Unit 1 Minority languages in the British Isles

English is now a truly global language. There are around 375 million native speakers all over the world, and an incredible 1.5 billion people learn it as a second, third, or fourth language. It has become the common language of business, international politics and the internet.

It is hardly surprising, then, that when people think of languages in the UK, they only think of English. After all, almost 92% of the population speak it as their first language; and although the rest speak their native tongue at home, English is still their first language at work or at school. But did you know that English isn't the only language native to Britain? In fact, the UK is home to several other indigenous languages.

Most of these languages have their roots in Celtic culture. The Celts are thought to have arrived in Britain around 750 BCE, and people have been speaking a variety of Celtic dialects ever since.

But before the Anglo-Saxons arrived in the 5th century, these languages were much more widespread. Over the last 1,500 years, English has grown and developed, spreading across the country and replacing the ancient tongues in all but the most remote regions.

Today, around 60,000 people speak Scottish Gaelic. Most of these live in the Highlands or on the islands off the north-western coast. This region of Scottish Gaelic speakers is known as the *Gáidhealtachd* – and you can see the language in the area's names and signs. Thanks to Scottish emigration in the 17th and 18th centuries, Scottish Gaelic communities have developed in Canada, too.

The closest language to Scottish Gaelic is Irish – or *Gaeilge* – a language still spoken in large parts of the Republic of Ireland, especially in the west, and in some areas of Northern Ireland, too. Irish is still very much alive here. It is the first official language of the Republic; and while there are only around 80,000 native speakers, almost everybody has some knowledge of the language. It has grown north of the border, too, with around ten % of the population speaking it regularly.

Irish and Scottish Gaelic are both Goidelic languages, but this is only one of two groups of Celtic languages in the UK. The other is the Brittonic family of languages, which includes Welsh and Cornish in the UK, as well as Breton in northern France.

In Wales, around 560,000 people speak Welsh, which is almost 20 % of the population. The language is particularly common in the north and north-west, and in some towns the majority of the population is Welsh-speaking. In cities like Cardiff, the language isn't quite as popular, with just over 12% of residents speaking it. But even here, Welsh-language schools have become very common, with around 40% of 5–15 year olds having some Welsh.

The Cornish language is similar to Welsh, but far fewer people speak it. The last native speaker died over 240 years ago, and the language was declared extinct in the 19th century. It lived on only in the region's place names, many of which take their names from the Cornish words for *house*, *hill* and *cove*. In recent years, however, it has made a comeback. Today, around three to five hundred people speak it fluently. It is even taught in some schools, and is especially popular with young people like Barney and Jowdy.

I think it's important to keep speaking Cornish, to keep it alive… because it's all around us. We say everyone in Cornwall is a Cornish speaker, you can't give directions without speaking a bit of Cornish, it's in the place names and the street names. And so it's very much a part of what makes us distinct, unique ... and why wouldn't you want to celebrate that?

Minority languages like these aren't unique to the UK. Many countries have regional languages that were once widely spoken but have slowly been replaced by more dominant languages. It is a trend that is continuing around the world. In fact, experts predict that around 50% of the world's 6,500 languages could be extinct by the end of the century.

But the recent growth of languages like Gaelic, Welsh and even Cornish show that you don't have to sacrifice one language to speak another. People in these places – and in other parts of the country, too – have fought to keep their local language alive, often because it is an important part of their identity. Language can provide a unique link to our culture and heritage; and in an era when literally thousands of languages are dying out, that is something worth keeping.

Unit 2 Learning holidays

It's eight in the morning and I've just arrived in St Ives, one of Britain's most famous seaside towns. I caught the Riviera Sleeper from London late last night, and woke up a world away from the hustle and bustle of the capital city. Britain may not be well known for its holiday resorts, but St Ives is incredible.

This small fishing town in the south-west corner of England is home to some of the most stunning scenery in the country. While the climate can't compete with Spain or Greece, its spectacular coastline and long sandy beaches have made it one of the most popular beach resorts in Europe. It's the perfect destination for a long, relaxing holiday.

But not all holidays are about taking it easy. I haven't come here to spend my weekend sunbathing; I've come here to paint. I haven't picked up a paintbrush since I left school, but I've come here to develop a new skill I can take home with me. And I think I've come to the right place, because St Ives isn't just famous for its beaches; it's also famous for the arts.

Artists have always been attracted to St Ives, and for over a century they have lived here among the townspeople and local fishermen. In the 1930s and 40s the town was a centre of creativity, attracting many talented artists. By the 1950s, it had become home to a large group of influential painters and sculptors who were creating some of the most exciting art of the time. Today, it is home to one of the world-famous Tate museums and artists from all over the world live and work here.

Many of them teach at local art schools like this – the St Ives School of Painting.

For over 75 years, the school has been at the centre of the town's artistic community and some of St Ives best known artists have worked and studied here. The school was originally opened in 1938 by two trained artists who had originally met as soldiers during the First World War. In 1948, the school purchased the Porthmeor Studios, which had been used by St Ives artists for over sixty years. This weathered studio complex is still the school's main workspace. Its location on the edge of Porthmeor Beach makes it a beautiful place to work, and while the town has changed and the studios have been renovated, artists can still draw inspiration from the ocean views and sounds of fishing boats in the harbour.

