

## SATURDAY 15 JULY 2017

**SAT 19:00 Britain's Lost Waterlands: Escape to Swallows and Amazons Country (b07k18jf)**

Documentary which follows presenters Dick Strawbridge and Alice Roberts as they explore the spectacular British landscapes that inspired children's author Arthur Ransome to write his series Swallows and Amazons.

The landscapes he depicted are based on three iconic British waterlands. The beauty and drama of the Lake District shaped by ancient glaciers and rich in wildlife and natural resources, the shallow man-made waterways of the Norfolk broads so crucial to farming and reed production, and the coastal estuaries and deep-water harbours of the Suffolk coastline shaped by ferocious tides and crucial to trade.

Engineer and keen sailor Dick uses vintage boats to explore the landscapes and meet people whose lives are shaped by the water, while wildlife enthusiast Alice explores the rich shorelines, interrogating the underlying geography and meeting the wildlife. Together they evoke the nostalgia of Ransome's writing and a bygone era of childhood freedom and adventure, but they also explore the economic significance of these special locations and the ways in which water was harnessed to change the course of British history.

**SAT 20:00 The Last Seabird Summer? (b072rpwn)**

Living with the Birds

In episode one, Adam Nicolson follows the story of the seabirds on the Shiant Isles in the Outer Hebrides off the west coast of Scotland, one of the most important bird places of Europe. As the puffins, guillemots and razorbills arrive from far out in the north Atlantic, Adam traces our long history of dependence on seabirds - thousands of years of collecting eggs and hunting the birds for meat, oil and feathers.

But there is crisis in our seabird population - in the last 15 years in Scotland alone, 40 per cent have been lost. And although in Britain our relationship is now one of conservation, there are countries who still hunt the seabird. To understand how this tradition continues today, Adam travels to Iceland, home to over half the world's puffins, and meets those for whom the puffin hunt is still part of everyday life.

**SAT 21:00 I Know Who You Are (b08yrc78)**

Series 1

Episode 1

An injured and disorientated man arrives on foot at a petrol station, claiming to have no memory of who he is or how he got there. In hospital he is visited by his wife, who informs him that he is a prestigious lawyer, but far more ominously, that their 22-year-old niece Ana is missing and that her blood has been found in his car.

In Spanish with English subtitles.

**SAT 22:10 I Know Who You Are (b08yw575)**

Series 1

Episode 2

Aware that their previous relationship will compromise her ability to prosecute the case brought against Juan Elias by his brother-in-law Ramon Saura, Eva retreats to her grandmother's rural home. Eva's colleague David, aware that he is breaking a confidence, tells Marta Hess of the visit and demands that Eva is formally summoned before the court. No-one is completely convinced of Juan's amnesia, including his partner Ricardo Heredia, who suggests that they try to unwind at Juan's vegetable allotment, but their downtime is abruptly curtailed by an urgent phone call.

In Spanish with English subtitles.

**SAT 23:20 Top of the Pops (b08y3km0)**

Richard Skinner and Gary Davies present the pop chart programme, first broadcast on 8 March 1984. Including appearances from Galaxy, The Weather Girls, Sade, Bananarama, Howard Jones, Tracey Ullman and Nena.

**SAT 23:55 TOTP2 (b01cyxhs)**

Boybands

Showcasing the boy band, from its origins in 60s beat groups and R&B outfits to the new wave of 80s boy bands and beyond. Defined by their vocal harmonies, synchronised dance steps and groups of men, each with 'their own distinct appeal', this compilation celebrates the best of boy bands down the ages.

From JLS to The Four Tops, The Monkees to Westlife, and

Village People to Blazin' Squad, relive your teenage years with the boys that mattered most.

**SAT 00:50 Rollermania: Britain's Biggest Boy Band (b06bbct4)**

In 1975, The Bay City Rollers were on the brink of global superstardom. The most successful chart act in the UK with a unique look and sound were about to become the biggest thing since the Beatles. Featuring interviews with Les McKeown and other members of the classic Bay City Roller line-up, and using previously unseen footage shot by members of the band and its entourage, this is the tale of five lads from Edinburgh who became the world's first international teen idols and turned the whole world tartan.

**SAT 01:50 The Richest Songs in the World (b01pjrt5)**

Mark Radcliffe presents a countdown of the ten songs which have earned the most money of all time - ten classic songs each with an extraordinary story behind them. Radcliffe lifts the lid on how music royalties work and reveals the biggest winners and losers in the history of popular music.

**SAT 03:25 TOTP2 (b01cyxhs)**

[Repeat of broadcast at 23:55 today]

## SUNDAY 16 JULY 2017

**SUN 19:00 Lucy Worsley: Mozart's London Odyssey (b07hk1qx)**

Lucy Worsley traces the forgotten and fascinating story of the young Mozart's adventures in Georgian London. Arriving in 1764 as an eight-year-old boy, London held the promise of unrivalled musical opportunity. But in telling the tale of Mozart's strange and unexpected encounters, Lucy reveals how life wasn't easy for the little boy in a big bustling city.

