

SATURDAY 27 APRIL 2019

SAT 19:00 Natural World (b00tcf7z)
2010-2011

Echo - An Unforgettable Elephant

A celebration of the life and legacy of Echo, the world's most famous elephant, who was born in 1945 and died in 2009, and who Natural World followed for the last 20 years of her life.

The timing of Echo's death could not be worse. The wise old matriarch had guided her family for half a century, but the cruellest drought in living memory devastated her home under the shadow of Kilimanjaro. Will her 38-strong band of relatives and descendants overcome the loss of their leader, hunger and poachers to survive?

SAT 20:00 Alaska: Earth's Frozen Kingdom (b0520t2w)
Spring

Alaska is one of the most iconic wildernesses on the planet - America's last frontier.

In this three-part series, we follow a year in Alaska and reveal the stories of pioneering Alaskans, both animal and human, as they battle the elements and reap the benefits of nature's seasonal gold rush.

Alaska is huge - by far the biggest US state - and still one of the wildest places on earth. It has deep forests and vast mountain ranges, and a third of it sits above the Arctic Circle.

The whole state goes through some of the most extreme seasonal changes: temperatures can reach over 90F in summer and can plummet to -80F in the winter.

Yet plenty survives here, and it is home to some of the hardest animals on the planet. Each one has its own way of getting through the challenges of the seasons.

We meet black bear cubs faced with a daunting climb down from their tree-dens and a mother sea otter nursing her baby through the chilly days of early spring. Stealthy 50-tonne sperm whales steal fish from the end of fishermen's lines, grizzly bears grow big on a sudden wealth of salmon and a huge male moose finds unlikely ways to impress a female. Thousands of bald eagles gather for a winter feast, and arctic foxes risk everything to find food in the alien world of an oil boomtown. People, too, must go with the flow of the extreme seasons, facing winter storms at sea to catch snow crabs, rushing across ice rivers with teams of huskies and taking advantage of Alaska's endless summer daylight to grow world-class giant vegetables.

As spring lights up the land, Alaska faces one of the greatest transformations on earth. Temperatures soar, and as the sun's rays hit the snow and ice, water, light and warmth return. Alaska's transition to spring may look magical, but for those animals emerging from a long winter's sleep, it's a time of intense competition, as everything is in a rush to cash in on Alaska's riches.

SAT 21:00 Follow the Money (m0004nq9)
Series 3

Episode 7

When Anna finds out that Nete has plans to co-operate with the police, she tries to put a stop to it. Nicky and Lala get off on the wrong foot when Lala starts taking over both Nicky's businesses and the access to Marco.

At the police station, Alf is confronted by his colleague, Stine, about his substance abuse and the mysterious shift of course in the Nicky and Marco case. Meanwhile, Alf continues to be pressured by the chief police inspector to follow a hidden agenda.

Danish crime drama with English subtitles.

SAT 22:00 Follow the Money (m0004nqc)
Series 3

Episode 8

Alf's decision to go against the chief police inspector's orders following a murder has severe consequences for the Nørrebro Task Force. Marco's true identity is revealed and Nicky is now forced to deal with his business arrangement with Lala. Alf is on the trail of Anna, investigating her as a possible connection to Nicky, when her husband suddenly comes to her rescue.

Danish crime drama, with English subtitles.

SAT 23:00 Mark Kermode's Secrets of Cinema (m0004hrx)

Mark Kermode's Disaster Movies

Earthquakes, explosions, eruptions... since the earliest days of cinema, film-makers have understood that true spectacle lies not in building things up, but in bringing them crashing down.

Mark Kermode grew up in the 1970s, the heyday of the all-star Hollywood disaster movie, and he has always been fascinated by the genre, which continues to thrive today. Mark shows how disaster movies use stunts and sound, editing and special effects to bring us jaw-dropping visions of destruction.

But spectacle alone is not enough, and Mark reveals how film-makers rely on recurring story devices, themes and character types to build drama and maintain our sense of jeopardy. Mark also showcases the remarkable range of disaster movies, from claustrophobic solo survival stories to films that explore the ultimate catastrophe - the end of the world.

SAT 00:00 Top of the Pops (m0004j84)

Gary Davies presents the pop chart programme, first broadcast on 27 August 1987 and featuring Then Jerico, The Pet Shop Boys with Dusty Springfield, Wet Wet Wet, Black, T'Pau, Rick Astley, and Prince and Sheena Easton.

SAT 00:30 Top of the Pops (m0004j89)

Peter Powell and Simon Bates present the pop chart programme, first broadcast on 10 September 1987 and featuring T'Pau, Level 42, W.A.S.P., Wax, Jonathan Butler, Rick Astley and U2.

SAT 01:00 Island at the BBC (b00kvd3b)

Compilation of performances from the BBC archives of top Island Records artists, including Cat Stevens's Father and Son, Roxy Music's Do the Strand and Stir It Up by Bob Marley and The Wailers, plus tracks from Steel Pulse, U2, PJ Harvey, Baaba Maal and Amy Winehouse.

