Learning from the past

Why do we never seem to learn the lessons of the past? The actions of others could point the way for us in the future. But either we forget these lessons or we deliberately choose to misinterpret them, or knowing them, we simply fail to act on them.

Because of the economic boom in China, its government has become worried in recent years about selfish motives overtaking society. Many Chinese have been saying for some time that the traditional values of harmony, respect and hard work have been lost. So a few years ago the government focused attention again on the teachings of Confucius, the ancient philosopher.

'Consideration for others is the basis of a good life, a good society.'

Prior to the 1990s, Confucianism had not been fashionable, but now, in a country which is currently developing at a dizzying speed, it offers a sense of stability and order. The Confucian saying that nowadays sums up the government's philosophy is 'harmonious society'.

Sometimes it is difficult to learn from the past because the standards of the 'teacher' are so high. This is certainly the case with Nelson Mandela, who preached the message of reconciliation to two sides in South Africa who hated each other deeply. Mandela had always been ideologically committed to peace, and while he was living in prison, he became determined that reconciliation was the only way to unite his divided country:

'If you want to make peace with your enemy, you have to work with your enemy.'

All those who strive for peace know that in the long term they will have to begin this dialogue. Yet few are able to follow the example set by Mandela, because it requires such a high degree of unselfishness. It seems that heeding this warning – nonot to be selfish – is perhaps the hardest lesson of all for people to learn.

Life

dizzying (adj) /ˈdɪziɪŋ/ very fast and confusing

reconciliation (n) /ˌrek(ə)nsɪlɪˈeɪʃ(ə)n/ making peace and re-establishing relations

In Patagonia

By Bruce Chatwin

Anselmo told me to go and see the poet. 'The Maestro,' he said.

The poet lived along a lonely stretch of river, in overgrown orchards of apricots, alone in a two-roomed hut. He had been a teacher of literature in Buenos Aires. He came down to Patagonia forty years back and stayed.

I knocked on the door and he woke. It was drizzling and while he dressed, I sheltered under the porch and watched his colony of pet toads.

His fingers gripped my arm. He fixed me with an intense and luminous stare. 'Patagonia!' he cried. 'She is a hard mistress. She casts her spell. An enchantress! She folds you in her arms and never lets go.'

The rain drummed on the tin roof. For the next two hours he was my Patagonia. The room was dark and dusty. At the back, shelves made of planks and packing cases bent under the weight of books, mineral specimens, Indian artefacts and fossil oysters. On the walls were a cuckoo clock, a lithograph of pampas Indians, and another of the Gaucho Martin Fierro.

'The Indians rode better than the Gauchos,' he said. 'Brown limbs! Naked on horseback! Their children learnt to ride before they walked. They were one with their horses. *Ah! Mi Indio!*'

His desk was littered with broken almond shells and his favourite books; Ovid's *Tristia*, the *Georgics, Walden*, Pigafetta's *Voyage of Magellan, Leaves of Grass*, *The Poem of Martin Fierro, The Purple Land* and Blake's *Songs of Innocence*, of which he was especially fond. Smacking it free of dust, he gave me a copy of his *Canto on the Last*

Life

Flooding of the Ghubut River, privately printed in Trelew, which combined, in Alexandrines, his vision of the Deluge and a paean of praise for the engineers of the new dam. He had published two volumes of poetry in his life, *Voices of the Earth* and *Rolling Stones*, the last named after the layer of glacier-rolled pebbles that cover the Patagonian pampas. The scope of his verse was cosmic; technically, it was astonishing. He managed to squeeze the extinction of the dinosaurs into rhymed couplets, using Spanish and Linnaean Latin.

He gave me a sticky aperitif of his own manufacture, sat me in a chair, and read, with gestures and clattering of false teeth, weighty stanzas that described the geological transformations of Patagonia. I asked him what he was writing at present. He cackled humorously. 'My production is limited. As TS Eliot once said: "the poem can wait".'