With the demands of a royal performance, the humiliation of playing keyboard tricks in a London pub, a near fatal illness and finding himself heckled on the streets, it was a lot for a child to take. But London would prove pivotal, for it was here that the young Mozart made his musical breakthrough, blossoming from a precocious performer into a powerful new composer.

Lucy reveals that it was on British soil that Mozart composed his first ever symphony and, with the help of a bespoke performance, she explores how Mozart's experiences in London inspired his colossal achievement. But what should have earned him rapturous applause and the highest acclaim ended in suspicion, intrigue and accusations of fraud.

**SUN 20:00 BBC Proms (b08ymnr0)**

2017

Barenboim's Elgar

Inspirational maestro Daniel Barenboim makes his second appearance in this opening weekend of the 2017 Proms season. Conducting his German orchestra Staatskapelle Berlin, Barenboim brings an entirely English programme to the Royal Albert Hall, including Elgar's poignant Second Symphony and the UK premiere of Sir Harrison Birtwistle's Deep Time, a work dedicated to the memory of Birtwistle's friend and colleague Sir Peter Maxwell Davies.

**SUN 22:05 John Denver: Country Boy (b03j4cz2)**

Documentary exploring the private life and public legacy of John Denver, America's original country boy. With exclusive accounts from those closest to him, the man behind the music is revealed in an intimate profile in his 70th birthday anniversary year.

**SUN 23:05 Horizon (b00vv0w8)**

2010-2011

Asteroids - The Good, the Bad and the Ugly

Famed for their ability to inflict Armageddon from outer space, asteroids are now revealing the secrets of how they are responsible for both life and death on our planet.

Armed with an array of powerful telescopes, scientists are finding up to 3,000 new asteroids every night. And some are heading our way.

But astronomers have discovered that it's not the giant rocks that are the greatest danger - it's the small asteroids that pose a more immediate threat to Earth.

Researchers have explained the photon propulsion that send these rocks across space, and have discovered that some asteroids are carrying a mysterious cargo of frost and ice across

the solar system that could have helped start life on Earth.

**SUN 00:05 Dissected (p01mv2md)**

The Incredible Human Hand

In a purpose-built dissection lab, Dr George McGavin is joined by leading anatomy experts to dissect a real hand, taking it apart layer by layer to reveal what makes it unique in the animal kingdom. We discover what gives our hands an unrivalled combination of power and precision, and meet people who use their hands in extraordinary ways - from magicians to rock climbers - to discover what gives them such astonishing abilities.

**SUN 01:05 Britain's Whale Hunters: The Untold Story (b046pb27)**

The Rise

Writer Adam Nicolson is granted rare access to the ruins of the whaling stations on the remote British island of South Georgia. Amazing rarely seen archive footage and first-hand testimony from the last of Britain's whale hunters reveals what it was really like to have been a whale hunter in Antarctica, providing Europe with essential oils for soap and food. Putting our modern environmental guilt to one side, this provocative series looks at how and why whale populations were so drastically reduced in the 20th century and attempts to see whaling through the eyes of the time.

A few hundred years ago the oceans were home to millions of whales, but then we found that they were incredibly useful for everything from lighting and fashion to soap and food. Adam discovers the remarkable, forgotten tale of Britain as a major whaling nation right up to the 1960s, while exploring the incredible ruins of its largest centre on the remote British island of South Georgia.

Adam starts his journey on the west coast of Scotland, his favourite place to escape to since boyhood. It's his realisation that these waters would have once been home to many whales that has prompted him to find out about whaling. He sails up the coast to Stornoway harbour, where there's a vivid account of a traditional hunt of pilot whales.

He discovers how whaling was commercialised to supply Britain's growing cities with a vast range of products: from corsetry and umbrella stays to street lighting. But the real shift in the scale of the industry comes in the late 19th century with the inventions of Norwegian Svend Foyn. Adam joins the British whalers on a restored whale-catching ship in Norway, where they explain how grenade-tipped harpoons and steam winches revolutionised the type and number of whales that could be hunted.

With whale populations in the north becoming hunted out by the start of the 20th century, the whalers turned their attention to the Antarctic. Adam travels via the Falkland Islands to the remote and spectacular Antarctic island of South Georgia. This uninhabited British outpost very quickly became the centre of the world's whaling industry, with six whaling stations. The biggest, Leith Harbour, belonged to the world's largest whaling company at the time - Christian Salvesen from Edinburgh.

Adam explores this complete whaling town, a time capsule of Britain's industrial past, which was abandoned in 1965. He finds huge, asbestos-clad machinery and pieces together how whales were processed, and after hearing about the whalers' illegal hooch, discovers a hidden still in one of the bunkrooms.