SAT 02:00 Natural World (b00tcf7z)

[Repeat of broadcast at 19:00 today]

SAT 03:00 Alaska: Earth's Frozen Kingdom (b0520t2w)

[Repeat of broadcast at 20:00 today]

SUNDAY 28 APRIL 2019

SUN 19:00 Retreat: Meditations from a Monastery (b09cbc3w)

Series 1

Pluscarden Abbey

Pluscarden Abbey is a remote Benedictine monastery on the edge of the Scottish Highlands in Moray and is home to 21 monks. It is the oldest practising monastery in the United Kingdom, dating back to the medieval era. The monks live by the 6th-century Rule of St Benedict and life has changed little in hundreds of years.

Given its isolated and weather-beaten position, the abbey is almost entirely self-sufficient. The monks grow their own crops, make their own clothes and have little contact with the outside world. Unlike most Benedictine monks who wear a black habit, the monks at Pluscarden Abbey wear white, a symbol of their austerity and strict interpretation of monastic life.

We follow a typical day in the life at Pluscarden Abbey - from the moment one monk knocks on the doors of the brethren and chants in Latin to wake them up for the first service of the day at **4.15am** right up to compline, the final service of the day before the monks retire to bed.

Brother Michael is Pluscarden Abbey's resident tailor and weaver. Creating garments is his passion and we watch as he makes a distinctive white habit for another monk - measuring and cutting the material, hand stitching the design on an old sewing machine and finally washing it and presenting it to another monk. He also weaves a striking purple and white stole, a vestment worn around the neck by priests when giving confession, on an antique braid loom housed in one of the abbey's workshops.

Father Benedict served in the British army before becoming a monk at the age of 25. He is Pluscarden Abbey's beekeeper and when he's not attending one of the nine services the monks conduct throughout the day, he can be found at one of the many beehives scattered around the monastery grounds. We follow him as he collects a frame filled with honey from one of the hives and then processes it in his 'honeyhouse' by melting it down and sieving it into jars ready to serve to the other monks at supper. Monotonous tasks like going through a beehive are

entirely compatible with being in a state of constant prayer.' (Father Benedict)

Filed with an eye to the beauty and peace of the ancient surroundings, the film has a painterly quality that creates a feeling of restfulness and quiet contemplation. And by focusing on the natural sounds of nature and the peace of the abbey we have created a meditative soundtrack that adds to this unique experience.

SUN 20:00 Secret Agent Selection: WW2 (b09zgf64)

Series 1

Episode 1

The students face SOE's demanding selection process. Known as the Student Assessment Board, this intense four-day course puts the students through a series of physical and mental tests, all with the aim of finding out who has the raw talent required to progress to full training. The programme charts the beginning of SOE, which started with a handful of agents, in an organisation determined to find a way back into Nazi-controlled Europe.

SUN 21:00 Danny Boyle Introduces Barry Lyndon (m0004w7g)

To mark 20 years since the death of one of cinema's visionary filmmakers, British director Danny Boyle (Trainspotting, Slumdog Millionaire, Shallow Grave) introduces Stanley Kubrick's film Barry Lyndon.

SUN 21:05 Barry Lyndon (m0004ns2)

Young Irishman Redmond Barry has to flee his home after killing an English officer in a duel. It begins a series of adventures that sees him rise from the horrors of the continental wars to the glamorous gambling tables of Europe and marrying into the English aristocracy. But it is his ill-fated quest for a peerage that proves to be his downfall. Stanley Kubrick's witty adaptation of Thackeray's novel and beautiful recreation of 18th-century life won him a BAFTA for Best Director and Oscars for Cinematography; Costume and Score.

SUN 00:00 The Mystery of Van Gogh's Ear (b07nswf1)

It is one of the greatest and bloodiest mysteries in art: what happened on the December night in 1888 when Vincent van Gogh took a blade to his own ear?

Jeremy Paxman joins art sleuth Bernadette Murphy on her amazing quest to discover the truth - what exactly did the artist do, why did he do it and who was the unknown girl he is said to have handed his severed ear to, her real identity kept secret by her family for over a century? It is an event that defines van Gogh, who created his greatest masterpieces including the Sunflowers at the same moment as suffering mental torture, but what are the real facts?

This revealing detective story travels from Vincent's home in the south of France to the Van Gogh Museum in Amsterdam, and uncovers key evidence hidden in a Californian library that has created an art-world sensation, as we finally solve the mystery of Van Gogh's ear.

SUN 01:00 Virtuoso Violinists at the BBC (b072x1qh)

Violinist Nicola Benedetti explores 60 years of BBC archive to celebrate the world of the violin and its most outstanding performers. From Nathan Milstein, Mischa Elman and Isaac Stern to Yehudi Menuhin, Itzhak Perlman and Nigel Kennedy, Nicola gives us a violinist's perspective on what makes a great performance in a tradition which stretches back to the 19th-century virtuoso Paganini. Filmed at the Royal Academy of Music Museum, London.

