

SATURDAY 20 MAY 2017

SAT 19:00 Saints and Sinners: Britain's Millennium of Monasteries (b052zxhm)
Episode 1

Dr Janina Ramirez explores how monasteries evolved from a cult of extreme isolation and self-deprivation into powerhouses of Anglo-Saxon art, industry and learning.

Janina begins her journey on the desolate rock of Skellig St Michael off the east coast of Ireland, home to the oldest surviving monastery in the British Isles. She investigates the harsh lives led by these early monks, and tells the story of the arrival of hermetic Irish monasticism in Anglo-Saxon Northumberland. Monasteries such as Lindisfarne and Whitby became beacons of civilisation and literature in the barbaric Anglo-Saxon world, creating wondrous works of art including the Lindisfarne Gospels and St Cuthbert's pectoral cross.

A rival form of regimented, communal monasticism was imported into southern Britain from Rome, and Janina reveals the holy struggle that ensued between these two opposing monastic ideals. The victors would transform the culture and landscape of England, until they too were destroyed by a new wave of barbarian invaders.

SAT 20:00 Masters of the Pacific Coast: The Tribes of the American Northwest (b07mlplp)
Survival

Two-part documentary in which archaeologist Dr Jago Cooper explores the extraordinary and resilient culture of the American north west, revealing one of the most inspiring stories in human history.

1,400 miles of rugged, windswept and rocky coastline in what is now the Alaskan panhandle, British Columbia and Washington state have been home to hundreds of distinct communities for over 10,000 years. Theirs is the longest continuing culture to be found anywhere in the Americas. They mastered a tough environment to create unique and complex communities that have redefined how human societies develop. They produced art infused with meaning that ranks alongside any other major civilisation on earth. And they were very nearly wiped out - by foreign disease, oppression and theft of their lands. But a deep connection to the environment lies at the heart of their endurance, and - unlike many indigenous cultures annihilated following European contact - their culture sustains and has much to offer the rest of the world today.

In the second episode, Jago reveals how a cultural tradition that began over 10,000 years ago managed to survive against the odds. Following European contact, the indigenous peoples of what is now south east Alaska, British Columbia and Washington state suffered disease, theft of their land and oppression. But Jago argues that northwest coast culture has an extraordinary resilience. Its connection to the land has been developed over thousands of years, which meant that it was able to adapt and transform when faced with threats and disruption. These qualities make it one of the longest continuous cultures in the Americas.

SAT 21:00 Hinterland (b08rc1fl)
Series 3 (BBC Four)

Episode 3

When Mathias gets a call to an agricultural suppliers where a customer has been shot dead, their search for the perpetrator leads them to suspect a man who has recently had a restraining order put on him by his ex-wife. Concern deepens when it is learned that the suspect has taken his son from his primary school without permission.

In Welsh and English with English subtitles.

SAT 22:30 Top of the Pops (b08qkzj5)

Mike Read and Tommy Vance present the pop chart programme, first broadcast on 8 December 1983. Featuring Thompson Twins, Billy Joel, Tears for Fears, Howard Jones, Culture Club and The Flying Pickets.

SAT 23:05 Top of the Pops (b08qkzst)

Simon Bates and Janice Long present the pop chart programme, first broadcast on 15 December 1983. Featuring Status Quo, UB40, Slade, The Pretenders, Kenny Rogers & Dolly Parton, and The Flying Pickets.

SAT 23:35 Easy Listening Hits at the BBC (b011g943)

Compilation of easy listening tracks that offers the perfect soundtrack for your cocktail party. There's music to please every lounge lizard, with unique performances from the greatest easy listening artists of the 60s and 70s, including Burt

Bacharach, Andy Williams, Sergio Mendes & Brasil '66, The Carpenters and many more.

SAT 00:40 Glen Campbell: The Rhinestone Cowboy (b01pwx8)

In 2011, Glen Campbell announced he had been diagnosed with Alzheimer's disease and that he would be bowing out with a final album and farewell tour across Britain and America. This documentary tells Campbell's remarkable life story, from impoverished childhood in Arkansas to huge success, first as a guitarist and then as a singer, with great records like Wichita Lineman and Rhinestone Cowboy. With comments from friends and colleagues, including songwriter Jimmy Webb and Mickey Dolenz of The Monkees, it is a moving story of success, disgrace and redemption as rich as any of the storylines in Campbell's most famous songs.