The episode ends with the peak of whaling on South Georgia in the mid-1920s - over 8,000 whales were killed and processed in a year. New processes meant that whale oil could now be used to make much-needed soap and edible fats for Europe, and Salvesens were making an annual profit equivalent to £100 million in today's economy. But, thanks to a revolution in ship design, the whaling industry was about to become far bigger still.

**SUN 02:05 Timewatch (b00sl29f)**

Atlantis: The Evidence

Historian Bettany Hughes unravels one of the most intriguing mysteries of all time. She presents a series of geological, archaeological and historical clues to show that the legend of Atlantis was inspired by a real historical event, the greatest natural disaster of the ancient world.

**SUN 03:05 Lucy Worsley: Mozart's London Odyssey (b07hk1qx)**

[Repeat of broadcast at 19:00 today]

## MONDAY 17 JULY 2017

**MON 19:00 World News Today (b08yb214)**

The latest national and international news, exploring the day's events from a global perspective.

**MON 19:30 Handmade: By Royal Appointment (b07gys9d)**  
House of Benney

In a small workshop in a country house in Wiltshire, silversmith Simon Benney makes distinctive jewellery and exquisite household objects for the royal family and private clients. Simon is following in the footsteps of his father Gerald Benney, who revolutionised the design of British silverware in the postwar era. This film follows the making of an engraved gold and diamond pendant, featuring Simon's trademark enamel finish, using techniques his father learnt from Faberge.

**MON 20:00 Colour: The Spectrum of Science (b06pm7t8)**  
Beyond the Rainbow

We live in a world ablaze with colour. Rainbows and rainforests, oceans and humanity, earth is the most colourful place we know of. But the colours we see are far more complex and fascinating than they appear. In this series, Dr Helen Czerski uncovers what colour is, how it works, and how it has written the story of our planet.

The colours that we see are only a fraction of what's out there. Beyond the rainbow there are colours invisible to our eyes. In this episode, Helen tells the story of scientific discovery. To see the universe in a whole new light, she takes to the skies in a NASA jumbo jet equipped with a 17-tonne infrared telescope.

We can't see in ultraviolet, but many animals can. Helen explores what the world looks like to the birds and the bees. With the discovery of x-rays we could look inside ourselves in ways that previously had only been possible after death. Today those same x-rays allow us to examine life at the atomic level, helping to develop new drugs and better materials. Ultimately, by harnessing all the colours there are, researchers are beginning to image the human body as never before, revealing new ways to treat disease.

**MON 21:00 Science and Islam (b00gv7w)**  
The Power of Doubt

Physicist Jim Al-Khalili tells the story of the great leap in scientific knowledge that took place in the Islamic world between the 8th and 14th centuries.

Al-Khalili turns detective, hunting for clues that show how the scientific revolution that took place in the 16th and 17th centuries in Europe had its roots in the earlier world of medieval Islam. He travels across Iran, Syria and Egypt to discover the huge astronomical advances made by Islamic scholars through their obsession with accurate measurement and coherent and rigorous mathematics.

He then visits Italy to see how those Islamic ideas permeated into the west and ultimately helped shape the works of the great European astronomer Copernicus, and investigates why science in the Islamic world appeared to go into decline after the 16th and 17th centuries, only for it to re-emerge in the present day.

Al-Khalili ends his journey in the Royan Institute in the Iranian capital Tehran, looking at how science is now regarded in the Islamic world.

**MON 22:00 Storyville (b08ybx7z)**  
The Great European Cigarette Mystery

The former EU commissioner of health, Mr John Dalli, recently left his post having been accused of being in the pocket of 'big tobacco'. Two Danish journalists, Mads Brugger and Mikael Bertelsen, travel to Malta expecting to uncover proof of a vast conspiracy against Mr Dalli, when a secret source steps forward, claiming to possess documents and recordings. Mr Dalli attempts to strike a deal with the source, taking them on a disturbing, thrilling and darkly humorous odyssey from the hallways of Brussels to an island in the Caribbean Sea.

**MON 23:00 Hidden Kingdoms (b03t7w1q)**  
Urban Jungles

This is the ultimate hidden kingdom - the urban jungle.

In the colourful and chaotic streets of Rio, a young marmoset is separated from his street gang and forced to confront the dangers of the city alone.

In the futuristic metropolis of Tokyo, a rhinoceros beetle escapes his captors and begins an extraordinary journey through this alien world to find sanctuary.

**MON 00:00 Ocean Giants (b013wpzx)**

Deep Thinkers

Humans have long wondered if the universe may harbour other intelligent life forms. But perhaps we need look no further than our oceans?

Whales and dolphins, like humans, have large brains, are quick to learn new behaviours and use a wide range of sounds to communicate with others in their society. But how close are their minds to ours? In the Bahamas, Professor Denise Herzing believes she is very close to an answer, theorising that she will be able to hold a conversation with wild dolphins in their own language within five years.