SUN 02:00 Perfect Pianists at the BBC (b0729r6r)

David Owen Norris takes us on a journey through 60 years of BBC archive to showcase some of the greatest names in the history of the piano. From the groundbreaking BBC studio recitals of Benno Moiseiwitsch, Solomon and Myra Hess in the 1950s, through the legendary concerts of Vladimir Horowitz and Arthur Schnitger, to more recent performances, including Alfred Brendel, Mitsuko Uchida and Stephen Hough, David celebrates some of the greatest players in a pianistic tradition which goes back to Franz Liszt in the 19th century. Filmed at the Cobbe Collection, Hatchlands Park.

SUN 03:00 Secret Agent Selection: WW2 (b09zgf64)

[Repeat of broadcast at 20:00 today]

MONDAY 29 APRIL 2019

MON 19:00 Beyond 100 Days (m0004nr4)

Series 1

29/04/2019

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

MON 19:30 Great British Railway Journeys (b04xw7kd)
Series 6

Stirling to Pitlochry

Steered by his Bradshaw's guide, Michael Portillo begins this leg of his journey in Stirling, where he visits the scene of a bloody battle at Bannockburn. Following in the footsteps of Victorian holidaymakers, he travels north to Crieff to experience the popular Hydro.

In the ancient capital of Scotland, Perth, Michael learns what it takes to make a sporan before catching the Highland mainline to Pitlochry and one of Queen Victoria's favourite haunts. He finishes for the day with a wee dram in Scotland's smallest distillery.

MON 20:00 Shipwrecks: Britain's Sunken History (b03knrvnm)

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*.

MON 21:00 Storyville (b03j450y)

The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy

Documentary exploring the murky circumstances behind the escape of one of Britain's most notorious spies.

In 1963, at the height of the Cold War, a well-educated Englishman called Kim Philby boarded a Russian freighter in Beirut and defected to Moscow from under the nose of British Intelligence. For the best part of thirty years he had been spying for the Soviet Union, much of that time while holding senior jobs in MI6.

Fifty years on, more questions than answers still surround his defection. Had he really confessed before he went? Was his escape from justice an embarrassing mistake or part of the plan? This film, shot in Beirut, London and Moscow, sets out to find the answers, revealing the blind spots in the British ruling class that made it so vulnerable to KGB penetration.

MON 22:10 The Culture Show (b01y7sj4)
2012/2013

Sincerely, F Scott Fitzgerald

Novelist Jay McInerney explores the life and writing of F Scott Fitzgerald, whose masterwork *The Great Gatsby* has just been filmed for the fifth time.

Fitzgerald captured the reckless spirit of New York life in the roaring twenties - the flappers, the parties, the bootleg liquor, the inevitable reckoning, and the hangover to come. In *Gatsby*, he created a character who reinvented himself for love - just as Fitzgerald would, not once, but twice. Fitzgerald never wrote an autobiography. He left us something better - letters. Romantic, arrogant, humble letters; letters to editors, publishers, lovers, or friends.

These letters reveal the inner thoughts of a man whose real life was never far from the fiction he wrote.

MON 23:10 Lucy Worsley's Reins of Power: The Art of Horse Dancing (b06cpczz)

Strictly Come Prancing: Lucy Worsley learns to ride - in fact, she learns how to dance on horseback before putting on a show for the paying public!

Now, if this sounds mad, horse ballet or manege was once the noblest of pursuits practised by everyone from courtier to king

in the first half of the 17th century. Having become fascinated by this horsey hobby whilst writing her PhD, Lucy is on a quest to find out why this peculiar skill was once so de rigueur - learning the lost art from its modern masters, visiting the Spanish Riding School in Vienna to witness spectacular equestrian shows, exploring its military origins through donning Henry VIII-style jousting armour, and discovering horse ballet's legacies in competitive dressage and, more surprisingly, in the performances of the Royal Horse Artillery, the King's Troop today.

MON 00:10 Patagonia with Huw Edwards (b05xd52f)

Huw Edwards fulfils a lifelong dream to explore Patagonia, and the unique attempt to preserve Welsh culture by isolating a Welsh community in one of the most remote and inhospitable places on earth. A hundred and fifty years after the pioneers arrived, Huw meets their descendants and asks what remains of the culture the forefathers wanted to safeguard.

MON 01:10 Natural World (b0078z71)
2005-2006

Cuba - Wild Island of the Caribbean

Documentary revealing the spectacular wildlife of Cuba, home to the bee hummingbird - the world's smallest bird - Cuban crocodiles, swarms of purple land crabs, sea turtles and giant iguanas.

MON 02:00 How to Build... (b0033c7)

Series 1

Britain's Secret Engineers

If you need to build a top-secret piece of equipment in the UK, there's one place many people choose to go: defence contractor QinetiQ.

We follow workers at this leading British company on a global journey, as they reveal a handful of their secretive projects. We meet the scientists and engineers building robots to defuse Afghanistan's deadly roadside bombs and learn how they're adapting them to help in dangerous civilian situations in the UK. We find out how British experts are using stealth technology to make wind turbines less visible to radar and, with unprecedented access, we follow the engineers racing to get Chinook helicopters ready for frontline service, including Afghanistan.

