nuclear plant. This meant that it was safe for work on the shield to continue. ■

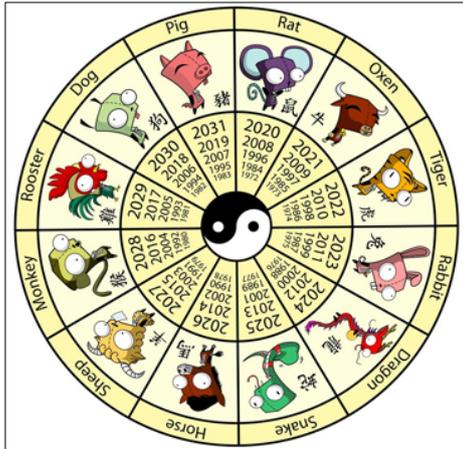
YEAR OF THE SNAKE BEGINS

Millions of people around the world celebrated Chinese New Year on February 10. Chinese New Year is also called the Spring Festival or Lunar New Year. The festival is a very important celebration in China and for all the Chinese people who live in other countries.

The Chinese calendar is based on the cycles of the Moon. It's therefore what's known as a lunar calendar. This means that it does not match up exactly with the international, or Gregorian calendar, which most people now use. So, in the international calendar, the date on which the Spring Festival starts changes each year. For example, in 2012 Chinese New Year began on January 23.

The calendar, called the Chinese Zodiac in English, works on a 12 year cycle. An animal represents each year. No one knows why these

animals are used. However, one legend says that there was a race to heaven and these 12 animals were the first ones to get there. Last year was the Year of the Dragon. This year it is the Year of the Snake.



Chinese Zodiac

The Chinese New Year holiday traditionally marks the end of winter. The Spring Festival lasts for 15 days, or until the first full Moon. There are different celebrations on each day. In China red is the color of celebration and **prosperity**, or good fortune and wealth. Children receive gifts of small sealed red envelopes containing money from their relatives.

In China, most factory workers in the cities live far away from their families in the countryside. Many big factories have large blocks, or dormitories, nearby in which these workers live. Most workers are allowed one week's holiday for the Spring Festival.

For many of the factory workers the Spring Festival is the only time in the year that they can go home to visit their families. This means that at the beginning and end of the festival tens of millions of people travel on trains and buses. It is the largest movement of people all at one time anywhere in the world.

Usually there are huge firework displays in the larger Chinese cities at the time of New Year. Yet

since the beginning of January there has been very bad air pollution, or smog, in many of the bigger cities, including Beijing, the capital.

Much of this thick smog, or haze, comes from smoke from the many power stations that burn coal to make electricity. It is made worse by **emissions** from factories, which surround many of the country's cities, as well as the fumes from cars, trucks and buses. This year, to avoid making the air pollution worse, some cities had smaller firework displays or they were canceled.

In China, people are thought to have similar characters to the animal of the year of their birth. Many believe that those born in the Year of the Snake will be both clever and exciting. Yet they are also thought to be manipulative. This means that they can try to control other people in a dishonest way. Some people have even been known to put off weddings or delay having children to avoid the Year of the Snake. ■

PRESIDENT REELECTED IN ECUADOR

A presidential election was held in Ecuador on February 17. Rafael Correa, who has been the country's president since 2007, easily beat his rivals with 56.9% of the votes.

Eight candidates took part in the election. Guillermo Lasso came second with 23.1%. This was the third time that Mr. Correa has won a presidential election. However, this will be his last term as president. This is because the country's constitution, or rules by which it is governed, state that he will not be allowed to stand again.

Mr. Correa is 49 years old. When he won his first election he was only

43. Mr. Correa has surprised many people. Before he became president Ecuador had many problems. Previous presidents and politicians had been corrupt, or dishonest. The army had taken control of the country several times and the economy was badly managed.

Mr. Correa promised to change many things. Ecuador has large supplies of oil, most of which was produced by foreign companies. Mr. Correa insisted that nearly all the money made from oil should be used to help the poor people of Ecuador. To do this he arranged for the oil companies to be nationalized, or taken over and run by the government.

He also changed the country's constitution. He claimed that the elected members of Congress, Ecuador's parliament, were to blame for the problems of the past. Many belonged to political parties that opposed him. He therefore altered the rules so it was not so easy for them to vote against the changes he planned to make.