Today, the school is still a major part of the town's thriving art scene and many of the teachers here are prominent artists. But you don't have to be a highly skilled artist to come here. The school runs courses on many different art forms for all ranges of ability. As a beginner, I've come here to take part in a mixed media class, where students try different styles of painting.

This class is part of a creative weekender, where students spend the whole weekend trying new styles of art. The course begins at 9.45 on Saturday morning and ends on Sunday at 3 p.m.

The school provides everything – easels, paints, brushes and materials. All you have to do is turn up with an open mind and lots of enthusiasm. This weekend, we're concentrating on still life; but because it's a mixed media weekend, we're looking at various styles and techniques, including drawing, printmaking and oil painting.

There are several teachers specializing in different art forms, and there are never more than eight students, so

teachers have a lot of time to explain and demonstrate. While these tutors are all skilled artists, they also know how to teach. And building confidence is central to the school's philosophy.

It's time to go home, and like most people I never enjoy the end of a holiday – but I have bought a memento. It isn't sweets or souvenirs ... it's a paintbrush. When I get back to London, I'm going to practise so that on my next holiday I can paint with confidence. Or, who knows? Maybe I'll learn a completely new skill!

Unit 3 The future of work

Interviewer Phil Taylor has worked in recruitment in the UK and Australia. He specializes in the recruitment of senior management. How has recruitment changed over the past decade? And what are the skills that you look for now that you wouldn't have looked for about a decade ago?

Phil Sure. So, I think the big change has been technology. Um, so technology has touched just about every industry. Um, in some industries it's shut it down; in some industries it's enhanced it and, and made it more profitable and, and more accessible really. Um, so that's certainly the key thing. Um, probably when I first started in recruitment, um, someone who could maybe write in, uh, html code or build a website was quite a rare skill; um, whereas now it's, you know, it becomes part of a, a marketing person's job or part of an admin role. Um, so those skills are now, um, are much easier to find than they were a decade ago. Um, probably the changes that are coming along now, um, are, um, taking that to the next level really. So, um, instead of building websites it's being able to create, um, digital media type content that, that does fancy things on the screen to help people learn or, um, to, you know, to support different businesses and those sort of skills are the ones that are quite difficult to find now.

Interviewer So, would you say that working practices are changing? And if so, how?

Phil Yeah, I, I would say definitely. Um, certainly ten years ago it was, it was a very static work environment where you would come into the office and you would do your work from nine to five. Whereas now, um, companies are trying to be more creative with the, the workspace. Um, and this is really to encourage the, the sort of next generation of workers to, to choose them as their employer. Um, and, so that would be things like, um, working from your iPad in the coffee shop down the road maybe. Um, or you know, or it could be that, um,you only need to be in the office, three, uh, days a week as opposed to the traditional five days a week, uh, and have those two days to, to work somewhere else. So, agile working has become quite a popular thing, um, with a lot of large companies; um, particularly companies that are running out of office space and, and don't have, um, you know, the opportunity to buy more space.

Interviewer Do you think in general, not related to your employer particularly, that agile working works?

Phil Um, there's two ways of looking at this: um, I would say for the, the younger generation those coming now that are internet natives, um,that are, um, are used to being in a, in a creative environment I think it works very well. I think for, um, for probably the more mature workers within the organization, um, it may seem quite disruptive for them. Um, and having… uh, you know, not having their own set workspace, not having their own, um, files around them all the time probably can be quite unsettling. Um, however it's, it's proven to work in several organisations from the top executives down to the, to the junior members of staff so there are proven examples of where it has worked.

Interviewer What challenges do you see in the changes in skills required and working practices today?

Phil I would say the, the challenges, if we talk about maybe the businesses first, probably the challenge is, is not having all your staff in one place and, and seeing what they're doing. So, um, you don't have full visibility of their productivity on a, on a day to day basis. Obviously, you will see the outputs of the work that they produce, um, at certain points throughout the week or the month, etc. Um, but not having all your staff in one place could possibly be quite unsettling to some businesses; particularly a small business, um, where, um, you know, profits

and margins are incredibly important.

If maybe then we went onto work workers, I would say probably the challenge for workers is, um, maybe not having your, your own workstation that, that… or your own office which, um, you know, a lot of people traditionally have been used to. Um, that can be quite unsettling for some people, but um, I think all of these challenges can be overcome if, if the, you know, the types of working practices that we're talking about are implemented successfully within a business.

Interviewer Do you think there are any dangers to the areas of productivity, creativity and motivation with new working practices that you just outlined?