MON 03:00 Shipwrecks: Britain's Sunken History (b03knrvnm)

[Repeat of broadcast at 20:00 today]

TUESDAY 30 APRIL 2019

TUE 19:00 Beyond 100 Days (m0004nr7)

Series 1

30/04/2019

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

TUE 19:30 Great British Railway Journeys (b04xw9w1)
Series 6

St Andrew's to Edinburgh

On the last leg of his journey across Scotland from west to east, Michael Portillo pays homage to the birthplace of golf at St Andrews. He visits a factory where they make traditional hickory-shafted clubs and ventures out on to the green. In Dunfermline, Michael discovers the poor beginnings of one of the world's wealthiest men, a remarkable philanthropist who worked on the railroads before making his fortune in steel. Crossing the Firth of Forth via the legendary red bridge, Michael arrives in Edinburgh in the middle of the world's largest arts festival, the Edinburgh Fringe, where he treats the boards in an unconventional adaptation of a play by Oscar Wilde.

TUE 20:00 Blue Planet II (b09gl670)
Series 1

Green Seas

It's our green seas, not the blue, that bring life to our oceans. Here sunlight powers the growth of enchanted forests of kelp, mangroves and prairies of sea grass. They are the most abundant but fiercely competitive places in the ocean to live.

The most bountiful kelp forests are found off the tip of southern Africa, where two great oceans collide. Almost a hundred different species of shark patrol these waters, driving one resident - the common octopus - to become the ultimate escape artist. To outwit her nemesis, the pyjama shark, she uses ingenious tactics, never filmed before.

Along the Pacific coast of North America stand, at 60 metres high, the largest and perhaps most diverse kelp forests in the world. In clearings, bright orange male Garibaldi fish guard territories of short turf seaweed. When spiny urchins invade and graze their crops, the Garibaldi desperately pick them off. But urchins can swarm in vast numbers and even attack and fell the kelp forest itself, creating vast 'urchin barrens'. All is not entirely lost, thanks to the return of a ravenous forest resident - sea otters. Back in the late 1800s, sea otters were hunted for their thick pelts to near extinction. And with them gone, urchin numbers rose, destroying many forests. Today, thanks to protection, sea otter numbers are recovering, along with the health of the forest. In a filming first, we reveal great rafts of sea otters now numbering in their hundreds.

In warmer waters another green sea takes hold. Off Western Australia, vast prairies of seagrass extend to the horizon. Here, grazing green turtles are stalked by tiger sharks. By keeping turtles on the move, tiger sharks prevent the seagrass meadows from being overgrazed. In this way, sharks have become surprising allies in the fight against climate change - as a patch of sea grass is 35 times more efficient at absorbing and storing carbon than the same area of rainforest.

Once a year, one sea meadow in Australia is overrun by an extraordinary invasion. With the first full moon of winter, strange creatures emerge from the deep - spider crabs. The army marches into the shallows and starts to pile one on top of each other, building mounds over a metre high. They then moult. Soft-bodied and weakened, they must avoid the patrolling four-metre-long stingrays.

Further along the coast, the greatest gathering of cuttlefish in the world takes place, as males battle it out for the right to mate. But even among these giant cuttlefish, the largest of their kind, it's not always size that counts. A smaller, sneaky male uses subterfuge, even pretending to be a female, to confuse rivals and get his girl. Even raising your young can be tough in such a competitive place. A weedy seadragon sets out on an epic quest to give his young the very best start in life.

Vast numbers of the ocean's baby fish start their lives in the green seas. The richest nurseries of all are the mangrove forests. Straddling the boundary between land and sea, they provide shelter for the juvenile fish. But in the mangroves of Western Australia lives a deadly assassin - the 40cm-long zebra mantis shrimp. In a surprising story of betrayal, a male shrimp will abandon his mate of possibly 20 years, trading up for a larger female.

And there is one other green sea that supports more life than all the rest combined. Unlike the mangrove forests and prairies of sea grass, its existence in the open seas is only temporary. Microscopic algae flourish into vast blooms, providing a feast for plankton-feeding fish like billions of anchovies. In Monterey Bay, California, the giant shoals draw in thousands of dolphins, sea lions and humpback whales who all race to claim their share of the feast.

TUE 21:00 In Sight of Home: The Iolaire (b0bx7dy1)

Arguably the greatest tragedy to befall the west coast of Scotland remains, to this day, largely unknown. On the event of the 100th anniversary, the people of Lewis tell their story to the rest of the nation through the words and testimonies of the islanders. On 1 January 1919, having survived the First World War, in excess of 250 naval men were returning home to celebrate their first New Year of peace. But in the blackest of nights, in a rising gale, HMV Iolaire sank within yards of the Lewis coast.

The Western Isles sent 6,000 men to serve in the First World War, and sustained the heaviest casualty rate of any area of British Empire, losing over 1,000 men by the end of the war. But no-one expected further losses after peace had been declared a few weeks earlier, and the seamen were sailing back in sight of home.

Author and local historian Malcolm Macdonald, along with historian and broadcaster Joni Buchanan, explore the feelings of expectation as the Hebridean men returned from war and explain the aftermath and shock that spread throughout the island over the next few weeks and months, affecting generations to come.