The peak of Glen Campbell's career was in 1975, when he topped the charts around the world with Rhinestone Cowboy, but his musical journey to that point is fascinating. A self-taught teenage prodigy on the guitar, by his mid-twenties Campbell was one of the top session guitarists in LA, a key member of the band of session players now known as The Wrecking Crew. He played on hundreds of tracks while working for producers like Phil Spector and Brian Wilson of The Beach Boys, including Daydream Believer by The Monkees, You've Lost That Lovin' Feeling by The Righteous Brothers, Strangers in the Night by Frank Sinatra and Viva Las Vegas by Elvis Presley.

But Campbell always wanted to make it under his own name. A string of records failed to chart until, in 1967, he finally found his distinctive country pop sound with hits like Gentle on My Mind and By the Time I Get to Phoenix. The latter was written by Jimmy Webb, and together they created a string of great records like Wichita Lineman and Galveston. Campbell pioneered country crossover and opened the way for artists like Dolly Parton and Kenny Rogers.

By the end of the 1960s, Campbell was the fastest rising star in American pop with his own television show and a starring role in the original version of True Grit. Over the following ten years, he had more success with Rhinestone Cowboy and Southern Nights, but his private life was in turmoil. Divorce, drink and drugs saw this clean-cut all-American hero fall from grace and a tempestuous relationship with country star Tanya Tucker was front-page news.

Despite a relapse in 2003, when he was arrested for drunk driving and his police mug shot was shown around the world, the last two decades have been more settled. He remarried, started a new family and renewed his Christian faith, and was musically rediscovered by a new generation. Like his friend Johnny Cash, he released acclaimed new albums with young musicians, covering songs by contemporary artists like U2 and The Foo Fighters. Therefore the diagnosis with Alzheimer's was all the more poignant, but his dignified farewell has made him the public face of the disease in the USA.

The film includes contributions by many of Campbell's friends and colleagues, including his family in Arkansas, fellow session musicians Carol Kaye and Leon Russell, long-time friend and collaborator Jimmy Webb, former Monkee Mickey Dolenz, broadcaster Bob Harris, lyricist Don Black and country music writer Robert Oermann.

SAT 01:40 An Evening with Glen Campbell (b01pyfht)

A special concert recorded at the Royal Festival Hall in 1977, where 80 musicians played new arrangements of Glen Campbell's hit songs.

SAT 03:00 Easy Listening Hits at the BBC (b011g943)
[Repeat of broadcast at 23:35 today]

SUNDAY 21 MAY 2017

SUN 19:00 The Birth of British Music (b002k57)
Mendelssohn - The Prophet

Conductor Charles Hazlewood explores the lives, times and music of great composers. In the final programme in the series, he looks at Mendelssohn, whose music embodies the sound of the Victorian age. A friend of Queen Victoria and Prince Albert, Mendelssohn made ten visits to Britain and his work appealed strongly to British tastes.

Mendelssohn's melodies such as O for the Wings of a Dove and Hark! the Herald Angels Sing became hugely popular and his astonishing overture to A Midsummer Night's Dream perfectly captured the Victorians' fondness for Shakespeare and fairy stories. He portrayed the grandeur of Scotland through a romanticism shared with poets such as Keats and Wordsworth, and captured the public imagination with his pioneering use of a new conductor's tool - the baton.

Charles's journey includes a stormy boat trip to Fingal's Cave and a visit to a chocolate factory, as well as a trip to the recently restored Birmingham Town Hall, where a massed choir comprising choral groups from across the West Midlands is brought together with the BBC Concert Orchestra and soloist Andrew Shore to perform extracts from Mendelssohn's iconic work Elijah.

SUN 20:00 Timeshift (b00dzdc)
Series 8

Last Days of Steam

The surprising story of how Britain entered a new age of steam railways after the Second World War and why it quickly came to an end.

After the war, the largely destroyed railways of Europe were rebuilt to carry more modern diesel and electric trains. Britain, however, chose to build thousands of brand new steam locomotives. Did we stay with steam because coal was seen as the most reliable power source, or were the railways run by men who couldn't bear to let go of their beloved steam trains?

The new British locomotives were designed to stay in service well into the 1970s, but in some cases they were taken off the railways and scrapped within just five years. When Dr Richard Beeching took over British Railways in the 1960s the writing was on the wall, and in 1968 the last steam passenger train blew its whistle.

But while steam use declined, steam enthusiasm grew. As many steam engines lay rusting in scrapyards around Britain, enthusiasts raised funds to buy, restore and return them to their former glory. In 2008, the first brand new steam locomotive to be built in Britain in nearly 50 years rolled off the line, proving our enduring love of these machines.