Phil Yeah, I mean, one of the things probably there that I've touched on already is not being able to see what your staff are doing all the time. And I would say also with the, the increase, um, of use in social media by businesses these days, not just the personal use for… of the individual, but, but businesses having specialists who come to work specifically on social media means that lots of people in that business will, will have access to that social media. So, um, again, you know, businesses may be, uh, concerned that whilst they can't see their staff, um, and can't see what they're doing, they may also just be, um, you know, utilising the social media channels that their… that that business uses, um, for their own personal use and so that could be quite a, a challenge for some organizations.

Interviewer What do you think the future holds for the 21st century worker? Do you think that that future will be a better place to work?

Phil Um, what does the future hold? Well, I'd probably be a very rich man if I was able to predict what the future is. Um, I would like to think that the future working practices and, and working conditions are, are interesting and engaging and… Um, you know, I would say that people these days are having to work a lot longer, um, so it could well be that both you and I are still working, uh, you know, well into the 21st century. Um, and so I sincerely hope that those working practices are very interesting and engaging. I think for the younger workers coming through now, um, and new people just starting their careers it's, it's important for them to, um, to, to find somewhere that they, that they enjoy working and that they feel that they can make a worthy contribution. Whilst I can't predict exactly what the future will be, I would like to, I would like to think that it will certainly be interesting.

Unit 4 La Belle Époque

From 1878 to 1914, Western Europe enjoyed an era of peace and prosperity. People had more time and more money, so they could enjoy themselves and express themselves more than ever before. It was a time of great optimism and creativity. And at its centre was Paris.

In France, this period became known as La Belle Époque – the Beautiful Era. Many of the world's greatest artists, architects, and engineers were living in the city at the time; and much of their work can still be seen today.

The Eiffel Tower is now a symbol of France, but it originally served as a temporary entrance to the 1889 World Fair. The French government had it built to celebrate the 100th anniversary of the French revolution, and at 324 metres it was the tallest structure in the world for over forty years. It was designed by Gustave Eiffel, who described it as the perfect example of the 'art of the modern engineer'.

This mixture of art and science was a popular theme in Paris at the time. All over the city, scientists, engineers, architects and artists were combining knowledge to create buildings and objects that were not only functional, but beautiful, too.

This reached its highpoint at the city's next World Fair in 1900. The Fair exhibited some of the most technologically advanced inventions of the time – including diesel engines, talking films and escalators – as well as promoting a new artistic style: art nouveau. This style can still be seen all over Paris, and some of the city's most famous buildings were opened especially for the Fair.

This is the Musée d'Orsay, a fine art museum on the left bank of the river Seine. It hasn't always been a museum. It was originally named the Gare d'Orsay and was one of the city's main train stations. It was opened in 1900 – just in time for the Fair. Its incredible structure of iron and glass made it one of the most popular attractions at the exhibition. It became a museum in 1986. Today, it is a true celebration of Belle Époque Paris, housing some of the most famous works of art of the time including masterpieces from artists like Van Gogh, Monet and Cézanne.

As the Gare d'Orsay opened above ground, work was also finishing on the Métro below ground. The first line opened on the 19th of July 1900 and was another fantastic blend of function and style. It was hailed as a masterpiece of art nouveau and was immediately popular with the French public. Today, the Paris metro has 214 kilometres of line and is used by almost 1.4 billion travellers every year. It's still a design classic, and the network's unusual signs have become icons of the city.

La Belle Époque was a period of intense creativity in Paris, which coincided with the beginning of the technological age. In the city's famous restaurants and cafés, the best-known artists in the world mingled with some of the greatest innovators of the time.

The Belle Époque era ended in 1914, but it left an enduring legacy. Over the last century, people have become nostalgic for the era's elegance and excitement. Of course, Paris has changed a lot since then, but all over the city there are still glimpses of the beauty of the Belle Époque.

Unit 5 Boredom

This is my favourite place in London because it's the only quiet spot for miles around. Like many people, I spend most of my day rushing around - answering the phone, responding to emails, attending meeting after meeting. I never seem to stop doing things. I'm tired of constantly being busy. So whenever I can, I grab a book, find a quiet spot, and relax.

But then, after a while, I get bored. My mind starts wandering and I zone out. So I swap my book for my phone and go online. Then I check my emails and before I know it, I'm working again! I hate being busy all the time, but I hate having nothing to do, too. I think a lot of people feel this way. But isn't this a contradiction? How can we be busier than ever before and still feel bored?

The first answer is that while we may all feel a lot busier, statistics show that we actually work a lot less than we used to.

In Germany, for example, people work 41% fewer hours than they did in 1950. In the Netherlands, people work 40% fewer hours; in the UK people work 24.6% fewer hours and even in the USA, where working hours are generally longer than in Europe, the average employee spends 10% less time working than they did sixty-five years ago.

So, why do we *feel* busier? One reason might be that the boundaries between our home life and our work life are blurred.

In 1950, most people worked in workplaces so when they were at work, they worked and when they were at home, they didn't.

Today, many of us end up working at home in the evenings, even when we've spent a full day in the office. And that's if we work in an office at all. Technology means that more and more of us can work from home. So when we're at work, we're at home; and when we're at home, we're at work.