It stopped raining and I came to leave. Bees hummed around the poet's hives. His apricots were ripening, the colour of a pale sun. Clouds of thistledown drifted across the view and in a field there were some fleecy white sheep.

aperitif (n) /əˈperɪtiːf/ a drink taken before a meal
artefacts (n) /ˈɑːtɪfakts/ objects of cultural interest
couplet (n) /ˈkʌplət/ two lines of a poem that go together
drizzle (n) /ˈdrɪz(ə)l/ light rain
gaucho (n) /ˈgaʊtʃəʊ/ an Argentinian cowboy
hive (n) /haɪv/ a house for bees to live in
lithograph (n) /ˈlɪθəgrɑːf/ a print made from a drawing on a flat sheet of metal
oyster (n) /ˈɔɪstə/ type of shellfish
paean (n) /ˈpiːən/ a song or poem of praise
pampas (n) /ˈpæmpəs/ the plains of Argentina
pebble (n) /ˈpeb(ə)l/ a small round stone
stanza (n) /ˈstænzə/ one verse of a poem

The enigma of beauty

Sheli Jeffry is searching for beauty. As a scout for Ford, one of the world's top model agencies, Jeffry scans up to 200 young women every Thursday afternoon. They queue up and one by one the line diminishes. Tears roll and there are long faces as the refrain 'You're not what we're looking for right now' extinguishes the conversation – and hope. Confronted with this, one hopeful, Rebecca from Providence, asks: 'What are you looking for? Can you tell me exactly?' Jeffry meets the question with a composed reply. 'It's hard to say. I know it when I see it.'

Define beauty? Some say we may as well dissect a soap bubble; that beauty is only in the eye of the beholder. Yet it does seem that across different cultures we can agree on certain points. Psychologists have proven this by testing the attractiveness of different faces on children. Symmetry is one characteristic that meets with general approval; averageness is another: we seem to prefer features that are not extreme. Things that speak of strength and good health – a glowing complexion and full lips in women, a strong jaw in men – are also universal qualities. Scientists maintain that this is the true definition of beauty, because for them we are influenced not by aesthetic but by biological considerations: the need to produce healthy children.

At the same time we also observe cultural differences in how beauty is defined. The women of the Paaung tribe in Myanmar put copper coils around their necks to extend them because in their culture very long necks are considered beautiful. In China and Japan small feet are admired in women, though thankfully the ancient practice of foot-binding has long since disappeared. In cultures where people's skin is of a dark complexion, it is often seen as desirable to have a fair skin.

Conversely, in the northern hemisphere among the naturally fair-skinned, people hanker after a tanned skin.

Perceptions of beauty also change over time. Historically in northern Europe, a tanned skin belonged to those who were forced to work outside – agricultural workers or other poorer members of society – and so a white skin was a symbol of status and beauty. Now a tan reflects status of a different kind: those that can afford time relaxing in the sun on a beach holiday in the Mediterranean or the Caribbean. Our idea of the perfect body shape is also different from 200 years ago. In almost all cultures a little fat was formerly seen as a positive trait, a sign of wealth and well-being. Nowadays a very different image stares out at us from the pages of fashion magazines: that of a long-limbed, impossibly slim figure. Whatever the perception of ideal beauty may be, the search for it has preoccupied people of all cultures for centuries, from ancient Egypt to modern China.

Is it a shallow quest? We all like to think that beauty is not only skin deep; that personality and charm contribute as much, if not more, to attractiveness as superficial beauty. Certainly, as we grow older, the more generous our definition of beauty seems to become. Experience teaches us to look for the beauty within, rather than what is on the outside.

But let's face it, most of us still care how we look. Until she was a hundred years old, my grandmother had a regular appointment at the beauty salon down the street. A month before she died, I took her there in my car. I stayed and watched as she was greeted and fussed over by the hairdresser and manicurist. Afterwards I drove her back to the nursing home. She admired her fire engine red nails every few minutes, patted her cloud of curls and radiated happiness. She is not alone is getting satisfaction from looking nice. It seems the quest for beauty goes deeper than vanity – maybe it fulfils a deep human need in all of us.