SUN 21:00 Tutankhamun: The Truth Uncovered (b04n6scp)

What killed King Tutankhamun? Ever since his spectacular tomb was discovered, the boy king has been the most famous pharaoh of all ancient Egypt. But his mysterious death, at just 19 years old, has never been explained.

Dallas Campbell reports on new scientific research being carried out on his fragile remains in an attempt to get to the truth. Using CT scan data, the programme creates the first scientifically accurate image of the king's corpse. DNA analysis uncovers a secret about Tutankhamun's family background, and the genetic trail of clues leads to a new theory to explain his death.

This is an epic detective story that uncovers the extraordinary truth of the boy behind the golden mask.

SUN 22:00 Arena (b08rnyxq)
American Epic

The Big Bang

The first episode takes us back to 1920s America, where the growth of radio had shattered record sales. Record companies travelled rural America and recorded the music of ordinary people for the first time. The poor and oppressed were given a voice as their recordings spread from state to state.

The film introduces the early recordings of The Carter Family, the founders of modern country music, steeped in the traditions of their isolated Appalachian community. It also features Will Shade and the Memphis Jug Band, whose music told the story of street life in Memphis, and laid the foundations for modern-day rap and R'n'B.

Robert Redford narrates this meticulously researched story of a cultural revolution that changed the world.

SUN 23:00 Country at the BBC (b08gqkzv)

Grab your partner by the hand - the BBC have raided their archive and brought to light glittering performances by country artists over the last four decades.

Star appearances include Tammy Wynette, Kris Kristofferson, Johnny Cash and, of course, Dolly Parton. All the greats have performed for the BBC at some point - on entertainment shows, in concert and at the BBC studios. Some of the rhinestones revealed are Charley Pride's Crystal Chandeliers from The Lulu Show, Emmylou Harris singing Together Again on The Old Grey Whistle Test and Glen Campbell's Rhinestone Cowboy from The Val Doonican Music Show.

We're brought up to date with modern country hits from Top of the Pops and Later...with Jools Holland.

SUN 00:00 The Secret Horse: Quest for the True Appaloosa (b04z21cc)

Documentary in which a 69-year-old horsewoman from New Zealand sets off on an extraordinary journey to find the truth about the origins of the rare Appaloosa spotted horse. Back in the saddle for the first time in 12 years, she crosses one of the world's highest mountain ranges in search of a lost valley, where she hopes to discover whether the experts have been wrong all along and that the true source of the North American Appaloosa horse is Asia and not Europe, as the history books would have us believe.

An inspirational adventure story inspired by a lifelong passion for horses.

SUN 01:00 Burma, My Father and the Forgotten Army (b03x83s)

Apart from a few fragmentary stories, Griff Rhys Jones's father never talked about his war. Yet as a medical officer to a West African division he travelled 15,000 miles from Wales to Ghana and the jungles of Burma. He and his men were part of an army of a million raised in Africa and Asia to fight the Japanese. To understand their story Griff travels first to Ghana and then, accompanied by 90-year-old veteran Joshua, he goes to jungles of Burma. It is known as the forgotten war, but Griff discovers how it transformed these West Africans from children of the British Empire into masters of their own destiny.

SUN 02:00 Horizon (b03vpc74)
2013-2014

Man on Mars: Mission to the Red Planet

Horizon goes behind the scenes at Nasa to discover how it is preparing for its most ambitious and daring mission: to land men - and possibly women - on the surface of Mars.

It's over 40 years since Neil Armstrong made the first human footprint on the moon. But getting to the red planet would involve a journey of at least three years.

Horizon meets the scientists and engineers who are designing new rockets and space suits, and finding ways to help astronauts survive the perils of this long voyage.

And it turns out that having the 'right stuff' for a mission to Mars might not be quite what you expect.

SUN 03:00 Tutankhamun: The Truth Uncovered (b04n6scp)

[Repeat of broadcast at 21:00 today]

MONDAY 22 MAY 2017**MON 19:00 100 Days+ (b08rbywg)**
Series 1

22/05/2017

Katty Kay in Washington and Christian Fraser in London report on the events that are shaping our world.

MON 19:30 Great British Railway Journeys (b04xw3w6)
Series 6

Ayr to Stewarton

Michael Portillo embarks on a journey through southern Scotland from west to east. From Ayr, he admires the granite island of Ailsa Craig before getting to grips with the ancient sport of curling, with help from a Scottish world champion.

The Ancient Society of Kilwinning Archers invites Michael to take part in the oldest archery competition in the world. At Barassie, he rides the footplate of a freight train hauling coal on Scotland's oldest railway line. He caps off this leg of his journey in Stewarton.