Rafael Correa, president of Ecuador

Today, half of the money that the country makes comes from oil. Ecuador is also one of the world's biggest exporters of bananas. In recent years much of the money made from oil has been spent on better education, healthcare and new roads.

Mr. Correa has become a very popular leader, especially with the country's many poor people. Yet not everyone agrees with what he

has done. For example, some believe that the government now has too many workers. Since Mr. Correa first became president the number of government workers has increased from 16,000 to 90,000. Some argue that paying all these workers costs far too much money. Much of this money, they say, is wasted and it would be better spent on other things. They worry that Ecuador is too dependent on oil.

Others say that Mr. Correa's ideas mean that large international companies do not want to set up operations in Ecuador. Some claim that the president has made it difficult for the newspapers to criticize him. They accuse him of restricting freedom of speech.

Even though Mr. Correa spent many years studying in the U.S. he admits to being anti-American. He says that the **capitalist** policies the U.S. government believes in do not suit his country. Two other South American presidents Hugo Chávez, of Venezuela, and Evo Morales, from Bolivia, have similar ideas.

Mr. Correa and Mr. Chávez, are good friends. Currently Mr. Chávez is in the hospital suffering from cancer. After the election result was known Mr. Correa declared that he would **dedicate** his victory to the Venezuelan president. ■

MESSENGER MAP

A new high-resolution map of Mercury has just been created. Made from images taken by the Messenger spacecraft it covers the whole of the planet's surface.

NASA (National Aeronautics and Space Administration) launched the Messenger spacecraft, or space

probe, in 2004. Its journey to the smallest planet in the Solar System and the one closest to the Sun took over six years.

Messenger did not travel directly to Mercury. If it had it would have been difficult to slow the spacecraft down enough for it to go into orbit. This is because the gravitational pull of the Sun would get stronger and stronger as the spacecraft approached Mercury. To stop this from happening Messenger first traveled around the Earth and then twice around Venus. Finally it went three times around Mercury before settling into a regular orbit of the planet at the beginning of 2011.



Messenger map of Mercury (NASA)

The smallest planet gets its name from the Romans. They named the planets after their gods. Mercury was a messenger and the Roman god of communications.

Similar to the Earth Mercury has a magnetic field and an iron core. Yet for its size Mercury's core is very large. It occupies about three quarters of the whole planet. This means that Mercury's iron core is about the same size as our Moon.

It takes 88 days for Mercury to go around the Sun. The planet has a wide range of temperatures. During the day it can get four times as hot as boiling water, and at night it can be colder than -148°F (-100°C). As

Mercury is close to the Sun, Messenger had to be made from special materials that can withstand the heat. All the equipment it carries was also designed to operate in very high temperatures.

Before Messenger only one other space probe had ever visited Mercury. In the 1970s Mariner 10, another NASA spacecraft, flew past the planet. It managed to take some photographs. Yet these pictures did not cover the whole planet and were of poor quality.

The new high-resolution map has been made from thousands of images taken by Messenger. These were recorded as the spacecraft continued to orbit Mercury over a period of 12 months.

The map is very colorful. However, these colors are "false". They have been used to help to highlight the different types of rocks on the planet's surface.

Scientists say that by studying the new map they should be able to discover many more things about Mercury. These include naming the types of rocks on its surface and how the planet was first formed billions of years ago. ■