Life

glowing (adj) /ˈgləʊɪŋ/ bright and healthy looking

limb (n) /lɪm/ an arm or a leg

manicurist (n) /ˈmænɪkjʊərɪst/ someone who cleans, cuts and polishes fingernails

scout (n) /skaʊt/ someone whose job is to search for people with certain qualities or talents

A hacker's life

Have you ever locked yourself out of your home and had to try to break in? First, you get a sense of accomplishment in succeeding. But then comes the worrying realisation that if you can break into your own place as an amateur, a professional could do so five times faster. So you look at the weak point in your security and fix it. Well, that's more or less how the DefCon hackers conference works.

Every year passionate hackers meet at DefCon in Las Vegas to present their knowledge and capabilities. Mention the word 'hacker' and many of us picture a seventeen-year-old geek sitting in their bedroom, illegally hacking into the US's defence secrets in the Pentagon. Or we just think 'criminals'. But that is actually a gross misrepresentation of what most hackers do.

The activities and experiments that take place at DefCon have an enormous impact on our daily lives. These are people who love the challenge of finding security gaps: computer addicts who can't break the habit. They look with great scrutiny at all kinds of systems, from the Internet to mobile communications to household door locks. And then they try to hack them. In doing so, they are doing all of us a great service, because they pass on their findings to the industries that design these systems, which are then able to plug the security holes.

A graphic example of this is when I attended a presentation on electronic door locks. Ironically, one of the most secure locks they demonstrated was a 4,000-year-old Egyptian tumbler lock. But when it came to more modern devices, the presenters revealed significant weaknesses in several brands of electro-mechanical locks. A bio-lock that uses a fingerprint scan for entry was defeated, easily, by a paper clip. (Unfortunately, although all the manufacturers of the insecure locks were alerted, not all of them responded.)

Life

DefCon is a vast mix of cultures as well as a culture in itself. People in dark clothes and ripped jeans talk to people in golf shirts and khakis. Social status here is based on knowledge and accomplishment, not on clothing labels or car marques. It's kind of refreshing. There are government agents here, as well as video game enthusiasts. Not that people ask each other where they work – that would break the hackers' etiquette.

In an attempt to attract the brightest hackers, DefCon runs a competition called Capture the Flag. Capture the Flag pits elite hackers against each other in a cyber game of network attack and defence that goes on 24 hours a day. In a large, dimly lit conference hall, small groups of hackers sit five metres from each other, intensely trying either to protect or to break into the system. There are huge video projections on the walls, pizza boxes and coffee cups are strewn everywhere. The room is mesmerising.

In another room, another contest is taking place. Here participants have five minutes to free themselves from handcuffs, escape from their 'cell', get past a guard, retrieve their passport from a locked filing cabinet, leave through another locked door, and make their escape to freedom.

If you're someone who dismisses the DefCon attendees as a group of geeks and social misfits, then you probably have the same password for 90 per cent of your online existence. Which means you are doomed. Because even if you think you're being clever by using your grandmother's birth date backwards as a secure key, you're no match for the people that I've met. There is no greater ignorance to be found online than that of an average internet user. I'm happy to admit that I'm one of them. I'm also aware that there are other people out there – big business among them – who are trying to get more and more access to the data of our personal online habits. Sadly, we have few tools to protect ourselves. But there is a group of people who are passionate about online freedom and have the means to help us protect our privacy. Many of them can be found at DefCon.

Life

do someone a service (v) /duː ˈsʌmwʌn eɪ ˈsɜːvɪs/ help someone

etiquette (n) /ˈetɪket/ code of polite behaviour

handcuffs (n) /ˈhæn(d)kʌfs/ a pair of metal rings placed on the wrists to restrain someone

khakis (n) /ˈkɑːkis/ light-coloured smart casual trousers

World Music

Interview of the week

He's been travelling for just under two years, away from recording and performing, so we thought it was time we caught up with musician Justin Cape.

WM: Justin, you've spent a lot of time studying other musical styles and traditions. Are you trying to make music that has a more universal appeal?

JC: No, not just a wider appeal – that's not my goal really. Global commercial forces have already homogenised music styles quite a lot. I noticed that on my travels. So we already have a brand of international pop with mass appeal. I just get excited by exploring different types of music.

WM: But you have sophisticated tastes. For many people, different styles of music aren't always very accessible, are they?