MON 20:00 Mud, Sweat and Tractors: The Story of Agriculture (b00k3685)
Wheat

Documentary series about the history of 20th-century farming in Britain looks at wheat and tells how the country became self-sufficient in producing bread-making wheat after the Second World War.

Told through the working lives and home movie archives of three wheat-farming families from the east of England, it reveals how farmers went from horse power to machine power and how they used science and genetics to transform the size and yield of wheat and the rural landscape, with controversial

outcomes for the countryside.

MON 21:00 The Riviera: A History in Pictures (b01ps9jr)
Painting Paradise

Two-part sun-filled series in which Richard E Grant follows in the footsteps of artists who have lived, loved and painted on France's glorious Cote d'Azur.

Revealing the intertwined relationship between modern art and the development of the French Riviera as an international tourist haven, Grant explores how impressionist painters Cezanne, Monet and Renoir first discovered the region in the 19th century when the newly built railway arrived there.

Captivated by the light and colour of this undiscovered landscape, the painters immortalised its shores on canvas and in doing so advertised the savage beauty of the region. For neo-impressionists Paul Signac and Henri-Edmond Cross, the region provided a vision of utopia, while for Henri Matisse the vivid colours of the area inspired him to adopt a new palette and in doing so set modern art en route to abstraction.

With visits to L'Estaque, St Tropez and Nice, Grant maps the progress of the region from cultural backwater to bohemian hotspot.

MON 22:00 Francesco's Italy: Top to Toe (b00791vw)
The Romantic North

Francesco da Mosto gets romantic in Juliet's home town of Verona, witnesses the birth of western art, has a fashion makeover from Giorgio Armani, is invited into a closed convent to see the tomb of the most notorious woman in European history, and goes deep-sea diving in pursuit of a childhood dream.

MON 23:00 Mothers, Murderers and Mistresses: Empresses of Ancient Rome (b020t1rt)
Episode 1

Professor Catharine Edwards explores the story of the remarkable Livia, wife of the emperor Augustus, mother of the emperor Tiberius and a woman whose influence was felt across the Roman world for over 60 years. But as Catharine explains, imperial women who lacked perfect political judgement would end up not as leaders but as victims. Both Augustus's daughter Julia and his granddaughter Agrippina would die miserably in exile.

MON 00:00 Greek Myths: Tales of Travelling Heroes (b00vzxv9)

Eminent classical historian Robin Lane Fox embarks on a journey in search of the origins of the Greek myths. He firmly believes that these fantastical stories lie at the root of western culture, and yet little is known about where the myths of the Greek gods came from, and how they grew. Now, after 35 years of travelling, excavation and interpretation, he is confident he has uncovered answers.

From the ancient lost city of Hattusas in modern Turkey to the smouldering summit of the Sicilian volcano Mount Etna, the documentary takes the viewer on a dazzling voyage through the Mediterranean world of the 8th century BC, as we follow in the slipstream of an intrepid and mysterious group of merchants and adventurers from the Greek island of Euboea. It's in the experiences of these now forgotten people that Lane Fox is able to pinpoint the stories and encounters, the journeys and the landscapes that provided the source material for key Greek myths.

And along the way, he brings to life these exuberant tales - of castration and baby eating, the birth of human sexual love, and the titanic battles with giants and monsters from which the gods of Greek myth were to emerge victorious.

MON 01:30 Timeshift (b00dzdd)
[Repeat of broadcast at 20:00 on Sunday]**MON 02:30 The Code of Life: Great Scientists in their Own Words (b03mpdtq)**

Documentary telling the story of some of the most important scientific thinkers of the modern age - an epic tale of men and women obsessed by intellectual challenges but dogged by their human failings - of bitter personal rivalries, clashes of ideology and unlikely collaboration. These are the people who discovered the structure of DNA and worked out how our genes work, who changed our view of life forever. The film is an unvarnished account of the scientists who dared to discover the secret of life - told through fascinating and revealing archive - in their own words.

Contributors interviewed include: Sir Paul Nurse - biologist,

Nobel laureate and President of the Royal Society, Professor Lisa Jardine - historian of science and daughter of Jacob Bronowski, who hence knew many of the Cambridge scientists involved with the DNA story as a child and an undergraduate, and Professor Steve Jones, a geneticist at UCL.

TUESDAY 23 MAY 2017**TUE 19:00 100 Days+ (b08rbywm)**
Series 1

23/05/2017

Katty Kay in Washington and Christian Fraser in London report on the events that are shaping our world.