In Western Australia, dolphins rely on their versatile and inventive brains to survive in a marine desert. In Alaska, humpback whales gather into alliances in which individuals pool their specialised talents to increase their hunting success. We discover how young spotted dolphins learn their individual names and the social etiquette of their pod, and how being curious about new objects leads Caribbean bottlenose dolphins to self-awareness and even to self-obsession. Finally, the film shows a remarkable group of Mexican grey whales, who seem able to empathize with humans and may even have a concept of forgiveness.

**MON 01:00 Treasures of Chinese Porcelain (b015sttj)**

In November 2010, a Chinese vase unearthed in a suburban semi in Pinner sold at auction for £43 million - a new record for a Chinese work of art. Why are Chinese vases so famous and so expensive? The answer lies in the European obsession with Chinese porcelain that began in the 16th century.

Lars Tharp, the Antiques Roadshow expert and Chinese ceramics specialist, sets out to explore why Chinese porcelain was so valuable then - and still is now. He goes on a journey to parts of China closed to western eyes until relatively recently. Lars travels to the mountainside from which virtually every single Chinese export vase, plate and cup began life in the 18th century - a mountain known as Mount Gaolin, from whose name we get the word kaolin, or china clay. He sees how the china clay was fused with another substance, mica, that would turn it into porcelain.

Carrying his own newly acquired vase, Lars uncovers the secrets of China's porcelain capital, Jingdezhen. He sees how the trade between China and Europe not only changed our idea of what was beautiful - by introducing us to the idea of works of art we could eat off - but also began to affect the whole tradition of Chinese aesthetics too, as the ceramicists of Jingdezhen sought to meet the European demand for porcelain decorated with family coats of arms, battle scenes or even erotica.

The porcelain fever that gripped Britain drove conspicuous consumption and fuelled the Georgian craze for tea parties. Today the new emperors - China's rising millionaire class - are buying back the export wares once shipped to Europe. The vase sold in Pinner shows that the lure of Chinese porcelain is as compelling as ever.

**MON 02:00 Science and Islam (b00gv7w)**  
[Repeat of broadcast at 21:00 today]**MON 03:00 Colour: The Spectrum of Science (b06pm7t8)**  
[Repeat of broadcast at 20:00 today]**TUESDAY 18 JULY 2017****TUE 19:00 World News Today (b08yb21z)**

The latest national and international news, exploring the day's events from a global perspective.

**TUE 19:30 Handmade: By Royal Appointment (b07ht061)**  
Steinway

Travelling between the factory in Hamburg, where Steinway pianos are still made largely by hand, and Steinway Hall in London, where a team of technicians maintain and restore the pianos, this film offers a portrait of the craftsmen behind the famous instrument.

From the stoic German factory workers bending the frames and polishing the veneers, to long-standing British restorer Jeff about to retire from the company, the film lifts the lid on the dedication and skills required to make and maintain a prestige piano.

Holders of a royal warrant since the days of Queen Victoria, Steinway supplies pianos to the royal household as well as many leading performers, and the film also follows renowned pianist Lang Lang preparing for a concert at the Royal Albert Hall.

**TUE 20:00 10 Things You Didn't Know About... (b008s99l)**  
Earthquakes

Iain Stewart looks at some of the world's most dramatic earthquakes and reveals the stories and science behind them. In seconds, these powerful forces of nature which cannot be predicted or prevented can shake a town to destruction and shift the landscape forever. We discover why quakes can last 60 times longer on the moon than on Earth, how one particular earthquake fault line can produce hallucinations, and how 1960s Cold War spying gave scientists a crucial clue to understanding them.

**TUE 21:00 A Timewatch Guide (b08ybzhe)**  
Series 4

Vikings: Foe or Friend?

On 8 June 793 Europe changed forever. The famous monastery at Lindisfarne on the Northumbrian coast was suddenly attacked and looted by seafaring Scandinavians. The Viking Age had begun.

Professor Alice Roberts examines how dramatically the story of the Vikings has changed on TV since the 1960s. She investigates how our focus has shifted from viewing them as brutal, pagan barbarians to pioneering traders, able to integrate into multiple cultures. We also discover that without their naval technology we would never have heard of the Vikings, how their huge trading empire spread, and their surprising legacy in the modern world.

**TUE 22:00 Secret Knowledge (b01r3n6p)**  
The Art of the Vikings

Through interpretations of some of the archaeological treasures of the Swedish National Museum, now on display in Edinburgh, Dr Janina Ramirez of Oxford University explores the fascinating wealth of Viking culture and its long-lasting influence on the British Isles.

**TUE 22:30 Treasures of the Anglo Saxons (b00t6xzx)**

Art historian Dr Nina Ramirez reveals the codes and messages hidden in Anglo-Saxon art. From the beautiful jewellery that adorned the first violent pagan invaders through to the stunning Christian manuscripts they would become famous for, she explores the beliefs and ideas that shaped Anglo-Saxon art.

