

SATURDAY 01 JUNE 2019

SAT 19:00 Natural World (b08n9f6d)
2017-2018

Nature's Wildest Weapons: Horns, Tusks and Antlers

The animal kingdom possesses a fearsome arsenal - a variety of extreme weapons used in epic battles to gore, stab, crush and batter. But are they more than just instruments of deadly force? For Professor Doug Emlen, it has been his lifetime's ambition to discover the secrets of nature's arms races, what triggers them and what they can teach us about the most formidable weapons on earth - our own.

SAT 20:00 Japan: Earth's Enchanted Islands (p02n9v9x)
The Southwest Islands

In the far south west of Japan, there is a chain of islands stretching towards the tropics - a place where all life is influenced by the power of the sea, and where volcanoes and typhoons are forces to be reckoned with.

The journey begins at an island at the top of the chain and travels south, revealing unexpected stories of isolation, unique wildlife and unsolved mysteries.

SAT 21:00 Inspector Montalbano (m0005rvj)
The Other End of the Thread

While busy dealing with the arrival of boat migrants from across the Mediterranean, and with the harrowing human tragedy that accompanies them, Inspector Montalbano stumbles upon the brutal murder of a local dressmaker. The murder appears inexplicable. Montalbano must now uncover the secrets behind the victim's life to get to the truth behind her death.

In Italian with English subtitles.

SAT 22:45 Guitar Heroes at the BBC (b00dzzv2)
Part I

Concentrating on the 1970s (1969 to 1981 to be exact) and ransacking a host of BBC shows from The Old Grey Whistle Test to Sight & Sound, this compilation is designed to release the air guitarist in everyone, combining great electric guitarists like Carlos Santana, Mark Knopfler, The Edge and Peter Dinklage with acoustic masters like John Martyn, Pentangle and Paco Pena.

SAT 23:45 Gregory Porter's Popular Voices (b09g6719)
Series 1

Crooners & Co

Soul and jazz star Gregory Porter explores the soft, intimate art of crooning. Born with the arrival of the microphone in the 1930s, crooning was initially about men seducing women and thrived through signature stars like Bing Crosby, Nat King Cole and Frank Sinatra.

But far from disappearing with the advent of rock 'n' roll, the art of crooning gained a new existential edge and was transformed by the likes of Roy Orbison, David Bowie and even Lana Del Rey into a haunting and abiding strain of contemporary pop.

With Iggy Pop, Joshua Homme, George Benson and Beck.

SAT 00:45 Popular Voices at the BBC (b09g671c)
Series 1

Crooners

This compilation is a companion piece to the Crooners episode of Gregory Porter's Popular Voices, revelling in the enigmatic tones of some of popular music's most classic crooners.

From the BBC archives, we bring you the wit and charm of Sammy Davis Jr, the honeyed voice of Nat King Cole, the swagger of Sinatra, the swank of Bryan Ferry and the brooding of Willie Nelson. We also revisit some of the modernisers of crooning, from the theatrics of David Bowie to post-punk Echo and the Bunnymen, right up to the sensual murmurings of Lana Del Rey.

Featuring clips from Twiggy, The Vera Lynn Show, The Late Show, Top of the Pops and Whistle Test, it's time to slide into your favourite lounge suit and dim the lights!

SAT 01:45 Japan: Earth's Enchanted Islands (p02n9v9x)
[Repeat of broadcast at 20:00 today]

SAT 02:45 Natural World (b08n9f6d)
[Repeat of broadcast at 19:00 today]

SUNDAY 02 JUNE 2019

SUN 19:00 Horizon (b076qxxb)
2016

Oceans of the Solar System

The oceans define the earth. They are crucial to life and we used to think that they were unique to our blue planet. But we were wrong.

It has recently been discovered that there are oceans all over our solar system, and they are very similar to our own. And now scientists are going on an epic journey in search of new life in places that never seemed possible. Nasa is even planning to dive to the depths of a strange, distant ocean in a remarkable submarine.

Horizon discovers that the hunt for oceans in space is marking the dawn of a new era in the search for alien life.

SUN 20:00 Battle of Jutland: The Navy's Bloodiest Day (b07dps1x)

Dan Snow, Shini Somara and Nick Hewitt investigate the events and the legacy of the largest naval battle of the First World War, the Battle of Jutland. Both Britain and Germany claimed victory - but both sides suffered huge losses and the significance of the battle to the outcome of the war has been questioned ever since.