Although we're working less, we never really switch off, so we feel busy all the time. And because we're used to feeling busy all the time, we get bored easily.

In fact, the modern concept of 'boredom' is relatively recent. The word itself first appeared in the Charles Dickens novel *Bleak House* in 1852. Over the last 165 years, it has become a popular way to describe tedious situations and activities, perhaps because tedious activities have become increasingly common.

Before the 19th century, most people's jobs were physically demanding. However, the industrial revolution created factories and production lines. These production line jobs were usually very, very repetitive and, as a result, boring.

As the world industrialized throughout the 20th century, they became much more common; and by 1950, a lot of people were doing jobs that required little more than simple, repetitive actions. As a result, boredom became a very common problem.

But then, towards the end of the 20th century, the internet arrived. Many people still had boring jobs; they had just swapped the conveyor belt for a computer. But between dull spreadsheets and uninspiring pie charts, they could

access all kinds of things, from serious news stories to funny animal videos. Today, thanks to faster internet speeds and mobile technology, we now have access to instant entertainment wherever we are.

But does this mean the end of boredom? Well, no. In fact, many experts say we are more easily bored than ever before. The internet allows us to move quickly from website to website, so the minute we become bored with something we can change. This culture of instant gratification has resulted in shorter attention spans and as a result, we quickly become restless.

Today, most of us work fewer hours and have more fun things to occupy our time, yet feelings of both busyness and boredom still persist. But what can we do? It might seem like a contradiction, but these feelings may have a common root cause – we simply do too many things, too often. Perhaps we need to forget about doing lots of things at once and focus on one thing – like a book.

Unit 6 Communal living

San Francisco is one of the fastest-growing cities in the USA. Thanks to its location just north of Silicon Valley, business is booming and the city's attracting some of the world's most successful technology companies.

But traditionally, San Francisco has always felt more like a small city than a bustling metropolis. During the sixties and seventies, it was a vibrant hub of art, music and politics and its reputation as a centre of counterculture attracted people from all over the world.

Today, however, the city's writers, eco-warriors and activists live alongside technology entrepreneurs and millionaire business leaders. This has created a new buzz, but some feel San Francisco is losing its sense of community.

One reason for this is house prices. San Francisco now has the most expensive average house prices of any American city and many long-time residents are moving to more affordable locations just outside the city.

This is Sausalito - a small, waterfront community just across the Golden Gate Bridge from San Francisco. A large number of the residents here still work in the city, but they prefer living in Sausalito for its small town feel. However, thanks to this influx of new residents, the house prices here are rising too, with the average Sausalito house costing more than 1 million dollars.

But there is one area that still offers affordable housing and a strong neighbourly spirit – Sausalito's world-famous houseboat community. Here, right on the dock of Richardson Bay, there are 400 floating homes across five purpose-built marinas. Residents Carl and Joan have both spent many years living as part of the tight-knit Sausalito house-boat community.

I've been here forty-one years, over forty-one, since '74. I've never lived in a place this long. I mean all the houses and apartments I lived in – the longest I ever lived in one place was a year and a half. As far as like living here, I, you know, it's the greatest thing I've ever done really. I'd hate to have to leave here.

I moved here in 1997, so I've lived here for eighteen years. Uh, it's different and i just love it – I love living here, I love the view, I like the people and there's just a great sense of community here that I really enjoy.

During the Second World War, the area here had been home to a huge industrial shipyard, which closed in 1945. Immediately afterwards a number of people moved here and converted the old boats into homes. Over the years, the community grew; and by the sixties and seventies, it had a reputation as a fun, exciting and creative place to live.

Today, the houseboats are connected to local amenities and many residents claim they are as comfortable as any small house.

Well, there're so many different types of houseboats – they all look pretty different and some are extremely modern and really lovely. Some need a lot more work than others do and most of us are kind of, sort of in-between where there's always something to do to make it better.

The houseboat owners face many unique challenges and maintenance is a constant battle against nature. In order

to combat this, the residents here work together, sharing knowledge, tools, and labour to ensure everybody has a safe and secure home to live in.

The Sausalito houseboat community has changed a lot since the days of the hippies. The floating homes here today are much more permanent than they used to be. They cost more too, but are still *much* cheaper than other properties in the same area. Joan and Carl have experienced these changes first-hand.

If there's any challenge, it might be that somebody up on the hill in Sausalito say 'Oh, you live in a houseboat – oh, my dear', you know. 'Oh, my – isn't that nice' and that would be about it, you know. A lot of people look down their noses at houseboats because they all originated back in the hippy days, you know. People out here doing hippy things and of course, the people on the hill – the money people – didn't like that at the time, but they're coming down now out of the mountains and there're living all over here. These guys are millionaires; a lot of these people are buying these boats now are million – literally millionaires – there's four, five, six on this dock. It used to be all poor people – all artists, you know: photographers, painters, writers, musicians – but it's mainly, yes, the community is pretty tight – it's much tighter than we get in the city because people don't know each other in a big apartment house, you don't know the people that are living down the hall, really. But around here, everybody knows everybody and we look out for each other.