Examining many of the greatest Anglo Saxon treasures - such as the Sutton Hoo Treasures, the Staffordshire Hoard, the Franks Casket and the Lindisfarne Gospels - Dr Ramirez charts 600 years of artistic development which was stopped dead in its tracks by the Norman Conquest.

**TUE 23:30 World War Two: 1942 and Hitler's Soft Underbelly (b01ndj09)**

The British fought the Second World War to defeat Hitler. This film asks why, then, did they spend so much of the conflict battling through North Africa and Italy?

Historian David Reynolds reassesses Winston Churchill's conviction that the Mediterranean was the 'soft underbelly' of Hitler's Europe. Travelling to Egypt and Italian battlefields like Cassino, scene of some of the worst carnage in western Europe, he shows how, in reality, the 'soft underbelly' became a dark and dangerous obsession for Churchill.

Reynolds reveals a prime minister very different from the jaw-jutting bulldog of Britain's 'finest hour' in 1940 - a leader who was politically vulnerable at home, desperate to shore up a crumbling British empire abroad, losing faith in his army and even ready to deceive his American allies if it might delay fighting head to head against the Germans in northern France.

**TUE 01:00 Medieval Lives: Birth, Marriage, Death (b03f4i0j)**  
A Good Death

Most of the time we try not to think about death, but the people of the Middle Ages didn't have that luxury. Death was always close at hand, for young and old, rich and poor - even before the horrors of the Black Death, which killed millions in a few short months.

However, for the people of the Middle Ages death wasn't an end but a doorway to everlasting life. The Church taught that an eternity spent in heaven or hell was much more important than this life's fleeting achievements and there was much you could do to prepare for the next life in this one.

As historian Helen Castor reveals, how to be remembered - and remembering your loved ones - shaped not only the worship of the people of the Middle Ages but the very buildings and funding of the medieval Church itself.

**TUE 02:00 The Brits Who Built the Modern World (b03wctxm)**

The Politics of Power

Series looking at how an exceptional generation of British architects, led by Norman Foster and Richard Rogers, conquered the globe with their high-tech vision.

The final episode focuses on the period from the late 90s to the present day, when they were at the peak of their success - building iconic landmarks across Britain and the world - but also faced some of the biggest controversies of their careers. Rogers reveals what went wrong with the Millennium Dome, Foster recalls the wobbles of London's Millennium Bridge and Michael Hopkins explains how his new parliamentary building, Portcullis House, became the most expensive office block in Britain.

Also featured are the stories behind some of Britain's most popular modern architecture - Nicholas Grimshaw's Eden Project and Foster's 'Gherkin' - and a look at this generation's success overseas, including Terry Farrell's success in China.

**TUE 03:00 A Timewatch Guide (b08ybzhc)**

[Repeat of broadcast at 21:00 today]

**WEDNESDAY 19 JULY 2017****WED 19:00 World News Today (b08yb2n3)**

The latest national and international news, exploring the day's events from a global perspective.

**WED 19:30 Tank Men (b07tbzgx)**

To mark the 100th anniversary of the first time tanks were used in battle, Rob Bell tells the story of the First World War tank men.

**WED 20:00 Jumbo: The Plane that Changed the World (b03wtnfv)**

Documentary about the development of the Boeing 747 jumbo jet. The 747 was a game changer, the airliner that revolutionised mass, cheap air travel. But the first wide-bodied plane was originally intended as a stopgap to Boeing's now-abandoned supersonic jet. This is the remarkable untold story of the jumbo, a billion-dollar gamble that pushed 1960s technology to the limits to create one of the world's most recognisable planes.

**WED 21:00 Pedalling Dreams: The Raleigh Story (b08j8mvl)**

For the last 150 years, Britain has been a nation of bike lovers. And for much of that time, one make has been associated with quality, innovation and Britishness - Raleigh bikes.

Born in the back streets of Nottingham in 1888, Raleigh grew to become the biggest bicycle manufacturer in the world. For over a century, the company was known for its simple and practical bikes, built to last a lifetime. For generations, its designs were thought second to none, enjoyed by adults and children alike.

Now, with wonderful personal testimony and rare and previously unseen archive film, this documentary tells the extraordinary tale of the ups and downs of Raleigh bikes - a beautifully illustrated story full of remarkable characters, epic adventures and memorable bikes.

Meet the people who rode and raced them, the workers who built them and the dealers who sold them. Find out how cycling saved the life of Raleigh's founder, discover the technological advances behind the company's success and join Raleigh bike riders who recall epic adventures far and wide.

Along the way, the programme takes viewers on a journey back to cycling's golden age - rediscover the thrill of learning to ride your first bike and find out what went on inside the Raleigh factory, where the company's craftsmen produced some of Britain's most iconic bikes.