Fresh evidence sheds new light not only on why so many died, but also on the importance of Jutland to the eventual triumph of the Allies.

SUN 21:00 Storyville (m0005prp)
The Raft

In 1973, five men and six women drifted across the Atlantic on a raft as part of a scientific experiment studying the sociology of violence, aggression and sexual attraction in human behaviour.

Although the project became known in the press as 'The Sex Raft', nobody expected what ultimately took place on that three-month journey.

Through extraordinary archive material, and a reunion of the surviving members of the expedition on a full-scale replica of the raft, this film tells the hidden story behind what has been described as 'one of the strangest group experiments of all time'.

SUN 22:40 Storyville (b07176xr)
Decadence and Downfall: The Shah of Iran's Ultimate Party

In 1971, the Shah of Iran, the self-proclaimed 'king of kings', celebrated 2,500 years of the Persian monarchy by throwing the greatest party in history. Money was no object - a lavish tent city, using 37km of silk, was erected in a specially created oasis. The world's top restaurant at the time, Maxim's, closed its doors for two weeks to cater the event, a five-course banquet served to over sixty of the world's kings, queens and presidents, and washed down with some of the rarest wines known to man.

Over a decadent five-day period, guests were treated to a pageant of thousands of soldiers dressed in ancient Persian costume, a 'son et lumiere' at the foot of Darius the Great's temple, and the opening of the Azadi Tower in Tehran, designed to honour the Shah himself.

Every party leaves a few hangovers. This one left a country reeling, never to recover. It crystallised the opposition, led by the Ayatollah Khomeini. More than any other event, this party marked the break between the king of kings and the people of Iran he reigned over.

SUN 23:55 Treasures of Ancient Greece (b05q11sf)
The Age of Heroes

In the first episode Alastair Sooke explores the surprising roots of Greek art, beginning his journey in Crete at the palace of Knossos, legendary home of the Minotaur. He travels to Santorini to the 'Greek Pompeii', and finds gold in the fabled stronghold of Mycenae and dazzling remains from Greece's Dark Ages. Alastair discovers the beginnings of a defining spirit in Greek art, embracing mythology, a passion for symmetry, and an obsession with the human body.

SUN 00:55 The BBC at War (b05zqtkn)

The War of Words

Series in which Jonathan Dimbleby explores how the BBC fought not only Hitler but also the British government to become the institution it is today. Hailed and derided in equal measure, the BBC in 1939 had yet to seal its reputation. With the advent of war, the corporation found itself thrust into a battle against the Nazis and the machinations of the British government. The series examines how the conflict transformed the BBC, what impact its broadcasts had at home and abroad, and uncovers the battles that raged with the government over its independence - out of which was forged the template for the modern BBC.

In episode one, Jonathan reveals how the BBC prepared for the first broadcast war and fought off government attempts to control it. Wholly unprepared, the BBC fended off complete government takeover and emerged a trusted global news source, transmitting in 47 languages. Using a wealth of preserved recordings and previously unseen documents, Jonathan uncovers the compelling story of how the BBC went into battle - against Hitler and Whitehall's ministers - and its part in the social revolution the war provoked.

He also considers the voices of the BBC at war - many of whom became household names but would never have been allowed near a microphone in different circumstances. From an early Nazi propaganda coup that forced the BBC into action and how fears of a crisis in morale at home led to class barriers being swept away on the airwaves, to how stubborn determination and technical improvisation enabled broadcasting from the heart of the war zone, BBC at War reveals how World War Two was the making of the BBC - and nearly its breaking.

SUN 01:55 Battle of Jutland: The Navy's Bloodiest Day (b07dps1x)

[Repeat of broadcast at 20:00 today]

SUN 02:55 Victorian Bakers (b06whlhx)
Episode 2

Four 21st-century bakers bake their way through the era that gave us modern baking as we know it - the reign of Queen Victoria. Experts Alex Langlands and Annie Gray join them to tell the incredible story of our daily bread.

The bakers have left the rural bake house and the golden age of baking behind, this time it's the 1870s and they're moving into an urban bakery in the midst of the Industrial Revolution.

Their new bakery is totally authentic and it boasts two coal-fired ovens. At this time it is coal that fuels Britain's epic industrial expansion and bread that feeds its ever-expanding urban workforce. A growing middle class start demanding 'fancy breads' for breakfast and so the bakers must now bake through the night.