Featuring unique BBC archive footage with eyewitness testimonies of the night and its aftermath, including tales of extraordinary bravery and foresight. The story also examines how the disaster has shaped the identity of the islanders in the subsequent years, arguably contributing to the mass emigration of the 1920s and the population decrease that continued through much of the 20th century.

Lewis musician Iain Morrison, who discovers that his own great-grandmother had to write to the authorities for financial assistance, details how his contemporary work of music called 'Sàl' - 'Salt Water' helped him find hope.

TUE 22:00 The Secret History of Our Streets (b04ck993)
Series 2

Duke Street, Glasgow

BBC Two's multi-award-winning Secret History of Our Streets told the story of six London streets, from Victorian times to the present day.

Now, as its people stand at a crossroads in their history, the series travels to Scotland to tell the stories of three archetypal streets in Scotland's three great cities: Edinburgh, Glasgow and Aberdeen.

Endlessly surprising and not at all what you would expect, the stories of these streets are the story of a nation.

Duke Street is Britain's longest street, running from Glasgow city centre through the heart of Glasgow's East End. Elegant Victorian tenement blocks line the road to the south of Duke Street. Yet just 40 years ago, those tenements were under threat. This is the story of how a group of pioneering residents took on the Glasgow Corporation in a battle to save their homes.

TUE 23:00 Hidden Killers (b07chlyl)
The Post-War Home

Dr Suzannah Lipscomb explores the time when British people embraced modern design for the first time after years of austerity and self-denial. The look and feel of the postwar 1950s home - a 'modern' world of moulded plywood furniture, fibreglass, plastics and polyester - had its roots in the innovative materials discovered during World War II. In fact, no other war before or since has had such a profound effect on the technologies of our current life. This bright new era encompassed a host of social changes including higher living standards and improved technologies, but - as Suzannah discovers - there were also unexpected dangers lurking throughout the changing home.

TUE 00:00 Line of Duty (b01k9pn6)
Series 1

Episode 1

When Steve Arnott is transferred to a police anti-corruption unit, he finds his target is the city's top detective, Tony Gates. Can Gates really be as good as he appears? Arnott must engage in a cat-and-mouse struggle to uncover Gates' secret.

TUE 01:00 Line of Duty (b01klwgm)
Series 1

Episode 2

Drama series. Having been duped into covering up Jackie's crime, Gates is desperate to sever ties with her. But, as Arnott and Fleming close in on his secret, Gates is plunged into an even more dangerous situation than he first thought.

TUE 02:00 Sex and Sensibility: The Allure of Art Nouveau (b01f1959)
British Cities

Britain's art nouveau heritage is excavated as cultural correspondent Stephen Smith unearths the bright, controversial but brief career of Aubrey Beardsley.

On a mission to uncover lesser-known stars of Britain's version of this continental fin-de-siècle style, he explores the stunning work of Mary Watts and the massive influence of department store entrepreneur Arthur Liberty.

In Scotland, he celebrates the innovative art nouveau of Charles Rennie Mackintosh, but looks harder at the extraordinary and influential work of Mackintosh's wife, Margaret MacDonald.

TUE 03:00 Blue Planet II (b09gl670)
[Repeat of broadcast at 20:00 today]

WEDNESDAY 01 MAY 2019

WED 19:00 Beyond 100 Days (m0004nr9)
Series 1

01/05/2019

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

WED 19:30 Great British Railway Journeys (b04ynnrc)
Series 6

Amersham to Regent's Park

Michael Portillo embarks on a series of journeys through London.

He travels on the capital's first underground railway, the Metropolitan Line, from Amersham, where he discovers the foundations for modern-day suburbia. In Pinner, Michael finds out about a Victorian domestic goddess and whips up a pint of her fanciest ice cream. In Highgate, Michael investigates the terraced catacombs of one of London's vast 19th-century cemeteries. At Baker Street, he comes face to face with Isambard Kingdom Brunel before experiencing a hot wax at first hand. He ends this journey with a trip to the zoo at Regent's Park.

WED 20:00 Sword, Musket & Machine Gun: Britain's Armed History (b0888mjv)
The Big Bang

Dr Sam Willis charts the impact of gunpowder on the battlefield, from cannons to the first handheld weapons.

His journey starts in the 13th century with Oxford scientist and monk Roger Bacon, believed to be the first Englishman to write down a recipe for gunpowder. Sam sees one of the largest surviving medieval cannons still in existence - Mons Meg in Edinburgh Castle. He examines a primitive 1400s 'handgonne' in the Tower of London Armouries that seems more like a mini cannon, with no trigger.

Sam tells the story of the Earl of Moray James Stewart who was regent of Scotland having ejected Mary Queen of Scots from the throne in 1570.

Sam next tells the story of the gunpowder plot. He includes lesser-known details of the 1605 attempted attack. For example, Guy Fawkes was discovered not just once but twice. Also the amount of gunpowder is thought to have been far more than was required. Another strange side to gunpowder's story is revealed - the saltpetre men. Gunpowder requires three ingredients - charcoal, sulphur and saltpetre. In the 17th century chemistry was primitive. Saltpetre or potassium nitrate forms from animal urine and the saltpetre men would collect soil where animals had urinated. This meant they dug up dovecots, stables and even people's homes. They had sweeping powers to come onto people's property and take their soil. They abused these heavily and one of the grievances against King Charles I was the heavy handedness of the saltpetre men.