So even if a lot has changed here, the Sausalito community has worked hard to preserve the neighbourliness and creativity that has made it such an attractive place to live. This small collection of houseboats may be just ten minutes from one of America's fastest-growing cities, but it still feels like a small village by the bay.

Unit 7 Against the law?

Most of us agree that society needs laws. It turns the things we should and shouldn't do into duties we must perform and crimes we mustn't commit. In theory, it is a simple idea: laws are passed by parliament and enforced by the police. If a person breaks them, they are convicted and punished with a fine or a prison sentence.

But in practice, it is much more complicated. There are thousands of legal statutes that govern everything from major crimes to minor misdemeanours. While most of these are both sensible and necessary, some can be a little strange.

In the UK, for example, it's illegal to wear a suit of armour in the Houses of Parliament, thanks to a law that's over 700 years old. In the US state of New Hampshire, it has been a crime to collect seaweed at night since 1973; and in Singapore, residents can't buy chewing gum without a medical prescription.

These are all real laws. They were proposed by politicians, debated in parliaments and passed by national, federal and local governments. But bizarre laws like these are actually relatively rare. More often than not the problem is with how a law is interpreted. Take Italy, for example.

A few years ago, visitors and locals were being terrified by the local authorities. In Capri, tourists were cautioned for wearing excessively loud flip-flops, in Milan a couple were fined £100 each for sitting in the shade of a statue and in Eraclea, a small seaside town near Venice, holiday makers were banned from building sandcastles – a crime punishable with a £200 fine! Originally these laws were enacted to combat things like vandalism and noise pollution, but overzealous local officials took things a little too far!

Absurd interpretations of the law are not limited to Europe. In America, where each state can pass its own laws, people could be apprehended for all kinds of odd misdemeanours, if the law is read in a certain way.

People often claim, for example, that it is illegal to make funny faces at police dogs in Oklahoma. However, this isn't strictly true. The law actually states that people mustn't 'torment' police dogs. This was intended to ban people from acting aggressively or violently towards the animals, but as 'torment' could mean anything from torture to pulling funny faces, a myth was born.

Other popular myths often arise from ancient laws that linger in the public's imagination. In the UK, one of the most persistent of these concerns this – the humble mince pie. Although the mince pie is a traditional Christmas treat, many people believe it's actually illegal on the day itself. And it was – once.

In 1644, the 25th of December fell on a day of fasting, making it illegal to eat anything, including mince pies. Three years later, in 1647, the new republican government passed a law that made all festivals – including Christmas – illegal. This didn't specifically ban mince pies, but they were a festive symbol and so shouldn't have been eaten. However, when the king returned in 1660, these laws were dismissed and today we can all eat mince pies without fear of punishment.

Across the world, there are all kinds of strange laws, as well as bizarre legal interpretations and many myths and legends. In the end, it can be difficult to know what is illegal and what isn't! But one thing is certain – In a world full of laws and regulations, sometimes we just need to use a little common sense!

Unit 8 Traditional skills

In the modern world, China is a major player. It has the world's second-biggest economy, worth over 9 trillion dollars, and dominates manufacturing, producing around 90% of the world's computers, 70% of the world's phones and 60% of the world's shoes.

This emphasis on manufacturing means many of the people that live in China are moving from rural farming areas to find work in the country's rapidly expanding cities. This is a lot of people. After all, China is the most populous country on the planet with a population of over 1.3 billion people.

Over the last thirty-five years, China has transformed from a largely rural society whose traditions hadn't changed for centuries to one of the most modern, urban and technologically advanced nations in the world.

But China is also one of the oldest civilizations. Many of the most important modern inventions and discoveries happened here, and one of the most important was the invention of paper.

Paper was first made here in the Han dynasty over two thousand years ago and spread across the world via ancient China's many trading routes.

This rich heritage, which stretches back thousands of years, is very important to Chinese culture; and many people still struggle to keep the ancient techniques alive.

This is Shiqiao Village in China's Guizhou province, one of the few places left in China that still makes its living from paper-making using traditional techniques. It was once a centre of the industry famed for its delicate Xuan paper, but today it is mainly a tourist attraction, exhibiting a process that hasn't changed for centuries.

It starts with this – the Wingceltis tree – a variety of elm whose bark is crucial to Xuan paper. First, the tree limbs are hacked down and stripped of their bark. This is washed and cleaned in the local river – before it is separated into long strands of fibre. To stay true to the ancient methods, the workers here use very little machinery and what they do use is very basic. Instead, they use their hands. It is a long and painstaking process, but this is the way the people who live in this area have worked for thousands of years.

Once the bark has been stripped as finely as possible, it is boiled and steamed in vats like this, which are heated by these large coal ovens. After a while, the bark – which has been cleaned and softened – is pounded by these large wooden mallets, which separates the bark and leaves just the fibre. This is mixed with water again to create pulp – the first step towards the final product.