Machinery may be powering the nation, but manual labour is cheap and so the bakers are still kneading by hand and are expected to double their output. It's back-breaking work, so much so that one baker decides to do as some Victorian bakers did and use his feet. The bakers experience first-hand the exhaustion and squalid working conditions their forebears endured and it's no surprise to hear that Victorian bakers' lives were tragically short. Morale is low, but it plummets when they are tasked with using the adulterants their forebears added to Britain's bread, and some start to question whether it's safe to continue.

Britain may have been an industrial superpower, but it's the arrival of imported finely milled flour and cheap sugar that finally sweetens life for the bakers as it did for the masses. Cakemaker Hapreet Baura tries her hand at producing hugely popular London buns, the cupcake of their day.

MONDAY 03 JUNE 2019

MON 19:00 Beyond 100 Days (m0005ps1)
Series 1

03/06/2019

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

MON 19:30 Great British Railway Journeys (b0517v7x)
Series 6

Oxford to Luton

Steered by his Bradshaw's Handbook, Michael Portillo continues his journey from Pembroke Dock to Cambridge. Beginning in the heart of academia in Oxford, Michael visits the Bodleian - the university's research library - to see some

Victorian treasures, including Mary Shelley's manuscript of Frankenstein and a pocket-sized edition of Bradshaw's Companion. At Biceter, Michael investigates two exciting new rail projects, one of which will be the first in over a hundred years to connect the capital with a major city. Michael finds out about Victorian philanthropy in Bedford, and in Luton he explores the dark arts of the hatter.

MON 20:00 Victorian Bakers (b06yjnx)

Episode 3

Four 21st-century bakers bake their way through the era that gave us modern baking as we know it - the reign of Queen Victoria. Experts Alex Langlands and Annie Gray join them to tell the incredible story of our daily bread.

The bakers have said goodbye to the brutal working conditions of the 1870s urban bakery. It is now 1900 and Britain's middle classes are enjoying the democratisation of luxury. Bakers were quick to cash in - this time, the bakers have an elegant shop on the high street.

Their new workplace boasts huge steam-belching ovens, but it is the early 20th-century electric dough mixer that takes the hard work out of baking. The technology has changed beyond recognition and so has their trade. The bakers experience firsthand the incredible diversification their forebears underwent in order to stay in business.

Now they are uniformed professionals who have to turn out a huge range of pastries, cakes and confectionery, as well as novelty breads, all typical of a late-Victorian bakery. At last, cake maker Harpreet Baura can take the lead, even though there were no female master bakers in 1900.

The sheer ingenuity and scientific knowledge possessed by late Victorian bakers impresses them all as they get to work filling their shop window. But it is their last task - an authentic but epic afternoon tea, including fiddly Genoese sponge baskets with angelica handles and tongue and truffle sandwiches - that really tests them.

MON 21:00 The Lake District: A Wild Year (b08flyr2)

For the wildlife and people who live amongst the epic scenery of the Lake District, life is one of continuous change. Cutting-edge camera techniques give a new and unique perspective on a turbulent year in the life of England's largest national park.

Time-lapse photography shows months and weeks passing in seconds - snow and ice giving way to sunshine or the frequent rain showers - whilst the animals, plants and people find extraordinary ways to cope with the challenges of this stunning, ancient landscape.

MON 22:00 The Alan Clark Diaries (b0074pwr)

March of the Grey Men

Dramatisation of the colourful memoirs of the late Conservative MP. Clark joins the Department of Employment, parties with the Coven, suffers under the tyranny of the civil service and scandalises the House in a late night session.

MON 22:30 The Alan Clark Diaries (b0074pxc)

The Lady

Dramatisation of the colourful memoirs of the late Conservative MP. Determined to escape the hateful confines of the Department of Employment and to get into the very vortex of power, Clark plots his way ever closer to Margaret Thatcher and her lovely ankles. But at every turn, he is hampered by his predilection for scandal and gaffes.

MON 23:00 Clydebuilt: The Ships that Made the Commonwealth (p01n8j6)

Robert E Lee

The story of the Robert E Lee, one of the most famous Clydebuilt blockade-running paddle steamers. During the American Civil War, Glasgow shipbuilders and captains made a fortune running the supplies of war to the Confederate South and bringing out valuable cotton. To run the blockade of Union warships these paddle steamers had to be fast and their crews fearless. Glasgow provided both but Britain was neutral and these ships shouldn't have been anywhere near someone else's war.