JC: No, they can seem alien, but I don't think that's so surprising: it's just to do with habit, like the food you eat. Not many American teenagers listen to Indian sitar music, just as not many nomads in the Sahara eat hamburgers and fries. But I think often, if you give it a chance, it can be incredibly rewarding.

WM: And what are you listening to at the moment?

JC: I listen to a group from Mali, called Tinariwen, a lot – they play a very upbeat mix of Middle Eastern and African music. I'm also a big fan of Ry Cooder, who's also a bit of a musical nomad. He really mines the world's diverse music styles. He started out exploring different kinds of American music: blues, gospel, R&B. Then he worked with

musicians in Cuba and Mali. And he's just produced a CD of Mexican-Irish songs, which are fantastic!

WM: And do you find the things people sing about vary a lot from culture to culture?

JC: Not really. What you do find is that differences are as much generational as cultural. Each new generation has the feeling that 'their' music is speaking just to them; that it's addressing their hopes and heartbreaks, as if these things had never been experienced before. In western music, that idea's deeply ingrained. So we speak about music in generational terms: 60s soul, 80s rock and so on. But to answer your question, I think even if music is very different from place to place, the themes it treats are often pretty universal.

The civilised insect

Ants number approximately ten thousand trillion worldwide. Each individual ant scarcely weighs anything, but put together they weigh roughly the same as all of mankind. They are also ubiquitous, thriving everywhere except on icy mountain peaks and around the Poles. No one knows precisely how many species there are, but it is estimated at over 20,000. For an animal of its size, ants have been incredibly successful and this success owes much to the highly sophisticated social behaviour they exhibit.

In colonies that range in size from a few hundred to tens of millions, they organise their roles with a clear division of labour: a queen or queens whose job it is to reproduce; some fertile males who die shortly after mating with the queen; and the rest – sterile females who make up the main population of workers and soldiers, toiling away in a determined fashion. In some species, the bodies of these sterile females are adapted to the different jobs they have within the nest: building and expanding the nest, foraging for food, defending against predators and so on.

How they achieve this level of organisation and synchronisation is even more amazing. Where we use sound and sight to communicate, ants depend primarily on pheromones, chemicals emitted by individuals and smelled or tasted by nestmates. A given species produces just ten to twenty signals, which unlike human language are entirely instinctive messages. A pheromone trail left by a foraging ant will lead others straight to where the food is. When an individual ant comes under attack or is dying, it sends out an alarm pheromone to alert the colony to mobilise as a defence unit.

In fact, when it comes to the art of war, ants are unsurpassed. They are completely fearless and will readily take on prey much larger than

themselves, attacking in deadly swarms and overwhelming their target. Such is their dedication to the common good of the colony that workers will also sacrifice their own lives to help others defeat the enemy.

Behaving in this altruistic and dedicated manner, these little creatures have flourished on Earth for more than 140 million years, long outlasting dinosaurs. Because they think as one, they have a collective intelligence greater than the sum of its individual parts; something you could hardly say of most species.

altruistic (adj) /æltruˈɪstɪk/ unselfish
colony (n) /ˈkɒləni/ a group of ants that nest together
forage (v) /ˈfɒrɪdʒ/ search for food
sterile (adj) /ˈsteraɪl/ not capable of reproducing

Life

Detroit: then and now

Reading Comprehension

Reading comprehension

Read the article and choose the correct option.

1 Detroit is a city …
a that has had several identities.
b Where the population grew very rapidly.
c with a massive crime problem

2 Detroit …
a is not able to recover from its past problems.
b is richer now than it has ever been.
c seems to have a better future ahead.

Read the article again and choose the correct option.

3 Why was Detroit known as Motor City?
a because of all the roads that were built there.
b because of its connections to Paris.
c because of the type of industry there.

4 According to the first paragraph, factory workers …
a had a high standard of living.
b had to travel a long way to work.
c took regular holidays.

5 What defined Detroit at the start of the 21st century?
a cars
b poverty
c the suburbs

6 Which statement is true according to the second paragraph?
a The changing Detroit happened relatively quickly.
b The environment was important for Detroit's population.
c The media showed a false picture of Detroit and its people.

7 Why did people leave Detroit?
a Because too many people lived in the suburbs.
b The motor industry moved to a new area.
c There was a combination of causes.