Eventually, the conflict with the king would turn into the English Civil War. A key weapon in this war was the musket. It was so basic blacksmiths could churn it out by the dozen. Sam fires one with the help of expert gunsmith Robert Tilney. He shows both the musket's power and the lack of accuracy. Muskets were inaccurate but the tactic used was to wait until opponents were very close and then fire one huge volley. Sam shows that the musket would then be used as a heavy club.

Gunpowder weapons gave different injuries to swords and arrows. This led to changes in battlefield surgery, and one who was a key influence was surgeon Richard Wiseman. Sam shows that Wiseman had learnt that any cloth or fragment left from a bullet wound could cause infection and kill the patient.

Finally, Sam travels to Saint Malo in France to tell the story of a frightening attack by the British. In 1693, France and Britain were at war and French pirates had been attacking English ships. Captain John Benbow was asked to launch an attack using a ship crammed with gunpowder. Benbow put 20,000 pounds of gunpowder into the ship as well as many other inflammable ingredients - pitch, straw, sulphur, mortars and grenades. He planned to put this 'Infernal', as it was known, right next to the harbour walls of Saint Malo. But as the ship came near it struck a rock and held fast, within a pistol shot of the town. Then the ship exploded. The sound was heard 100 miles away yet a witness claimed 'no life was lost except a cat in a gutter.' The explosion was 'terrible beyond description' and it shows how far the English were prepared to go in the name of national security.

WED 21:00 Morocco to Timbuktu: An Arabian Adventure (b08rb175)
Series 1

Episode 2

Alice Morrison takes on the vast Sahara in an epic camel trek

over the dunes. At night by the campfire, she hears a shocking story of modern-day slavery from her trekking guide. The next day, her journey across the sands is halted by the closed border between Algeria and Morocco. Undeterred, Alice heads west on another trading route to Guelmim. She stops in Tamegroute, where she finds a hidden library of ancient books, including manuscripts by a 16th-century Malian scholar. It is evidence that the trans-Saharan trade routes transferred knowledge as well as gold and salt.

Guelmim was home of Africa's largest camel market centuries ago, supplying the merchants for their caravans across the desert. There is still a bustling livestock market, but the salesman tells Alice that now camels are mainly sold for food. Border disputes over Western Sahara bring Alice's journey along the salt roads to a complete halt. She has to fly across Africa to the capital of Mali, Bamako. Here, she gets to the source of Timbuktu's legendary wealth with a visit to a gold mine, and she rolls up her sleeves to try to unearth her own gold nugget. Flying the last leg into Timbuktu itself involves begging a seat on a UN flight. This ancient city has turned into one of the most dangerous places in the world after an incursion by Islamic extremists in 2012. It lasted a year, and now UN soldiers keep a fragile peace in the city, having pushed the insurgents just a few miles back into the desert.

When she finally reaches the City of Gold, Alice relives its glorious past with a visit to its world-famous mosques, the last surviving treasures of a bygone era. In the oldest of them, the Djinguereber mosque, she hears the tale of Mansa Musa, Mali's greatest king and the richest man in history.

WED 22:00 The Normans (b00thpzb)
Normans of the South

Professor Robert Bartlett explores the impact of the Normans on southern Europe and the Middle East. The Normans spread south in the 11th century, winning control of southern Italy and the island of Sicily. There they created their most prosperous kingdom, where Christianity and Islam co-existed in relative harmony and mutual tolerance. It became a great centre of medieval culture and learning.

But events in the Middle East provoked the more aggressive side of the Norman character. In 1095, the Normans enthusiastically answered the pope's call for holy war against Islam and joined the first crusade. They lay siege to Jerusalem and eventually helped win back the holy city from the Muslims. This bloody conquest left a deep rift between Christianity and Islam which is still being felt to this day.

WED 23:00 ArtWorks Scotland (b02vkjpm)
Spinning a Yarn: The Dubious History of Scottish Tartan

Queen Victoria was mad for it and Harry Lauder was clad in it. It's inextricably woven into the history of Scotland, from Bonnie Prince Charlie to the Tartan Army, and has been used to advertise many political and cultural affinities. Tartan is a fabric that tells tales, but not all of them are true.

Moray Hunter narrates the story of tartan's murky past and colourful present, taking in the Englishmen who forged a guide to clan tartans, Walter Scott's tartan pageant of 1822 and the 21st-century Scottish Register of Tartans.

WED 00:00 Line of Duty (b01kvmzm)
Series 1

Episode 3

Arnott is convinced Gates played a part in Jackie's disappearance. With Fleming's help, the anti-corruption team tries to trap Gates into revealing his involvement in covering up Jackie's crimes.

WED 01:00 Line of Duty (b011h3b)
Series 1

Episode 4

Desperate for proof of Gates's corruption, Fleming pushes her relationship with him to the limit. But her behaviour causes Morton to question if she might not be such a loyal colleague after all.