Finally, the documentary reveals what went wrong at Raleigh - the battles it had with its rivals, the controversy behind the design of the Chopper and the effect the closure of its factories had on its loyal workers. This is the extraordinary untold story of the rise and fall of Raleigh bikes.

**WED 22:00 Sound Waves: The Symphony of Physics (b08h9ctd)**

Series 1

Using Sound

Dr Helen Czerski examines the extraordinary messages sound waves carry and how they help us understand the world around us.

Visiting a hidden location buried beneath the hills of Scotland, Helen experiences some of the most extreme acoustics in the world. Here she learns just how much information can be carried by sound. She discovers how sound has driven the evolution of truly incredible biological systems and complex relationships between creatures that exploit sound for hunting - and escaping from predators. Helen demonstrates how sound waves diffract (bend around objects) and in doing so help us sense danger and locate it.

Through the story of a cochlea implant patient Helen explores the complicated way our ears can translate sound waves - a physical vibration in the air - into an electrical signal our brain can understand.

Helen explains how we are not limited to passively detecting sound waves, we can also use them to actively probe the world. From detecting submarines to uncovering the secrets of our planet, sound waves are instrumental in revealing things hidden from the world of light. On the cold North Sea, Helen investigates how marine archaeologists are using sound waves to uncover the remarkable human stories buried beneath the sea. Yet we are not limited to using sound waves here on Earth, as Helen explains how sound has been used to better understand distant, alien worlds in the outer solar system.

**WED 23:00 Railways: The Making of a Nation (b07x4f3t)**

The Age of Leisure

The very idea of an excursion to distant places became popular from the 1840s onwards. People were taking day trips and seeing parts of the country they had never seen before. However, it wasn't all seaside and sand. Some excursion trains were set up to satisfy the public's demand to witness public executions. Other lines transported people to enjoy horse racing and sporting events. Thousands visited resorts, spa towns and the coast. A new wave of Victorian tourists spent their cash on holidays and visited hotels at stations and beyond. The ultimate experience was often to head to the hills and sample clean air, far away from industrial grime and pollution. Working-class northerners now had access to the Lake District. However, one particular Lakeland resident, William Wordsworth, was initially not so happy about the influx of this new type of visitor.

**WED 23:30 Railways: The Making of a Nation (b07x4f7s)**

The New Commuters

Historian Liz McIvor explores how Britain's expanding rail network was the spark to a social revolution, starting in the 1800s and continuing through to modern times. A fast system of transportation shaped so many areas of our industrial nation - from what we eat to where we live, work and play. The railways generated economic activity but they also changed the nature of business itself. They even changed attitudes to time and how we set our clocks! Our railways may have reflected deep class divisions, but they also brought people together as never before, and helped forge a new sense of national identity.

This episode looks at the railways enabled us to live further and further from the places where we worked. Before the age of steam you would need a horse to travel long distances on land. Throughout the 19th and 20th centuries our railways encouraged the development of suburbia inhabited by a new type of resident and worker - the commuter. In some cases, new places emerged on the map simply because of the railways - places like Surbiton. Liz visits London and the south east of England, our nation's largest commuter zone. The Victorian rail network was never part of a single grand plan, but emerged and evolved, line by line, over decades. For today's commuters, work is still going on to create a system that serves their needs!

**WED 00:00 Je t'aime: The Story of French Song with Petula Clark (b05vnhz1)**

'I want to make people cry even when they don't understand my words.' - Edith Piaf

This unique film explores the story of the lyric-driven French chanson and looks at some of the greatest artists and examples of the form. Award-winning singer and musician Petula Clark, who shot to stardom in France in the late 1950s for her nuanced singing and lyrical exploration, is our guide.

We meet singers and artists who propelled chanson into the limelight, including Charles Aznavour (a protégé of Edith Piaf), Juliette Greco (whom Jean-Paul Sartre described as having 'a million poems in her voice'), Anna Karina (muse of Jean-Luc Godard and darling of the French cinema's new wave), actress and singer Jane Birkin, who had a global hit (along with Serge Gainsbourg) with the controversial *Je t'aime (Moi non plus)*, and Marc Almond, who has received great acclaim with his recordings of Jacques Brel songs.

In exploring the famous chanson tradition and the prodigious singers who made the songs their own, we continue the story into contemporary French composition, looking at new lyrical forms exemplified by current artists such as Stromae, Zaz,

Tetes Raides and Etienne Daho, who also give exclusive interviews.

The film shines a spotlight onto a musical form about which the British are largely unfamiliar, illuminating a history that is tender, funny, revealing and absorbing.

**WED 01:00 The Renaissance Unchained (b0726fyv)**

Silk, Sex and Sin

Waldemar Januszczak focuses on Venice and its extraordinary impact on art history. He celebrates colour, drama and vitality by looking at the delicate colours of Bellini, the mystery of Giorgione, the splendour of Titian, the drama and chaos of Tintoretto and the glorious banquets of Veronese.