8 The main problems facing Detroit were …
a environmental
b financial
c social

9 How did bankruptcy affect the city?
a It allowed it to make a new start.
b It gave it an important place in history.
c It meant Detroit could spend billions of dollars.

10 Which statement is true?
a Bankruptcy makes it hard for new businesses in Detroit.
b Detroit today is attractive to small businesses.
c Old industries want to return to Detroit.

Life

Upper Int/Advanced Reading Text

Detroit: then and now

A message from Life co-author, Helen Stephenson

I've found the story of Detroit to be fascinating. It's like the rise of fall of the ancient empires we studied as schoolchildren. It's hard to imagine that places can 'fail' on such a huge scale. Now, it seems to have turned a corner, like a phoenix rising from the ashes, and it's the kind of story that restores your faith in people.

The city of Detroit, in the USA, was once compared to Paris. It had a broad river, grand boulevards and historically significant architecture. Then, in the 20th century, it became 'Motor City'. For a time, most of the world's cars were made here. There was steady work and a good salary in the motor industry. An autoworker could own a home, plus a boat, maybe even a holiday cottage. Some say America's middle class was born in Detroit – new highways certainly made it easy for workers to move from the city centre to the suburbs in the 1950s. But in the early years of the 21st century, Detroit became America's poorest big city.

In less than five decades, the once vibrant Motor City lost more than half its population. It gained a reputation as a failed city, full of abandoned buildings, widespread poverty and crime. Newspapers and magazines told stories of derelict homes and deserted streets. Photographers even went especially to Detroit to record the strange beauty of buildings and city blocks where nature was taking over again. What went wrong in Detroit?

The city is now 69th in population density (people per square mile) among US cities. Detroit's population fell for several reasons. Partly it was because people moved to the suburbs in the 1950s. Then there were devastating race riots in 1967, which scared even more people away from the city. Then there was the dramatic decline in car manufacture as companies like General Motors and Chrysler struggled to survive. And finally, in 2008, came the global financial crisis. The problem of Detroit was basic but hard to solve. Many of Detroit's people are poor: half of the city's households live on less than 25,000 dollars a year. They are spread across different neighbourhoods of this huge city (it's big enough to fit in Manhattan, Boston and San Francisco).

In 2013, the city did something unusual: it declared itself bankrupt. It was the largest city bankruptcy in US history, estimated at 18-20 billion dollars. Now that the city is free of debt, it has money to do some of what needs to be done. It has replaced about 40,000 streetlights so that places feel safer. Police response time has shrunk from almost an hour to less than 20 minutes. And roughly a hundred empty houses are demolished each week to make space for new buildings. With the nation's biggest urban bankruptcy behind it, Detroit is also attracting investors, innovators and young adventurers. New businesses have been encouraged with the New Economy Initiative. This gave grants of 10,000 dollars to each of 30 winners with ideas for small businesses. It seems that every week a new business opens in Detroit – grocery stores, juice bars, coffee shops, even bicycle makers. Finally, the city is working again.

glossary

boulevard (n) a wide street, usually with trees along the sides

derelict (adj) completely in ruins

race riot (n) violent public actions between groups of people with different racial identities

bankrupt (adj) unable to stay in business because of debts

Life

Upper/Adv. Reading comprehension

The first year of life

1 According to the article ...

a current theories about child development are incorrect.
b scientists are now able to confirm their ideas about the development of a baby's brain.
c we are only just starting to understand clearly how babies' brains develop.

2 According to the article, which statement is true?

a Babies who interact with technology develop more quickly.
b Information technology is useful for a child's brain development.
c Technology is an important tool for brain research.

3 Which statement is supported by the article?

a Babies' brains are programmed to develop in the same way.
b Early exposure to language promotes brain development.
c We can influence the way a child's brain develops.

4 According to the first paragraph ...

a in recent years, we have been able to discover the size of a newborn's brain.
b today's babies develop more quickly than in previous millennia.
c until a few years ago, the link between experiences and brain growth wasn't known.

5 A newborn baby's brain ...

a has a similar number of neurons to an adult's.
b has far fewer neurons than an adult's.
c has many more neurons than an adult's.