WED 02:00 Line of Duty (b0118qh6)
Series 1

Episode 5

With Gates on the run, the anti-corruption team come under pressure to close the case once and for all. Arnott is forced to make some tough decisions about where his loyalties lie. Fleming and Hastings go all out to catch Gates, leading to a

shattering conclusion.

WED 03:00 Genius of the Ancient World (b066d0v5)
Confucius

In the final episode, Bettany travels to China on the trail of Confucius, a great sage of Chinese history whose ideas have fundamentally shaped the country of his birth for around 2,500 years.

THURSDAY 02 MAY 2019

THU 19:00 Beyond 100 Days (m0004nrn)
Series 1

02/05/2019

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

THU 19:30 Top of the Pops (m0004nrq)

Gary Davies and Peter Powell present the pop chart programme, first broadcast on 15 October 1987 and featuring UB40, Five Star, The Alarm, Terence Trent D'Arby, Los Lobos, Bananarama, Fleetwood Mac, Was (Not Was), The Fatback Band, the Bee Gees and Billy Idol.

THU 20:00 Supersized Earth (p00zy57x)
A Place to Live

Supersized Earth traces the spectacular story of how humans have transformed our world in a generation. In this awe-inspiring three-part series, Dallas Campbell travels the globe, visiting the world's largest and most ambitious engineering projects, exploring the power of human ingenuity and the making of the modern world.

In this episode, Dallas explores how we have been redesigning the planet as we build ever more astonishing places to live. In Dubai, he climbs to the very top of the world's tallest building - over half a mile above the desert sand - to help clean the highest windows in the world; and he explores how desert wastelands have been transformed into bristling forests of skyscrapers as we've conquered the sky and turned it into a place we can call home.

In China, the rate of change is accelerating as millions move into the cities; to keep pace, they have learned to erect 30-storey buildings in under three weeks. The world is changing underneath our feet too; Dallas dives beneath Mexico City with one of the two-man team whose unenviable job it is to keep the city sewers flowing, before examining a very new-world solution to this age-old problem.

THU 21:00 Da Vinci: The Lost Treasure (b016xjq6)
Leonardo da Vinci is considered by many to be one of the greatest artists who ever lived. Yet his reputation rests on only a handful of pictures - including the world's most famous painting, the Mona Lisa.

As the National Gallery in London prepares to open its doors on a remarkable exhibition of Leonardo's work, Fiona Bruce travels to Florence, Milan, Paris and Warsaw to uncover the story of this enigmatic genius - and to New York, where she is given an exclusive preview of a sensational discovery: a new Leonardo.

THU 22:00 Art on the BBC: The Genius of Leonardo Da Vinci (b0b1v5xg)

Art historian Dr Janina Ramirez embarks on a journey through six decades of the BBC archives to create a television history of one of the most celebrated figures in art - Leonardo Da Vinci.

Ramirez shows how experts and art presenters - from Andrew Graham-Dixon to Fiona Bruce to Kenneth Clarke - have turned to television to bring Leonardo's artwork out of galleries and into our living rooms. Through television they have explored the origins of Leonardo's boundless curiosity, his pioneering use of light and shade, and his remarkable scientific exploration.

Along the way Dr Ramirez discovers Britain's little-known version of The Last Supper, the gruesome ways Leonardo acquired his anatomical knowledge - and even what lies beneath the Mona Lisa.

THU 23:00 Catching History's Criminals: The Forensic 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.

THU 00:00 Top of the Pops (m0004nrj)
[Repeat of broadcast at 19:30 today]

THU 00:30 Line of Duty (b03vp2y2)
Series 2

Episode 1

A brutal ambush on a police convoy leaves three officers dead and a protected witness fighting for his life. AC-12 turn their spotlight on Lindsay Denton, the officer who led the convoy but escaped unscathed.

THU 01:30 Line of Duty (b03w7yh1)
Series 2

Episode 2

Following the tragedy at the hospital, AC12's Kate Fleming is planted undercover in Lindsay Denton's Missing Persons Unit. But Lindsay in turn gathers compromising evidence against the anti-corruption team.

THU 02:30 Line of Duty (b03wy5qt)
Series 2

Episode 3

Lindsay is denied bail and finds herself targeted in prison. Growing increasingly desperate, she tells Kate about a relationship with an executive police officer and her theory of why she is being framed.

THU 03:30 Secret Knowledge (b04tqk1n)
The Living Mountain: A Cairngorms Journey

A forgotten literary masterpiece celebrating the majesty of the Cairngorm mountains is the subject of this documentary presented by travel writer Robert MacFarlane.

The Living Mountain, written by Scottish poet and novelist Nan Shepherd in the 1940s, recounts her experience of walking in the Cairngorms during the early years of the Second World War. When Robert MacFarlane first discovered it he found it to be one of the finest books ever written on nature and landscape in Britain.

This love letter to the Cairngorms instantly challenged his preconceptions about nature writing. Unlike other mountaineering literature that focused on a quest to reach the summit, this remarkable book described a poetic and philosophical journey into the mountain.