TUE 19:30 Great British Railway Journeys (b04xw5jx)
Series 6

Greenock to Larkhall

Michael Portillo continues his journey through the Scottish lowlands with his Bradshaw's guide. He begins in the industrial town of Greenock from where he sets sail in the last seagoing paddle steamer in the world. In Glasgow, Michael investigates 'Mackintosh style' in an iconic city tea room, before seeing the devastating effects of the 2014 fire at the Glasgow School of Art. In Blantyre, Michael discovers the humble beginnings of Britain's most famous missionary and explorer, and learns to bake sourdough in Scotland's oldest bakery in Strathaven.

TUE 20:00 The First Georgians: The German Kings Who Made Britain (p01wq65t)
Episode 1

In 1714, to prevent the crown falling into the hands of a Catholic, Britain shipped in a ready-made royal family from the small German state of Hanover. To understand this risky experiment, presenter Dr Lucy Worsley has been given access to treasures from the Royal Collection as they are prepared for a new exhibition at the Queen's Gallery, Buckingham Palace - providing a rare and personal insight into George I and his feuding dynasty.

The Hanoverians arrived at a moment when Britain was changing fast. Satirists were free to mock the powerful, including the new royals. The Hanoverians themselves were busy early adopters of Neo-Palladian architecture, defining the whole look of the Georgian era. When the French philosopher Voltaire visited, he found a 'land of liberty' unlike anything in Europe - Britain was embracing freedom of speech and modern cabinet government.

TUE 21:00 The Secret History of My Family (b073lqfx)
The Gadbury Sisters

The story of three pickpocketing sisters raised in 1830s Shoreditch, in the heart of London's criminal underworld, and how two of them were banished to England's 'thief colony.'

Among the girls' Australian descendants are two Supreme Court judges and a government premier, and the descendants of the sister left behind in England are a bin man and a window cleaner. The incredible true story of the Gadbury girls and the generations that followed them is told by their descendants.

TUE 22:00 A Timewatch Guide (b06z59g7)
Series 2

Stonehenge

Using 70 years of BBC history archive film, Professor Alice Roberts uncovers how the iconic ancient monument of Stonehenge has been interpreted, argued over and debated by some of Britain's leading historians and archaeologists. She reveals how new discoveries would discredit old theories, how astronomers and geologists became involved in the story and why, even after centuries of study, there's still no definitive answer to the mystery of Stonehenge.

TUE 23:00 Storm Troupers: The Fight to Forecast the Weather (b07cv9gp)
Episode 1

Alok Jha investigates how weather forecasting was transformed from superstition into science.

At the heart of story is pioneering meteorologist, Robert Fitzroy. Driven to prevent disasters at sea - like the wrecking of a passenger ship off the Anglesey coast in 1859 - Fitzroy issued Britain's first storm warnings and came up with the first weather forecast to be published in a newspaper.

Alok explores the knowledge Fitzroy was building on. He investigates weather folklore, asking if sayings such as 'red sky at night, shepherd's delight' have any merit. He tells the stories of the other heroes of meteorology - people like Evangelista Torricelli, a student of Galileo's, who invented the barometer; Luke Howard, who classified the clouds and Francis Beaufort, who came up with the famous wind scale.

Alok also discovers that public complaints about weather forecasts date back to the very first forecasts.

TUE 00:00 Could We Survive a Mega-Tsunami? (b01s0zqv)
Starting off a kilometre high, travelling at the speed of a jet aircraft, and heading for us. It doesn't make for a good outcome. Hollywood-style graphics and real-life archive bring home an imagined near-future scenario, all based on cutting-edge science.

TUE 01:00 Scotland's First Oil Rush (b07cb31r)
Scotland witnessed the world's first true 'oil rush', when inventor James 'Paraffin' Young first refined lighting fuel from a shale rock known as torbanite in 1851. There followed more than a century of the shale oil industry, which employed thousands and whose fortunes ebbed and flowed with industrialisation and two world wars.

Presented by geologist Professor Iain Stewart, this film tells the story of shale, its lasting impact on one Scottish community - West Lothian - and the massive and unique landmarks still visible today.

TUE 02:00 The Secret History of My Family (b073lqfx)
[Repeat of broadcast at 21:00 today]

TUE 03:00 Storm Troupers: The Fight to Forecast the Weather (b07cv9pp)
[Repeat of broadcast at 23:00 today]

WEDNESDAY 24 MAY 2017

WED 19:00 100 Days+ (b08rbyws)
Series 1

24/05/2017

Katty Kay in New York and Christian Fraser in Manchester report on the events that are shaping our world.