**WED 02:00 Voyages of Discovery (b007414k)**

Ice King

Explorer Paul Rose tells the story of his hero Fridtjof Nansen who, in 1892, announced a daring plan to be first to the North Pole, an idea considered so off-the-wall that no scientist would volunteer to join him on a venture they believed was nothing short of suicide.

He allowed his ship to become stuck in the crushing pack ice, hoping it would drift to the Pole, and then set off on foot across the frozen wastes. Nansen became the forefather of polar exploration, inventing practical techniques that today allow people to survive, travel and work in the most hostile and forbidding places on our planet.

**WED 03:00 Pedalling Dreams: The Raleigh Story (b08j8mvl)**

[Repeat of broadcast at 21:00 today]

**THURSDAY 20 JULY 2017****THU 19:00 World News Today (b08yb2pf)**

The latest national and international news, exploring the day's events from a global perspective.

**THU 19:30 Top of the Pops (b08yftk4)**

Peter Powell and Janice Long present the pop chart programme, first broadcast on 22 March 1984. Featuring Depeche Mode, Shakin' Stevens, Culture Club, UB40, Sade and Lionel Richie.

**THU 20:00 Shipwrecks: Britain's Sunken History (b03knrvn)**

Home Waters to High Seas

Shipwrecks are the nightmare we have forgotten - the price Britain paid for ruling the waves from an island surrounded by treacherous rocks. The result is a coastline that is home to the world's highest concentration of sunken ships. But shipwrecks also changed the course of British history, helped shape our national character and drove innovations in seafaring technology, as well as gripping our imagination.

In this three-part series, maritime historian Dr Sam Willis looks at how and why the shipwreck came to loom so large. He begins with the embarrassing story of the top-heavy *Mary Rose*, the freak wrecking of the Spanish Armada and the terrifying real-life disasters at sea that inspired two of the greatest of all castaway tales - Shakespeare's *The Tempest* and Daniel Defoe's *Robinson Crusoe*.

**THU 21:00 The Great Butterfly Adventure: Africa to Britain with the Painted Lady (b07yqfkq)**

The migration of the painted lady has long fascinated scientists, artists and nature lovers alike. The longest butterfly migration on earth, it sees millions of these delicate creatures travel from the desert fringes of north Africa, across thousands of miles of land and sea, before settling in the UK. However, the migration has never truly been understood, the mysteries of the painted lady never unravelled - until now. This documentary reveals the secrets of this extraordinary phenomenon. Observed, investigated and analysed by presenter Martha Kearney and entomologist Dr James Logan, it employs groundbreaking techniques to unlock the secrets of the painted ladies.

At a time when more than a third of Britain's butterfly species are classed as under threat of extinction or have already vanished, it documents the largest butterfly migration into the UK. Over the course of the butterflies' five-month quest from the Atlas Mountains to Great Britain, Martha and her companion - leading butterfly expert Constanti Stefanescu - follow them along the route, observing and investigating this breathtaking natural phenomenon.

Meanwhile, back at the cutting-edge Rothamsted Research

Centre in Harpenden, Dr Logan complements their adventures on the road, conducting experiments into butterfly biology and behaviour and, from our communications centre, he is able to follow the butterflies as they make their way from Morocco to Britain.

This is a visceral journey with real jeopardy, a real-life detective story. We break away from the central narrative to unravel the mysteries of the painted lady via experiments, including how they navigate and move between different altitudes, and we examine their flight patterns. As well as experiments there are also standalone packages on a variety of subjects, including the decline of the British butterfly and how some species are fighting back with the help of conservation groups. Butterfly Conversation's legions of butterfly spotters track the migration and those pioneers who make the journey from Morocco in a single flight.

By the end of the programme we discover how this tiny creature weighing less than a single gram is capable of completing an epic 4,500 mile journey from Africa to Great Britain. And even more remarkably, the offspring of these multi-generational butterflies that help to complete the journey their parents started. Could it be that despite having no life experience or learned knowledge of the migration they are innately drawn to the species' route?

An unforgettable adventure, and a groundbreaking project.

**THU 22:30 The Bridge: Fifty Years Across the Forth (b04g80p8)**

A unique amateur film provides the centrepiece of a documentary celebrating the 50th anniversary of one of Scotland's great landmarks, the Forth Road Bridge. The documentary traces the memories of the people who built the bridge, the biggest of its kind in Europe at the time, as well as those who ran the Forth ferries that stopped running when it opened in 1964.

**THU 23:30 Top of the Pops (b08yftk4)**  
[Repeat of broadcast at 19:30 today]

**THU 00:05 King Alfred and the Anglo Saxons (b03816y5)**  
Alfred of Wessex

King Alfred the Great fights a desperate guerrilla war in the marshes of Somerset - burning the cakes on the way - before his decisive victory at Edington. Creating towns, trade and coinage, reviving learning and literacy, Alfred then laid the foundations of a single kingdom of 'all the English'. Filmed on location from Reading to Rome, using original texts read in old English, and interviews with leading scholars, Michael Wood describes a man who was 'not just the greatest Briton, but one of the greatest rulers of any time or place'.