MON 00:00 Pacific Abyss (b00cvb3p)

Episode 1

Kate Humble sets sail on a 2,000 mile adventure across the Pacific with a team of top natural history filmmakers and deep water marine biologists.

Kate dives to some of the most intact shipwrecks left by World War II, while it is one drama after another for the deep dive team in their quest to find new species.

MON 01:00 Timeshift (b016pww)

Series 11

Of Ice and Men

Timeshift reveals the history of the frozen continent, finding out why the most inhospitable place on the planet has exerted such a powerful hold on the imagination of explorers, scientists, writers and photographers.

Antarctica is the coldest, driest and windiest place on the globe. Only a handful of people have experienced its desolate beauty, with the first explorers setting foot here barely a hundred years ago.

From the logbooks of Captain Cook to the diaries of Scott and Shackleton, from the Rime of the Ancient Mariner to HP Lovecraft, it is a film about real and imaginary tales of adventure, romance and tragedy that have played out against a stark white backdrop.

We relive the race to the Pole and the 'Heroic Age' of Antarctic exploration, and find out what it takes to survive the cold and the perils of 'polar madness'. We see how Herbert Ponting's photographs of the Scott expedition helped define our image of the continent and find out why the continent witnessed a remarkable thaw in Russian and American relations at the height of the Cold War.

We also look at the intriguing story of who actually owns Antarctica and how science is helping us reimagine a frozen wasteland as something far more precious.

Interviewees include Sir Ranulph Fiennes, Francis Spufford, Huw Lewis-Jones, Sara Wheeler, Henry Worsley, Prof David Walton and Martin Hartley.

MON 02:00 The Lake District: A Wild Year (b08flyr2)

[Repeat of broadcast at 21:00 today]

MON 03:00 Victorian Bakers (b06yjnx)

[Repeat of broadcast at 20:00 today]

TUESDAY 04 JUNE 2019

TUE 19:00 Beyond 100 Days (m0005pr3)

Series 1

04/06/2019

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

TUE 19:30 The Science of D-Day (b045gr8m)

In June 1944, one of the greatest amphibious assaults in history was launched from the south coast of England. Within a matter of hours, 7,000 vessels had landed 156,000 troops on the beaches of Normandy. It was a manoeuvre that changed the course of the war and tested innovations in science and engineering for the first time.

In this programme, engineer Rob Bell looks at the nuts and bolts which made such a staggering invasion possible - from giant troop-carrying gliders to tanks that could drive on water - and how necessity really did become the mother of invention. Like all new inventions, not all of them worked and resulted in devastating consequences. We find out why. This is the science of D-Day.

TUE 20:00 India's Frontier Railways (b05nhjht)

The Samjhauta Express

Freedom came to the subcontinent in August 1947. The British hastily partitioned British India before they left. Independence was attended by a million deaths and 14 million people were displaced.

Yet despite three wars, Pakistan and Indian railways have established a cross-border train, known as the Samjhauta Express - Samjhauta meaning agreement.

Amongst the passengers on the Samjhauta Express from Lahore to Delhi are Bilal and his father Abiz. Seventeen-year-old Bilal was the victim of an accident which damaged his eye. Unable to source the right treatment in Pakistan, father and son trawled the internet and finally found a suitable clinic. But it was in India. They have never stepped outside Pakistan, so they are a little nervous. Will they be successful in getting Bilal's eye

treated?

Also on the train is Rahat Khan, the hockey queen. She's a Pakistan international and a railway hockey champion. She is travelling with her Pakistan girls' hockey team to play a match in India. But not everything goes to plan.

For the Sikh community, the Punjab is home. The golden temple of Amritsar is the holy of holies. But each year, on Guru Nanak's birthday, the railway runs special trains across the border to the guru's birthplace in Pakistan, despite the security concerns.

TUE 21:00 Rhythms of India (m0005pr5)

Series 1

Sounds of the City

Soumik Datta's musical journey around India ends with a look at the popular music scene, discovering how Bollywood is changing, the impact of the internet and the rise of hip hop.

He starts in Mumbai, the home of Bollywood, where legendary screenwriter Javed Akhtar describes the roots of popular songs in Bollywood's storytelling tradition. Soumik also meets, and performs with, famous Bollywood playback singer Kavita Krishnamurthy, the voice behind one of Soumik's favourite Bollywood films, Mr India.