WED 19:30 Great British Railway Journeys (b04xw6lc)
Series 6

Motherwell to Linlithgow

Armed with his Bradshaw's guide, Michael Portillo continues his journey through southern Scotland. He celebrates Victorian iron and steel in Motherwell and admires one of its crowning achievements - the Forth Rail Bridge. Michael journeys through picturesque countryside to admire the raw power of nature at the magnificent and romantic Clyde Falls, which inspired Wordsworth and Coleridge, and where Victorian ladies swooned. In Cumbernauld, Michael learns of the birth of one of Scotland's best-selling soft drinks. In Linlithgow, he marvels at the ingenuity of the engineers who built the Union Canal and experiences a 21st-century technological refinement at Falkirk.

WED 20:00 Dreaming the Impossible: Unbuilt Britain (b0394j6q)
A Revolution in the City

Using her skills to uncover long-forgotten and abandoned plans, architectural investigator Dr Olivia Horsfall Turner explores the fascinating and dramatic stories behind some of the grandest designs that were never built.

Destruction, whether intentional or circumstantial, often creates a clean slate and demands a fresh outlook in which we come to think the unthinkable. This programme looks at bold, and in some cases shocking, plans to make revolutionary changes to Britain's biggest cities.

In the mid 17th century, the capital was reeling from the devastation caused by the Great Fire of London. But amid the destruction, a huge opportunity arose to completely remodel and modernise London and make it into a very different city than the one we know today.

London was effectively a blank sheet of paper and, within a week of the city being razed to the ground, architect Sir Christopher Wren presented King Charles II with a vision to create a completely new city. Wren wanted the winding streets and old courtyards that had existed almost unchanged since

medieval times to be replaced by monumental Parisian-style avenues in a formal grid pattern with large piazzas. This was a unique opportunity to improve on the past but, while Wren's design for St Paul's Cathedral did become a reality, London was reconstructed on essentially the same street plan as before the fire.

Three centuries later, Glasgow was the second city of the empire and the industrial powerhouse of the nation, but was struggling to cope with overcrowding and slum housing. Many believed the only solution was to start again. The city's leading planner, Robert Bruce, proposed demolishing the entire city centre - the celebrated buildings of Mackintosh and Greek Thompson would all have been bulldozed - to create a 1940s vision of the future. The new Glasgow would have been built as a system of regular tower blocks, ringed by a motorway, built in districts according to function. Bruce's justification for these drastic proposals was the creation of a new 'healthy and beautiful city'. Although his plan was not realised in its entirety, many of his ideas were carried out, and the M8 motorway which cuts right through the city centre is probably the most visible legacy of the 'Bruce Report'.

In both plans, destruction was the driving force behind creating a new city on a fresh slate. Separated in time by 300 years, these two radical thinkers, Christopher Wren and Robert Bruce, devised colossal, transformative schemes for their respective cities in a bid to create their very personal vision of the 'perfect city'.

WED 21:00 Secrets of the Super Elements (b08rv9r6)
Forget oil, coal and gas - a new set of materials is shaping our world and they're so bizarre they may as well be alien technology. In the first BBC documentary to be filmed entirely on smartphones, materials scientist Prof Mark Miodownik reveals the super elements that underpin our high-tech world. We have become utterly dependent on them, but they are rare and they're already running out. The stuff that makes our smartphones work could be gone in a decade and our ability to feed the world depends mostly on a mineral found in just one country. Mark reveals the magical properties of these extraordinary materials and finds out what we can do to save them.

WED 22:00 Engineering Giants (b011w71)
Jumbo Jet Strip-Down

Engineer turned comedian Tom Wigglesworth and rising star of mechanical engineering Rob Bell climb on board Victor X-ray, a 200-ton, £200 million Boeing 747. This jumbo jet has flown over 36 million miles in its 14-year life with British Airways. Now it will be broken into tens of thousands of parts in the airline's maintenance hangar in Cardiff, before being painstakingly reassembled and certified fit to fly again. This is the first time this complex process has ever been filmed and it provides fascinating insights into just how a 747 works.

Rob and Tom also visit the UK's largest plane salvage centre in the Cotswolds to discover what happens to a 747 when it reaches the end of its working life, and discover how valuable parts are stripped for resale before the carcass is torn apart to be recycled.

WED 23:00 Catching History's Criminals: The Forensics Story (p0214px7)
Traces of Guilt

There will always be those who think they can commit the perfect murder. In reality it's virtually impossible to leave no evidence at the scene of a crime. Fingerprints, hair, fibres and blood can all lead to the killer. In this second episode, surgeon Gabriel Weston explores the cases that were solved by examining the smallest traces of forensic evidence, from the first murder case solved in the UK based on fingerprint evidence to the patterns of blood in a bedroom which helped overturn an infamous murder conviction.