Now Robert MacFarlane retraces Nan Shepherd's footsteps, exploring the Cairngorms through her thoughtful and lucid descriptions, in an attempt to discover what she called the living mountain: "So there I lie on the plateau, under me the central core of fire from which was thrust this grumbling mass of plutonic rock, over me blue air, and between the fire of the rock and the fire of the sun, scree, soil and water, grass, flower and tree, insect, bird and beast, wind, rain, snow - the total mountain."

This film brings the story of Nan Shepherd and her little-known work to a new audience, and along the way offers a moving and memorable tour of the Cairngorm mountains, seen afresh through the passion and poetry of her writing.

FRIDAY 03 MAY 2019

FRI 19:00 World News Today (m0004nrd)

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

FRI 19:30 BBC Young Dancer (m0004nrg)
2019

Ballet Final

BBC Young Dancer 2019 continues its search to find the UK's best new dance talent. Having already discovered winners in both South Asian and Contemporary categories, this week it's the turn of five aspiring dancers to perform in the Ballet category final at The Lowry, Salford.

Presented by Anita Rani and Ore Oduba, the competition showcases dancers aged 16 – 21 in four different categories - Ballet, Contemporary, Street and South Asian Dance.

The judges for the Ballet Final are David Bintley, director of Birmingham Royal Ballet and also artistic director of the National Ballet of Japan, along with Zenaida Yanowsky, former principal dancer with the Royal Ballet. They are both joined by the general adjudicator across all four dance finals, Jonzi D - associate artist at Sadler's Wells, founder and artistic director of Jonzi D Projects and Breakin' Convention.

They'll decide who will make it through to the BBC Young Dancer 2019 Grand Final and get to perform at the Birmingham Hippodrome on 18th May.

The Ballet finalists are Chloe Keneally, Hollie Smith Louis Fukuhara, Danila Marzilli and Keiko Tsuchiya.

FRI 20:30 Top of the Pops (m0004nrj)

Gary Davies and Simon Bates present the pop chart programme, first broadcast on 22 October 1987 and featuring Was (Not Was), Los Lobos, Pet Shop Boys, Kiss, Erasure, The Cure, Ray Parker Jr, the Bee Gees and Bananarama.

FRI 21:00 Jazz 625 (m0004nrl)

For One Night Only

A special 90-minute jazz show that pays tribute to the iconic 1960s BBC Two series of the same name and recreates the look and feel of the original broadcasts.

Recorded live at the 2019 Cheltenham Jazz Festival and hosted by Andi Oliver, the programme features a house band and special guests including Gregory Porter, Charlie Watts from the Rolling Stones, Joshua Redman, Jacqui Dankworth and Cleo Laine.

The programme also includes classic archive performances from the original series and interviews and features looking back at a classic time in jazz.

FRI 22:30 Top of the Pops (b018zv8d)
1977 - Big Hits

The celebration of Top of the Pops 1977 continues with a selection of outstanding complete archive performances from Britain's silver jubilee year. 1977 was dominated by funk and punk, with Heatwave's Boogie Nights and The Stranglers' No More Heroes in the top ten. Classic top of the charts hits included Baccara's Yes Sir, I Can Boogie and Angelo by Brotherhood of Man. Some of the enduring heroes to take to the stage that year were David Bowie, Rod Stewart, Queen and Elvis Costello, with rare studio performances from The Jacksons and Bob Marley & The Wailers.

FRI 23:30 Guitar Heroes at the BBC (b00llh2f)
Part III

Compilation of classic archive performances from the guitar gods of the late 60s and 70s. Status Quo appear playing Pictures of Matchstick Men on Top of the Pops in 1968, The Who perform Long Live Rock in the Old Grey Whistle Test studio, Dire Straits play Tunnel of Love and Lynyrd Skynyrd bring a taste of the Deep South with Sweet Home Alabama. The show also features rare performances from George Benson, Leo Kottke, Link Wray and Tom Petty.

FRI 00:20 Sounds of the Sixties (b072w25j)
Reversions

1964-6 The Beat Room 2

Tom Jones, The Rolling Stones and Manfred Mann star in archive clips from the 60s.

FRI 00:30 Top of the Pops (m0004nrj)
[Repeat of broadcast at 20:30 today]

FRI 01:00 Line of Duty (b03xgsw)
Series 2

Episode 4

Following the violent attack she suffered in prison, Lindsay is granted special dispensation to visit her dying mother. Meanwhile, deputy chief constable Dryden shrugs off allegations about his relationship with Lindsay and possible links to the ambush.

FRI 02:00 Line of Duty (b03y448m)
Series 2

Episode 5

Lindsay fights for her life as troubling details emerge of a vicious conspiracy involving corrupt police officers. With growing evidence of links between DCC Dryden and the ambush, Hastings is under pressure to arrest his senior officer.

FRI 03:00 Line of Duty (b03yzzq1)
Series 2

Episode 6

AC12's investigation finally exposes a vicious criminal gang run from within the police. But while Steve now appears convinced of Lindsay's innocence, Kate remains determined to prove she had a role in the ambush.