To discover how the internet is transforming the music industry, he visits the headquarters of T-Series in Delhi, India's biggest music and film company whose internet channel is now the biggest on YouTube. And in Goa he meets Nucleya, an independent dance producer using WhatsApp to reach his huge young fanbase.

The film also explores how artists are finding different ways to mix western and Indian influences. At the NH7 festival in Pune, Soumik discovers how rock band Parvaaz, recently acclaimed by Rolling Stone as one of the most exciting bands in India, are making a name for themselves singing in their own regional language.

Back in Delhi, Soumik discovers how hip hop is shaking up the music industry. In a bedroom studio in west Delhi he meets the producers behind Mere Gully Mein, one of the anthems of Indian hip hop. A hugely influential celebration of life in the gullies or inner city backstreets, the song was the inspiration for a new Bollywood movie, Gully Boy. Soumik ends his journey at the launch of the movie in Mumbai, witnessing how the energy of India's hip hop scene is now being embraced by the mainstream.

TUE 22:00 Real Kashmir FC (m0002wvy)

Former Aberdeen, Rangers and Leeds United stalwart Davie Robertson is a long way from home. In fact, he is a long way from anywhere. He is the new manager of Real Kashmir FC, and he has left behind his wife and the millionaire lifestyle he earned from football, to live in a shared house in a city that regularly suffers violent protests and terrorist attacks.

Why? What is it about football that drives him so far to be the manager of Real Kashmir FC? For Davie it's because few things in life can match the highs and lows of football. Real Kashmir are up-and-comers, newly promoted to a league where most of the other teams have much deeper pockets, more fans and a longer history. To beat them Davie must put into action his 'masterplan'. But against the background of chaos in Jammu and Kashmir will it ever work? In a place where violent protests erupt most weekends, the electricity is routinely switched off - meaning no internet, phones, or television - even the basics can be a struggle, so organising and motivating a diverse team drawn from India, Africa and Europe to play top-flight football is no easy task. 'Some of the boys pray at different times, some are vegetarian so telling them about a proper diet and running a schedule where everyone is there is always difficult. All the different religions pray at different times!'

However, this is not just a footballing story it's also a story of hopes, dreams, and family. Davie's obsession with football has driven him to the ends of the earth, and in amongst the struggle for success on the field he has to learn to live in very unfamiliar world, far from his wife Kym. Davie's used to the comforts his success in football brought him. With Kym and his two children he enjoyed living in the States - where he moved after his playing career came to an early end - but his son, Mason, is now a regular in the Real Kashmir team, living in Srinagar near his father. Together they have a chance to explore a part of the world that is both stunningly beautiful and so riven with violence that the UK's Foreign Office advises against all but essential travel to the team's home base in Srinagar.

Kym worries about Davie and Mason living and working in a conflict zone. When Davie announced that the move to Kashmir was a possibility Kym - a self-confessed football widow - says only half joking that 'divorce was considered'. 'David came in with the Real Kashmir deal and tried to sell it to me. I'm like

'no, not doing it'. So we didn't speak and then on New Year's Eve 2016 David got on a plane to India!'

As the new season - the first since Davie helped Real Kashmir secure promotion to the Indian T' League - starts Davie needs to make sure his team believes they can win. It is here that manager can lift ordinary players into world-beaters. As each big game approaches everything needs to be right. He has lifted his team before and gotten them promoted but can they succeed in the new league? Is Davie's masterplan for success is going to work? Has what it takes to be a manager.

TUE 23:00 I Was There: Kate Adie on Tiananmen Square (b0b5y9l7)

Kate Adie re-examines her historic coverage of the massacre in Tiananmen Square, Beijing, in June 1989.

In a long-form interview, Kate recalls how she was wounded by gunfire and narrowly escaped death herself as she and her cameraman remained in the line of fire while an estimated 2,000 pro-democracy demonstrators were shot down by Chinese government troops.

Kate reviews the reports she made on the ground, with additional insight from leading historian Professor Steve Tsang, and draws on the BBC's archive to assess how film-makers have portrayed China before and after the upheaval.

TUE 00:00 Treasures of the Indus (b06bblwb)
Of Gods and Men

In a journey across the southern Indian state of Tamil Nadu, Sonu Datta traces the development of the Hindu religion from its origins as an amalgamation of local faith traditions to its dominant position today. She uncovers this fascinating tale by looking at the buildings in which the faith evolved, moving from the caves and rock temples on the shores of the Bay of Bengal at Mahabalipuram, through the monolithic stone temple at Tanjavur to the vast complex of ornately carved towers, tanks and courtyards at Madurai, where every evening the god Shiva processes around the precincts to visit the bedchamber of his partner Parvati.