As well as looking to the past, Gabriel investigates the cutting-edge techniques that are proving vital in catching the killers of today. Amazingly, forensic science can now detect with pinpoint accuracy where someone has walked across an area the size of Scotland, based on nothing more than the soil stuck to the sole of a suspect's shoe.

WED 00:00 Natural World (b039w9p0)
2013-2014

Meet the Monkeys

Peanut, Hero and Tarzan are three cheeky monkeys. They live on the Indonesian island of Sulawesi with the rest of their gang of crested black macaques. These very special primates are found nowhere else in the world. Twenty-five years ago, wildlife cameraman Colin Stafford-Johnson visited Sulawesi for the first time and now he has returned. Fascinated by the

monkeys, Colin hopes to reveal their sometimes violent, often playful and, just like our own, highly political world. What he discovers leads him on a much bigger journey than he was ever expecting.

WED 01:00 Mud, Sweat and Tractors: The Story of Agriculture (b00k3685)

[Repeat of broadcast at 20:00 on Monday]

WED 02:00 Timeshift (b03pzd9)

Series 13

How to Be Sherlock Holmes: The Many Faces of a Master Detective

For over 100 years, more than 80 actors have put a varying face to the world's greatest consulting detective - Sherlock Holmes. And many of them incorporated details - such as the curved pipe and the immortal line 'Elementary, my dear Watson' - that never featured in Conan Doyle's original stories. In charting the evolution of Sherlock on screen, from early silent movies to the latest film and television versions, Timeshift shows how our notion of Holmes today is as much a creation of these various screen portrayals as of the stories themselves.

With contributions from Sherlocks past and present, including Benedict Cumberbatch, Christopher Lee, Tim Pigott-Smith and Mark Gatiss. Narrated by Peter Wyngarde.

WED 03:00 Secrets of the Super Elements (b08rv9r6)

[Repeat of broadcast at 21:00 today]

THURSDAY 25 MAY 2017

THU 19:00 100 Days+ (b08rbywy)

Series 1

25/05/2017

Katty Kay in Washington and Christian Fraser in London report on the events that are shaping our world.

THU 19:30 Top of the Pops (b08rc663)

John Peel and David Jensen present the pop chart programme, first broadcast on 22 December 1983. Artists include Slade, Culture Club, Paul McCartney, Dennis Waterman & George Cole, Billy Joel, Howard Jones and The Flying Pickets.

THU 20:00 Fossil Wonderlands: Nature's Hidden Treasures (b03yfj8)

Feathered Dinosaurs

Professor Richard Fortey travels to north eastern China to see a fossil site known as the 'Dinosaur Pompeii' - a place that has yielded spectacular remains of feathered dinosaurs and rewritten the story of the origins of birds. Among the amazing finds he investigates are the feathered cousin of T-rex, a feathered dinosaur with strong parallels to living pandas, and some of the most remarkable flying animals that have ever lived.

THU 21:00 Jago: A Life Underwater (b08rp0ld)

Documentary about Rohani, an 80-year-old hunter who dives like a fish on a single breath, descending to great depths for several minutes. Set against the spectacular backdrop of the Togian Islands in Indonesia where he grew up, this award-winning film recreates events that capture the extraordinary turning points in his life, as a hunter and as a man.

THU 21:45 Natural World (b00nsky2)

2009-2010

Victoria Falls - The Smoke That Thunders

A tale of life on the Zambezi River, set against the epic backdrop of Victoria Falls. The story is told from the point of view of a local fisherman, Mr White, who has fished these waters for 69 years, and whose riverside companions are elephants, baboons, hippos and kingfishers. Follow the fortunes of these animals through his eyes, and learn how their lives are ruled by the moods of the river and the rains.

THU 22:35 Planet Ant: Life Inside the Colony (p00scslp)

Ant colonies are one of the wonders of nature - complex, organised and mysterious. This programme reveals the secret, underground world of the ant colony in a way that's never been seen before. At its heart is a massive, full-scale ant nest, specially designed and built to allow cameras to see its inner workings. The nest is a new home for a million-strong colony of

leafcutter ants from Trinidad.

For a month, entomologist Dr George McGavin and leafcutter expert Professor Adam Hart capture every aspect of the life of the colony, using time-lapse cameras, microscopes, microphones and radio tracking technology. The ants instantly begin to forage, farm, mine and build. Within weeks, the colony has established everything from nurseries and gardens to graveyards.