6 Which statement is implied by the second paragraph?

a Baby's brains use the same mechanisms as machines.
b Scientists are close to understanding how a child's brain learns.
c The ability to invent an imaginary friend is an indicator of brain development.

7 Which statement is true?

a Audio processing is not well developed in newborn babies.
b Babies' brains recognise different sound patterns.
c Judit Gervain discovered the region of the brain used to process speech.

8 Why is Judit Gervain's study interesting?

a It demonstrates that babies understand different words.
b It show that babies can begin to understand grammar.
c It suggests that word order is relevant to meaning.

9 What did Patricia Kuhl's study focus on?

a the effect of social interaction on learning
b the importance of exposing babies to language from many sources
c the way different languages are processed by babies

10 What is the main conclusion from Kuhl's study?

a Babies shouldn't watch a lot of television.
b Brain development is improved from interacting with people.
c Foreign languages help a baby's brain develop.

Life

Upper Int/Advanced Reading Text

The first year of life

A study into child development published in 2010 was one of the first to demonstrate that childhood experience influences the structure of the developing brain. Since then, other studies have shown a link between a baby's socioeconomic status and the growth of its brain. Despite millennia of child rearing, we have only a limited understanding of how babies take such gigantic strides in cognitive, linguistic, reasoning and planning ability. At birth the brain has nearly a hundred billion neurons, as many as in adulthood. As the baby grows, receiving a flood of input through their senses, neurons get connected to other neurons, resulting in some hundred trillion connections by the age of three.

Using new technology, scientists can better understand the mystery of how a child goes from being barely able to see when just born to being able to talk, ride a bike, draw, and invent an imaginary friend by the age of five. The more scientists find out about how children acquire the capacity for language, numbers and emotional understanding during this period, the more they realise that the baby brain is an incredible learning machine. Its future—to a great extent—is in our hands.

Judit Gervain, a cognitive neuroscientist at Paris Descartes University, tested how good newborns are at distinguishing different sound patterns. Using near-infrared spectroscopy, the researchers produced images of the brains of babies as they heard audio sequences. In some, the sounds were repeated in an ABB structure, such as mu-ba-ba; in others, an ABC structure, such as mu-ba-ge. The researchers found that brain regions responsible for speech and audio processing responded more strongly to the ABB sequences. In a later study they found that the newborn brain was also able to distinguish between audio sequences with an AAB pattern and those with an ABB pattern. Not only could babies notice repetition, they also were sensitive to where it occurred in the sequence. Gervain is excited by these findings because the order of sounds is the building block of words and grammar. 'Position is key to language,' she says. 'If something is at the beginning or at the end, it makes a big difference: "John killed the bear" is very different from "The bear killed John." '

Elsewhere, researchers led by Patricia Kuhl, a neuroscientist at the University of Washington in Seattle, have found that language delivered by television, audio book, internet, or smartphone—no matter how educational—doesn't appear to be enough for children's development. They carried out a study of nine-month-old American babies. The researchers expected the group who'd watched videos in Mandarin Chinese to show the same kind of learning as the group who were face-to-face with the same sounds. Instead they found a huge difference. The babies exposed to the language through human interactions were able to distinguish between similar Mandarin sounds as well as native listeners. But the other babies—regardless of whether they had watched the video or listened to the audio—showed no learning whatsoever.

‘We were blown away,’ Kuhl says. ‘It changed our fundamental thinking about the brain.’ The result of this and other studies led Kuhl to propose that social experience is necessary for linguistic, cognitive, and emotional development.

KEYWORDS

adulthood (n) the period of your life when you have finished growing and are no longer a child
childhood (n) the period of your life when you are a child, before you become an adult
distinguish (v) to recognize the differences between two or more things
fundamental (adj) relating to the most basic and important parts of something
infant (n) a baby or young child
key (adj) very important or necessary
newborn (adj) a newborn baby has only recently been born; (n) a newborn baby
notice (v) to become aware of something
thinking (n) ideas or opinions
understanding (n) knowledge about a subject

Life

Longevity

Reading Comprehension

Read the article and choose the correct option.

1 Research into long life …

a looks mainly at the influence of lifestyle.
b has changed its focus in recent years.
c suggests that luck is the key factor in reaching old age.