TUE 01:00 Fair Cop: A Century of British Policewomen (b0555w7j)

With 2015 marking the 100th anniversary of the first British policewoman being given the power of arrest, this film takes us through the remarkable history of 100 years of Britain's female police force. It explores the individual careers and ambitions of women police officers who, through their bravery and guile, were determined to succeed in a profession that never wanted them. It's a story of class, drive and sheer guts, entwined with a darker side of sexism, snobbery, intimidation and betrayal.

Includes interviews with former policewomen who pushed boundaries in the profession such as Sissin Fay Allen, Britain's first black policewoman, Cressida Dick, Britain's highest-ever-ranking policewoman, Alison Halford, who brought a high-profile sex discrimination charge against the police, and Jackie Malton, who provided the model for Prime Suspect's Jane Tennison. These interviews are combined with fascinating facts and illuminating stories from expert historians and current serving officers who have made their careers in the specialist areas of the mounted police and firearms units.

This is a story about ingenuity and determination as well as law and order. A Fair Cop is a hidden history of our society, depicting a battle of the sexes that masked a battle for power.

TUE 02:30 India's Frontier Railways (b05nhjht)
[Repeat of broadcast at 20:00 today]

WEDNESDAY 05 JUNE 2019

WED 19:00 Beyond 100 Days (m0005pr7)
Series 1

05/06/2019

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

WED 19:30 Great British Railway Journeys (b0517rvl)
Series 6

Oakham to Cambridge

On the final leg of his journey from west Wales to East Anglia, Michael Portillo begins in Oakham, where he learns of a noble tradition dating back to the Middle Ages. Following in the footsteps of peers over the centuries, he determines to take part. Heading east to Stamford, Michael discovers why the town is

such an attractive location for period dramas and takes part in a Victorian melodrama.

A ghoulish scene awaits in Peterborough as Michael visits a Victorian operating theatre where railwaymen were treated. Michael's last stop on this final journey is Christ's College at Cambridge University, where he learns about the student days of the father of evolution, Charles Darwin.

WED 20:00 Queen Victoria's Children (b01pp919)
Princes Will Be Princes...

Queen Victoria and Prince Albert shared a passionate marriage. Behind closed doors, royal domestic life often seemed like a battlefield.

In a 60-year family saga, this three-part series explores the reign of Victoria through her personal relationships with her husband and her nine children. It is a story of manipulation, conflict, intimidation, emotional blackmail, and fevered attempts by her children to escape the clutches of their domineering and needy mother.

The series uses a wealth of written material and photos left by Victoria, Albert and their children, including letters, diaries, memoirs and journals, to bring the subject and characters to life.

This final episode focuses on Victoria's relationship with her sons and how, after Albert's death, they struggled to live up to his model of purity. It explores Victoria's difficult relationship with her eldest son Bertie, whom she blamed for Albert's death, believing his sexual indiscretions to have fatally weakened her husband. It also examines her relationship with her son Leopold, the physically weak but spirited haemophiliac who put up the most determined effort to break free from his mother's control. Ultimately, the idea of monarchy based on purity is put to the test as the philandering Bertie comes to the throne.

WED 21:00 Victorian Sensations (m0005pr9)
Series 1

Seeing and Believing

In the final episode of this series, psychotherapist Philippa Perry time-travels back to the 1890s to explore how the late Victorian passion for science co-existed with a deeply held belief in the paranormal. Using a collection of rare and restored Victorian films from the BFI National Archive, she shows how the latest media innovations made use of contemporary ideas of ghosts and the afterlife – and how this 'new media' anticipated today's networked world.

The final years of Queen Victoria's reign were a moment when the old Victorian order rubbed shoulders with the beginnings of our modern world. It was a chaotic, febrile time of discovery and innovation in science and technology, entertainment and art, and the Victorians had to make sense of it all.

Philippa finds out how Marconi's early experiments with wireless telegraphy encouraged speculation amongst the public and scientists that telepathy – communication between minds – would be the next scientific breakthrough. She also replicates eminent physicist Oliver Lodge's pioneering experiment with radio waves and discovers his fascination for exploring the paranormal with the Society for Psychical Research (SPR). This Victorian group of ghost hunters included William James, a pioneer of psychology, biologist Alfred Russel Wallace and even Prime Minister William Gladstone. Buried in the archives of the SPR in Cambridge University Library, Philippa finds an incredible Census of Hallucinations that contains 17,000 ghostly encounters sourced from the Victorian public.