This pulp is then filtered using these large wooden screens. Eventually, the screens separate the fibres from the water leaving a fine film of paper, which is layered to form a huge block. This process is repeated again and again, until eventually all the fibre is removed from the pulp. When they are ready, these sheets are separated ... and carefully brushed against the wall to dry. It is here that we can see the final transformation from pulp to paper.

This paper is quite different to the mass-produced product we all use today. It's thicker and more like fabric – and it's beautiful. The highly skilled craftsmen and women that live in this small rural village use it to make a range of products, from notebooks to lanterns. Of course, these items are a lot more expensive than factory-made paper

products, but it's worth it. This paper is made to be kept, not simply used and discarded.

In many modern businesses, quantity is more important than quality. In pursuit of profits companies want to produce more and more for less and less. But here in Shiqiao, the emphasis is on the technique rather than the profit margin. This process has been refined over centuries, and the skills it requires have been passed down from generation to generation. So in the end, the product that they produce is almost the same today as it was over a thousand years ago.

Unit 9 A town in the shadows

There is little doubt that the weather can dramatically affect our mood.

Many of us will have happy memories of time spent relaxing in a park on a bright and sunny day, with the smell of freshly cut grass and the reassuring warmth of the sun on our skin.

We can all remember a time we've ended up miserable and annoyed after getting soaked to the skin just trying to get to work on a grey and rainy day, when we would much rather be dry and cosy on the sofa at home.

But some extremes of climate, and geography, can have a far more dramatic impact on our physical and mental well-being than the occasional day of bad weather.

Few of us can even imagine what it is like to live in shadow, not seeing the sun outside our window for nearly six months every year.

But this is the reality of living in the small town of Rjukan in the Telemark district of Norway.

For Rjukan, the problem is not simply its climate, although the average temperature in the winter rarely exceeds -5°C – with fewer than six hours of sunlight a day in mid-December. It is the result of the town's geography.

The town lies at the foot of one of the tallest mountains in southern Norway – the magnificent Gaustatoppen. On the high plateau above it, the tracks of a popular ski resort criss-cross the brightly lit snow. While hidden deep down in the Vestfjord valley, Rjukan's residents get used to being denied any more than a distant glimpse of the low winter sun for the long months between October and March.

But, ironically, the town owes its very existence to this seemingly uninviting location. It was founded in 1908 by the industrialist Sam Eyde, when his company, Nordsk Hydro, built the world's largest hydroelectric power plant at the site of the 104-metre Rjukan waterfall.

Today, while the original Vormork power plant is now a museum and tourist attraction, the legacy of Sam Eyde lives on in Rjukan. And, curiously, it's not just for his industrial achievements that he's remembered.

Eyde understood the toll that living in the shadows for six months of the year had on the people of Rjukan. As early as 1913, he came up with the idea of using mirrors on the mountain tops to reflect sun down into the town. But he had neither the resources nor the technology to put this plan into action. Instead, in 1928, Nordsk Hydro paid for the construction of a cable car that could take the town's residents up out of the shadows to enjoy some much needed sunlight.

And that's how it used to be for the people of Rjukan. If you wanted to feel the warmth of the winter sun on your face, you had to leave the town.

That was until 2001 when the artist, Martin Andersen, decided to revisit Eyde's original sun mirrors idea with cutting-edge technology.

Twelve years later, three 17-square-metre glass mirrors finally sat on the mountain-side high above the town. Today, controlled by a computer in Germany, they follow the path of the sun and reflect its rays into Rjukan's town square. The artificial sunlight that illuminates the benches far down in the valley is only 20% less intense than the

actual sun.

Bringing the light back to the town was a costly and slow process. Not everyone thought that a small patch of sun was worth the half a million dollars it took to build the mirrors. But seeing faces brighten as they step into the sunlight makes it seem like a small price to pay.

Teachers bring their students to eat their lunch in the sun, and older people come to relax and chat with friends. The difference the sunshine makes is magical. It brings people together, and it makes them smile. The residents of Rjukan no longer have to spend the winter in the shadows waiting impatiently for the sun to return and it's clear that they're all enjoying getting used to their new place in the sun.

Unit 10 Why we see colour

Interviewer Beau Lotto is a neuroscientist based at University College London. He specializes in human perception, especially how we perceive colours. Could you start off by telling us a little bit about yourself and what got you interested in colour and perception of colour?

Beau Hm. So, uh, a bit about myself. Uh, so I'm a neuroscientist, uh, at University College London. And I study perception, and in particular perception of colour. So, it's ... Why would anyone want to study colour? And the answer really is that colour is the simplest thing that your brain does. And, as I often say, uh, even jellyfish see lightness and they don't even have a brain. And why is that important? The reason is if we could understand how we see colour and if we could pull out the principles of that, then what's true there has to be true everywhere else; has to be true all the way up in everything else that we do. So, it's… studying colour is about really trying to study the essence of what it is to be human.

Interviewer How do we see, and how does past experience help us to see or make sense of what we are seeing?