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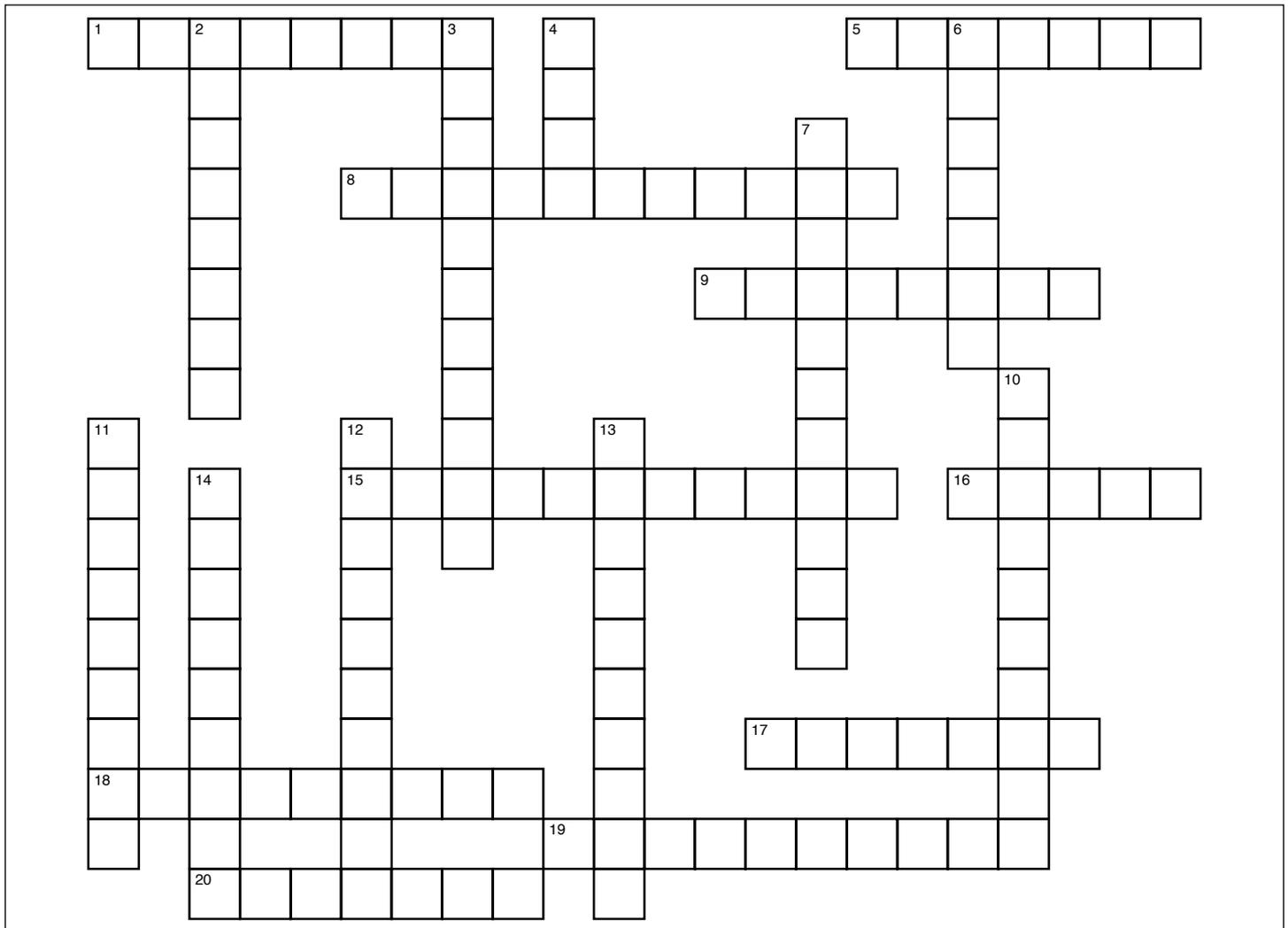
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ISSUE 191

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 Noun** The people reached by a book, film, or radio or television program
- 5 Noun** Honor, care or politeness shown towards someone or something that is considered important
- 8 Noun** The former holder of a job or office
- 9 Noun** The successful invasion and taking over of a country or territory
- 15 Verb** Joined together again
- 16 Noun** A room with a strong door and thick walls, used to store money or valuable things, especially in a bank
- 17 Adjective** Unconnected with religion
- 18 Noun (Plural)** Heat, light or vapor sent into the atmosphere
- 19 Adjective** Describes an economic, political and social system based on private ownership of property, business and industry
- 20 Noun** A disgraceful event

DOWN

- 2 Verb** Honor a building, place or event in the name of a person or religious figure
- 3 Adjective** Not ordinary, beyond what is usual
- 4 Noun** Area for a particular purpose or of a special kind
- 6 Verb** Filled an animal's skin with material so it looks like the animal when it was alive
- 7 Noun** When two or more similar things happen at the same time or place, for unconnected reasons
- 10 Adjective** Intended to be noticed, especially by wearing brightly colored clothes
- 11 Noun** A boundary line, or the area just inside the boundary
- 12 Noun** Force that pushes or drives something in a certain direction
- 13 Noun** An expert with a high position in their chosen subject or field
- 14 Noun (Plural)** The lower parts of rivers where they reach the sea and the tide flows in and out

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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.

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

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MISSING WORD ANSWER = _____

ISSUE 190 ANSWERS

I N T E R C E P T