2 The important factors in long life …

a are mainly to do with people's daily habits.
b include a person's genetic makeup.
c seem to be connected to where people live.

Read the article again and choose the correct option.

3 According to the article, …

a people have been reaching the age of 100 for decades.
b there are very few people over 80 who are healthy.
c people could live to be 120 in the future.

4 According to the article, …

a the number of healthy old people is growing.
b certain illnesses such as high blood pressure need no medication.
c chronic diseases are not to be expected in elderly people.

5 In certain parts of Italy and Japan …

a the majority of elderly people are not in good health.
b about eight percent of people are over 100.
c healthy elderly inhabitants are the norm.

6 Research in Italy and Japan has shown that …

a old people tend to believe their age is due to what they eat.
b most people can't explain what the secret to long life is.
c there are many different factors influencing old age.

7 Some researchers …

a think that they've found a gene responsible for old age.
b have linked people's lifestyle to their genes.
c doubt that diet is the key to old age.

8 Laron syndrome is a genetic condition which …

a affects people in a number of ways.
b only affects groups in Ecuador and Hawaii.
c affects everyone in a family.

9 Laron syndrome is interesting to scientists because …

a it explains why some people don't grow tall.
b it shows that there is a genetic reason for old age.
c it only affects men.

10 Research into families in Calabria …

a doesn't support the idea of a genetic basis for old age.
b found that more women lived to old age than men.
c showed unexpected old age patterns.

Longevity

A message from *Life* co-author, Helen Stephenson
Tortoises are among the record-breakers when it comes to lifespan. They can often live for 200 years. I'm pretty sure I don't want to live that long, but, these days, we are all living longer. This article about long life has made me think a lot about old age. How would I feel about living beyond 100? What about you?

A long and healthy life?

A baby born today could live to be not only 100, but even 120 years old. Hard to believe? Apparently, there could be a gene for not only long life, but long and healthy life.

Even today, there are many, many people who have passed the landmark age of 100 – an age that seemed an impossible achievement only a few decades ago. In fact, there are now so many healthy, elderly people that a new term has been coined: the *wellderly*. These are people over the age of 80 who have no chronic diseases such as high blood pressure, coronary disease or diabetes and who have never taken medication for these conditions.

There have been quite a few scientific studies of communities where a healthy old age is typical. These include places like Calabria in southern Italy and the island of Okinawa in Japan.

The small village of Molochio in Calabria numbers about 2,000 inhabitants. And of these, there are at least eight centenarians. When researchers ask people like this what the secret of their long life is, the answer is invariably to do with diet and is almost always the same: 'I eat a lot of fruit and vegetables.' 'A little bit, but of everything.' 'No smoking, no drinking.'

But such evidence is now regarded as unreliable and these days scientists are looking beyond diet and lifestyle to genetic factors. Eric Topol is one researcher who questions the received wisdom, saying, 'There must be genes that explain why some individuals are protected from the harmful genes that affect the aging process.'

New research into long life, looking at groups of people who have a genetic connection, has taken scientists to Ecuador. In one small region there are a number of people with a genetic condition called Laron syndrome. The main effect of this condition is to restrict the individual's growth to little more than a metre, but it also seems to protect them against both cancer and diabetes. Ultimately, those with

Laron's syndrome live longer than the rest of their families. Meanwhile, on the Hawaiian island of Oahu, there's a completely separate group of Japanese-American men who are particularly long-lived. And it turns out that they have a variant of the same gene as the Laron syndrome group.

Back in Calabria, scientists have been trying to work out exactly how much of the local longevity is due to genetics and how much to environmental factors. By checking public records going back to the 19th century, researchers have reconstructed the family trees of 202 nonagenarians and centenarians. They concluded that there were genetic factors which seemed to benefit the men more than the women – a surprising result because generally in Europe, women centenarians outnumber men by about five to one.

So what really makes people live longer? It seems likely that it is an interaction of genes, the environment and ultimately a third factor beyond our control – luck.