The programme explores how these tiny insects can achieve such spectacular feats of collective organisation. This unique project reveals the workings of one of the most complex and mysterious societies in the natural world and shows the surprising ways in which ants are helping us solve global problems.

THU 00:05 Top of the Pops (b08rc663)

[Repeat of broadcast at 19:30 today]

THU 00:40 Sound of Cinema: The Music That Made the Movies (b03b965y)

Pop Goes the Soundtrack

Composer Neil Brand explores how, in the second half of the 20th century, composers and film-makers embraced jazz, pop and rock to bring fresh energy and relevance to film scores.

He shows how in the 1960s, films as diverse as the James Bond movies, spaghetti westerns and Disney's musicals drew on the talents of pop arrangers and composers like John Barry, Ennio Morricone and the Sherman Brothers to create unforgettable soundtracks. But the role of the film composer would subsequently be challenged by directors like Martin Scorsese and Quentin Tarantino, who showed that a soundtrack consisting of carefully chosen pop songs could be as effective as a specially written one.

Neil's journey sees him meet leading film-makers and composers including Martin Scorsese and composers Richard Sherman (Mary Poppins, The Jungle Book), Lalo Schifrin (Bullitt) and David Arnold (Casino Royale).

THU 01:40 Arena (b08rnyxq)

[Repeat of broadcast at 22:00 on Sunday]

THU 02:40 Dreaming the Impossible: Unbuilt Britain (b0394j6q)

[Repeat of broadcast at 20:00 on Wednesday]

FRIDAY 26 MAY 2017

FRI 19:00 World News Today (b08rbyx3)

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

FRI 19:30 Top of the Pops (b08rc78m)

Peter Powell, Tommy Vance, Richard Skinner, Gary Davies and Adrian John present the pop chart programme, first broadcast on 29 December 1983. Features JoBoxers, Mike Oldfield, Thompson Twins, Tracey Ullman, The Cure, Phil Collins, The Belle Stars, Paul Young, Siouxsie & The Banshees, Spandau Ballet, Howard Jones, Rod Stewart, The Style Council and Culture Club.

FRI 20:20 Sounds of the Eighties (b0074shx)

Episode 1

The 80s saw many great contributions to the fields of art and culture. Not the least of these was floppy hair. Floppy hair dominates this episode of pop morsels from the BBC archive, featuring Adam and the Ants, Duran Duran, Culture Club, ABC, Wham!, Frankie Goes to Hollywood, Bananarama and Kylie Minogue.

FRI 21:00 How to Make a Number One Record (b05r6q4r)

Great pop records are the soundtrack to our lives, and that is why number one hits hold a totemic place in our culture. This film goes in search of what it takes to get a number one hit single, uncovering how people have done it and the effect it had on their lives. As the exploration moves through the decades, the goal is to trace the various routes that lead to the top of the singles chart and discover the role played by art, science, chance and manipulation in reaching the pinnacle of pop.

FRI 22:00 Sharon Osbourne Presents Rock 'n' Roll's Dodgiest Deals (b08rc78x)

Sharon Osbourne presents the story of pop deals through the decades. From Little Richard's half a cent a record to Robbie

Williams's £80m deal via notorious bad deals for The Beatles, The Small Faces, The Animals and NWA and great deals for Led Zeppelin, The Police and Moby, Sharon gets the inside story from those still chasing royalties and those who took on the music biz and won.

With The Small Faces, Eric Burdon, The Police, Moby, NWA, Charles Connor (Little Richard's drummer), Art Rupe (aged 99, who signed Little Richard), Pamela Des Barres, Tim Clark (Robbie Williams's manager).

FRI 23:00 Ultimate Number Ones (b01nwfxy)

To celebrate the 60th anniversary of the UK chart, from the vaults of the BBC archive comes a selection of hits that attained the topmost of the poppermost prize and made it to number one in the hit parade. From across the decades, we applaud the most coveted of all chart positions with smash hits and classics from The Bee Gees, T. Rex, Donna Summer, John Lennon, Culture Club, The Spice Girls, James Blunt, Rihanna, Adele and many more.

FRI 00:00 Top of the Pops (b08rc78m)

[Repeat of broadcast at 19:30 today]

FRI 00:55 How to Make a Number One Record (b05r6q4r)

[Repeat of broadcast at 21:00 today]

FRI 01:55 Sharon Osbourne Presents Rock 'n' Roll's Dodgiest Deals (b08rc78x)

[Repeat of broadcast at 22:00 today]

FRI 02:55 Ultimate Number Ones (b01nwfxy)

[Repeat of broadcast at 23:00 today]