**THU 01:05 The Great Butterfly Adventure: Africa to Britain with the Painted Lady (b07yqfkq)**  
[Repeat of broadcast at 21:00 today]

**THU 02:35 Shipwrecks: Britain's Sunken History (b03knrvn)**  
[Repeat of broadcast at 20:00 today]

**FRIDAY 21 JULY 2017**

**FRI 19:00 World News Today (b08yb2r3)**

The latest national and international news, exploring the day's events from a global perspective.

**FRI 19:30 Top of the Pops (b08yfkxv)**

Mike Read and Andy Peebles present the pop chart programme, first broadcast on 29 March 1984. Featuring The Special AKA, Captain Sensible, Siouxsie and the Banshees, Madonna, Thompson Twins and Lionel Richie.

**FRI 20:00 BBC Proms (b08ympvh)**  
2017

John Williams Film Prom

The BBC Proms celebrates the 85th birthday of the world's favourite film composer, John Williams. The BBC Concert Orchestra and conductor Keith Lockhart perform some of the best-loved music in cinema history, including movie magic from Star Wars, Harry Potter, ET and Indiana Jones as well as lesser-known gems from John Williams's extraordinary back catalogue. Presented by Katie Derham.

**FRI 22:00 Reginald D Hunter's Songs of the South**

**(p02j94nr)**  
Tennessee and Kentucky

In the first of a three-part road trip, Georgia-born but London-based Reginald D Hunter returns home to explore the American south both past and present through its world-famous songs. Reg begins by exploring the sounds of Kentucky and Tennessee and the disturbing tradition of blackface minstrelsy.

Hunter is led through the south by its signature songs, including Dolly Parton's My Tennessee Mountain Home, Knoxville Girl, Blue Moon of Kentucky, Chattanooga Choo Choo and minstrel songs such as My Ol' Kentucky Home and Old Folks at Home.

On his voyage Reg visits Dollywood, a slave plantation in Bardstov, Nashville - the home of country music, a moonshine distillery in Gatlinburg and a string band festival in Mount Airy.

Featuring Dolly Parton, The Handsome Family and Del McCoury.

**FRI 23:00 Sisters in Country: Dolly, Linda and Emmylou (b081sx50)**

Documentary which explores how Dolly Parton, Linda Ronstadt and Emmylou Harris's careers took off in the 1970s with very distinct takes on country before they ended up uniting as close harmony singers and eventually collaborated on 1987's four-million-selling debut album, Trio.

In the 60s country music was viewed by most of America as blue collar, and Dolly was country through and through. Linda Ronstadt's take on classic country helped make her the biggest female star in mid-70s America. Folkie Emmylou learned about country from mentor Gram Parsons and, after his death in 1973, she became a bandleader in her own right. It was Emmylou and Linda - the two west coast folk rockers - who voiced their mutual appreciation of Dolly, the mountain girl singer from Tennessee, when they became early students of her work.

The artists talk about uniting as harmony singers and eventually collaborating on their debut album, Trio. The album helped launch the mountain music revival that would peak with the soundtrack to O Brother Where Art Thou. In 2012 Linda Ronstadt was diagnosed with Parkinson's disease, which left her unable to sing, but 2016 saw unreleased songs from their sessions compiled to create a third Trio album. This is the story of how their alliance made them pioneers in bringing different music worlds together and raising the game for women in the country tradition.

Contributors: Dolly Parton, Emmylou Harris, Linda Ronstadt, Rodney Crowell, George Lucas, Peter Asher, Chris Hillman, Laura Cantrell, Robert K Oermann, John Boylan, Phil Kaufman, David Lindley, Albert Lee, Herb Pedersen, George Massenberg and Applewood Road.

**FRI 00:00 Country Queens at the BBC (p028vwnv)**

Classic female country stars in action on a variety of BBC studio shows and featuring Bobbie Gentry, Anne Murray, Emmylou Harris, Tammy Wynette, Billie Jo Spears, Crystal Gayle, Taylor Swift, Lucinda Williams with Mary Chapin Carpenter and more. A chronological celebration of country queens at the BBC whether on Top of the Pops, OGWT, Later with Jools Holland, Parkinson or their own entertainment specials.

**FRI 01:00 Top of the Pops (b08yfkxv)**  
[Repeat of broadcast at 19:30 today]

**FRI 01:35 Reginald D Hunter's Songs of the South (p02j94nr)**  
[Repeat of broadcast at 22:00 today]

**FRI 02:35 Sisters in Country: Dolly, Linda and Emmylou (b081sx50)**  
[Repeat of broadcast at 23:00 today]