Glossary
centenarian (n) – someone who is older than 100 years old
nonagenarian (n) – someone who is between 90 and 100 years old

Key Words
achievement (n) – something which someone has succeeded in doing, especially something difficult
benefit (v) – to help someone or improve their life
chronic (adj) – a chronic illness continues for a long time
evidence (n) – facts or physical signs that make you believe that something is true
harmful (adj) – having a bad effect on something or on someone's health
inhabitant (n) – the inhabitants of a place or region are the people who live there
medication (n) – a substance that you take to treat an illness
restrict (v) – to physically limit or control something
unreliable (adj) – not definitely true or correct

Wild weather

Reading Comprehension

Reading comprehension

Read the article and choose the correct option.

1 The article says that extreme weather events ...
a have an influence on the climate.
b kill more people than before.
c are part of a long-term change.

2 According to the article, ...
a scientists don't know what causes extreme weather.
b there's more than one factor influencing our weather.
c it's not possible for humans to influence the weather.

Read the article again and choose the correct option.

3 Why was the rain in Nashville considered to be an extreme event?
a There was very high rainfall over many days.
b The amount of rain was forecast in advance.
c There was very high rainfall in a very short time.

4 The rainfall in Nashville in 2010 ...
a last happened a thousand years ago.
b happens every one hundred years.
c caused very rare flooding.

5 What caused deaths in Rio de Janeiro?
a people were trapped under soil
b the intensity of the rain
c extensive floods

6 According to the article, ...
a there has been a dramatic increase in the economic costs of extreme weather.
b extreme weather events have risen by 25 percent since 2010.
c in 2011, 25 percent of financial losses were weather-related.

7 Which statement is not supported by information in the article?
a Extreme weather is influenced by human activity.
b Unusual weather events are part of natural weather cycles.
c Such extreme weather is too rare to be a result of climate change.

8 What is the key factor in the formation of storms?
a warmer land temperatures
b greenhouse gases
c moisture in the air

9 Why did fewer people die in France in the 2006 heat wave?
a There were better facilities provided.
b Fewer people were in city centres at the time.
c It wasn't as severe as in 2003.

10 According to Michael Oppenheimer ...
a there's no way to stop extreme weather.
b we can be better prepared for the effects of climate change.
c we need to spend more money so that fewer people die.

Life

Upper Int/Advanced Reading Text

Wild weather

What is happening to our weather?

One weekend in May 2010, Nashville in the USA was expecting a few centimetres of rain. Two days later, 33 centimetres had fallen and eleven people had died in the resulting floods.

There's been a change in the weather. Extreme events like the Nashville flood – described by officials as a once-in-a-millennium occurrence – are more frequent than before. Also in 2010, 28 centimetres of rain fell on Rio de Janeiro in 24 hours, causing mud slides that buried hundreds of people. And record rains in Pakistan led to flooding that affected more than 20 million people. The following year, floods in Thailand left factories near Bangkok under water, creating a worldwide shortage of computer hard drives. Meanwhile, severe droughts have affected Australia, Russia and East Africa. Deadly heat waves have hit Europe, leaving 35,000 people dead in 2003. Financial losses from such events jumped 25 percent to an estimated $150 billion worldwide in 2011.

What's going on? Are these extreme events signals of a dangerous, human-made change in the Earth's climate? Or are we just going through a natural run of bad luck? The short answer is: probably both. On the one hand, the most important influences on weather events are natural cycles in the climate. Two of the most famous weather cycles, El Niño and La Niña, originate in the Pacific Ocean and can affect weather patterns worldwide. But something else is happening too: the Earth is steadily getting warmer, with significantly more moisture in the atmosphere. The long-term accumulation of greenhouse gases in the atmosphere is trapping heat and warming up the land, oceans and atmosphere. As the oceans warm up, they produce more water vapour and this, in turn, feeds big storms, such as hurricanes and typhoons.

And yet, there are ways of dealing with the effects of such extreme events. After 2003, French cities set up air-conditioned shelters for use in heat waves. In the 2006 heat wave, the death rate was two-thirds lower.

'We know that warming of the Earth's surface is putting more moisture into the atmosphere. We've measured it. The satellites see it,' says climatologist Jay Gulledge. Another scientist, Michael Oppenheimer, agrees. We need to face up to that reality, he says, and do the things we know can save lives and money.