Beau OK. So, how do we see? We don't know. We don't have a clue how we see. Right? Basically, we don't really know how the brain works; how the brain takes sensory stimuli and turns it into this conscious perception that we experience. We don't know how that works. Right? But we're starting to get some clues. But one of the reasons why we don't know how that works very well is because we've been approaching the problem with the wrong assumptions. OK? Your assumptions define the kinds of questions you ask and therefore the kinds of answers you look for. And you can never ask a question without an assumption. And the significance of the assumption when it comes to neuroscience is we've assumed that the brain evolved to see the world as it really is. And if you think that we're literally seeing the world as it is, and that's the task of perception, then you're going to do experiments, you're going to explore the brain with that, with that framework. But what if your brain didn't evolve to see the world as it really is? If that's true, then we're asking completely the wrong questions. And that's one of the reasons why we know very little.

Interviewer From your point of view, what is colour for?

Beau Simply put, colour enables us to distinguish between surfaces that we wouldn't normally be able to distinguish between. So if two surfaces reflect the same amount of light to your eye, then if we didn't see in colour they would look exactly the same lightness. But if one reflects more shortwave lengths than the other, then while they might appear the same lightness, they now appear different colours. And that's what it, that's what colour is for: it better enables us to extinguish surfaces that reflect the same amount of light but different qualities of light.

Interviewer Is it then true that we see in only four colours?

Beau Yes. So, uh, this idea that we see in four colours is potentially quite confusing for people because they think that 'well, I literally see millions of colours'. And in fact that's true. I can make subtle distinctions between different shades, millions of different shades – we can see in our computer monitor. And the ability to see the

distinction between one spectral distribution, one wavelength and another is called the 'just noticeable difference': how much do I have to change this before I notice the difference? And when I do that, again, I can see millions of changes. And yet all those changes, all those colours get categorized in four different ways. Right? And there are only four categories of colour, which is red, green, blue and yellow. Everything is a combination of those colours. So, orange is the combination of red and yellow. Purple is the combination of red and blue. And so basically we have four categories of colour. So, why do we see four? Again, no one really knows.

Interviewer Can you tell us something that you're working on at the Lotto lab at UCL at the moment?

Beau What we're discovering is that through colour context is everything. Your brain did not evolve to see absolutes. So, first of all, colour doesn't exist in the world. Right? There is physically no colour out there. You close your eyes, colour disappears. Right? Light is not coloured. Colour is literally a physical manifestation of your brain. That's where colour lives. In fact, everything that you see exists in your head – which is an amazing paradox because what we see seems to be out in the world in front of us, but we're projecting that literally in front of us. So, what colour demonstrates and we're learning is that your brain didn't evolve to see absolutes; it evolved to see relationships. And more significantly, it evolved to see what those relationships meant for your behaviour in the past. And what we're learning is that colour, like everything else, is seeing a meaning. It's not a cognitive meaning, but it's still a behavioural meaning. And with that type of framework we're better able to understand the mechanisms, then, about how your brain sees.

Interviewer Could you take us through one area where, where there's been a practical use of what you've researched?

Beau Yeah, so what's practical about what we do? I mean, put it another way ... 'Who cares?', I suppose, is another way of phrasing the question. And ... I have approached that in a number of ways. Uh, one of the ways – the practical outcome – is this conversation, is one example. It's ultimately trying to get people to see things differently. And if you can give them the principles by which your brain sees differently at the level of colour, then maybe they can apply those principles to other things that they do in their life: so, the way they make decisions; to get people to… to enable people to consider the possibility of being more creative, more compassionate, more courageous. So, to me I see that is a potential direct outcome to thinking about how your brain deals with colour vision. It's about applying the principles; it's about applying a framework – which is fundamental education as well.

Unit 11 Going viral

Welcome to Fleet Street, the traditional home of the British media. In 1702, London's first daily newspaper – the *Daily Courant* – was published near here; and for almost 300 years, this busy area was the centre of the UK's newspaper industry.

By the 20th century, most of the country's major media organizations had their headquarters here. This building was the home of the *Daily Telegraph*, this was the *Daily Express* and this was the head office of the international press agency Reuters. *The Sun*, the *News of the World*, and *The Times* were all nearby.

But there are very few newspaper organizations around here now. After all, these old, ornate buildings aren't very suitable for the rapidly changing industry.

For centuries, most people in the UK got their news from newspapers. At the industry's height, popular tabloid newspapers like *The Sun* and the *Daily Mirror* had a circulation of around 4 million. Today, *The Sun*'s circulation is less than 2 million, while the *Daily Mirror*'s is less than 1 million. Why? Because many people don't read newspapers; they get their news online instead.

Millions of people across the world read news websites, and they have huge global circulations. Yahoo! News, the world's most-read news website, has an incredible 175 million readers a month.

And now social media sites are changing everything. Sites like Facebook, Twitter and LinkedIn don't produce news, but people often read and share news stories on their sites.

In the USA, for example, 64% of adults use Facebook; and 30% of these people reported that they read most of their news on the site.

So people aren't reading the front pages any more; they're reading the most popular stories on their social media accounts. But, there are problems. Many social media users aren't journalists, and some of these stories aren't news at all.

But social media is so popular that newspapers report on what they say. It's a vicious circle where newspapers report stories, these stories are shared and exaggerated online, and then other newspapers report from social media.

Look at this headline, for example: 'Ghost ship carrying cannibal rats heading for Britain!' Sounds terrifying! But the story was hugely overstated. The ship never came near British soil and there was no proof of rats being on board; certainly not cannibal rats! So, where did this story come from?

On the 21st October 2013, the *Irish Independent* reported that an old Yugoslavian ship called the *Lyubov Orlova* had become loose and had gotten lost in the Atlantic Ocean. In the story, the Irish Coast Guard director told the newspaper that the boat had been beside the harbour, so he *assumed* there were rats on

board.

A few months later, *The Sun* picked up the story. They interviewed a Belgian salvage dealer who wanted to find the ship to make money. He claimed there would be lots of rats and that rats ate each other.

Rats became ‘cannibal rats’ and the story was soon all over the internet. The ship even got a Facebook page and Twitter account!

Many major newspapers reported this ‘cannibal rats’ story but in the end, had to admit that very little happened. We’ll never know if any rats were on board, but if there were, they probably weren’t cannibal rats. In one story, an animal expert pointed out that rats are as likely to eat one another as humans are.

The empty ship drifted around the ocean before disappearing, probably sinking somewhere in the middle of the Atlantic.

So, the story wasn’t exactly *news*. But we did learn one thing – we shouldn’t believe everything we read in the papers … or on the internet!

Unit 12 Dynasty – The Churchills

Winston Churchill is arguably the most famous man in recent British history. During a career spanning sixty-five years, he became a national hero; and in 2002, a BBC poll voted him the Greatest Briton of all time. But Churchill's success didn't come from nowhere. He was a member of one of the wealthiest and most powerful families in the country – the Spencer-Churchills – and he was born here, in Blenheim Palace.

In 1702, Winston's ancestor John Churchill became the first Duke of Marlborough. He was a powerful man and an excellent soldier, and as a general in the English army he won several key battles across Europe – including the Battle of Blenheim in 1704.

If he hadn't, the area around here could have looked quite different today. Queen Anne – who was very close to the Duke's wife, Sarah Churchill – rewarded him with this land in the Oxfordshire countryside and ordered that a magnificent house be built to honour his victory.

Today, this English baroque masterpiece still pays tribute to John Churchill's military success. From English lions crushing French cockerels to the Duke's Roman statue on the Column of Victory, Blenheim is more a monument than a house.

Since John Churchill's death, his descendants have continued to live here. In 1857, John Spencer-Churchill – Winston's paternal grandfather - became the seventh Duke of Marlborough and took over the house.

John Spencer-Churchill was an excellent politician. He represented the local area as an MP, before entering the House of Lords when he became Duke. He served as the Lord Lieutenant of Ireland from 1876 to 1880. Many thought he could even have become Prime Minister if he hadn't died in 1883 at the age of 61.

His eldest son, George Spencer-Churchill, became the eighth Duke so his other sons – including Winston's father, Randolph – had to pursue a different career path.

Randolph became one of the most prominent politicians of the time, serving as Chancellor of the Exchequer and Leader of the House of Commons. He married the American-born Jennie Jerome, daughter of a New York financier, and the couple had two children – Winston and John.

Randolph still spent a lot of time at Blenheim Palace. It was here – in this room – that Winston Leonard Spencer-Churchill was born on 30th November 1874. Many of Winston's early years were spent at Blenheim, and it was here that he first learnt about the historic dynasty which he belonged to.

If Winston Churchill hadn't been born into such a political family, his life could have been very different. While he was never very close to his father, he looked up to him; and whenever Randolph had colleagues to visit, he would try to join in their conversations. This enabled Winston to meet some of the greatest speakers of the time.

In many ways, Winston took after his father, who died in 1895 at the age of 45. He developed a love for politics and public speaking; and after working as both a soldier and a war correspondent, he became a Member of Parliament in 1900.

He soon earned a reputation as a gifted orator and enjoyed a long and eventful political career. However, the combative Churchill would probably have never become Prime Minister if it weren't for the outbreak of the Second World War. Suddenly, the country needed somebody who could stand up to the enemy. He was the right man for the job, and throughout the war he made a number of historic speeches that have since echoed through history.

Winston Churchill died on the 24th January 1965. He's buried here near his parents in St Martin's Church in Bladon – just two miles from his birthplace in Blenheim Palace and in the traditional burial ground of the Spencer-Churchills.

After Winston's death, the family continued to play an important role in British life. His children and grandchildren became politicians and business leaders. His granddaughter Arabella Churchill even helped start the famous Glastonbury Festival, and Princess Diana was a distant relative.

During his lifetime, Winston Churchill led Britain to victory during the Second World War. He served for two terms as Prime Minister and won the Nobel Prize for Literature. He led an incredible life and is remembered as one history's greatest leaders. But if he hadn't been part of such a powerful family, who knows? History could have been very different.