Maybe it's not surprising that people of the age saw so many ghosts because, in a sense, spirits did haunt the Victorian home. Every Victorian innovation - from photography to motion pictures, phonographs to fantasy books – had its own supernatural genre. Arthur Conan Doyle, creator of the hyper-rational Sherlock Holmes, drew on his real-life experience as a ghostbuster to write his ghostly fiction. Philippa learns the art of spirit photography from Almudena Romero and poses for her own ghostly picture as well as exploring a rare private collection of phonographs, the recent craze that allowed Victorians to hear communications from the past and listen to their loved ones after their deaths for the first time.

Philippa also explores the impact of the arrival in 1896 of motion pictures, the decade's greatest and most magical media innovation. BFI curator Bryony Dixon shows her restored Victorian trick films, from the funny and feminist to a disturbing fake execution. Philippa then creates her own homage to the Big Swallow trick film and eats the cameraman.

The boundary between fact and fantasy was often blurred, and sensationalism infused the new tabloid journalism. At Cambridge University's Institute of Astronomy, Philippa learns about other forms of long-distance communication and the

flurry of press interest in stories from Mars. Dr Joshua Nall reveals that some of the greatest public figures of the decade, from Nikola Tesla to Sir Francis Galton, were convinced that signalling with Martians was possible. HG Wells's story The Crystal Egg takes up this theme and predicts future media developments and the power of communications. And even Queen Victoria herself took advantage of the globally networked world that was emerging to allow the film cameras in to capture her triumphant Diamond Jubilee procession for all her imperial subjects. The jubilee was the first global mass media event and the footage captures the essence of the 1890s: the old Victorian order with an empire and an empress, rubbing shoulders with a world we recognise - a modern one of film cameras and global communications. This was the decade the future landed.

WED 22:00 A Victorian Scandal: The Rudest Book in Britain (m0005pre)

Dr Fern Riddell is a young historian and author who goes back to the archives to challenge more traditional historical views of Victorian society.

Her investigation into a sensational Victorian high court trial, which took place in 1877, sheds new light on the 'no sex please, we are British' cliché often associated with Victorian England.

WED 22:30 Mechanical Monsters (b0bdvzpj)

Simon Schaffer tells the stories behind some of the most extraordinary engineering wonders of the 19th century. These were gigantic feats of technology which transformed everyday life but also had the capacity to challenge the Victorians' faith in God, their place in the universe and their hopes for the future. Through stunning images of these beautiful creations, this film investigates the origins of our love-hate relationship with technology.

First, Simon visits the industrial landscape of Ironbridge in Shropshire to show how new technology of the early 19th century made possible the construction of monstrous machines. He examines a giant steam hammer which could crush a railway sleeper but could also be controlled so precisely that it could crack the shell of an egg and keep the egg intact.

Throughout the film, Simon shows how technological breakthroughs inspired and elevated the Victorians but also unsettled and threatened them. Machines drove the British Empire and held apparently infinite potential, but they were also terrifying - they replaced workers by carrying out their jobs more efficiently, they polluted the environment, and they dwarfed life on a human scale.

Simon tells the story of Charles Babbage, who spent many years devising astonishing calculating engines, effectively giant computers made out of cogs and gears, intended to carry out error-free mathematical processes.

In a park in south London, Simon finds the original Jurassic Park of the Victorian era. Opened in the grounds of the Crystal Palace exhibition in 1854, it was a display featuring life-sized replica dinosaurs, designed to show visitors what dinosaurs may have looked like.

Visiting Birr in central Ireland, Simon comes face to face with the Leviathan. Completed in 1845 in the grounds of an aristocrat's castle, it was a giant telescope designed to crack the mysteries of the skies.

Simon also tells the story of William and Margaret Huggins, who were pioneers in a new scientific method which used beautifully constructed instruments to analyse the wavelengths of light of distant objects, and at an observatory in Hampshire, we see how modern astronomers carry out the same procedures.

Back in London, Simon tells the story of the great stink of 1858, ie how a population boom led to the Thames overflowing with human sewage. He visits Crossness Pumping Station on the banks of the river - an astonishing example of Victorian architecture.

Simon ends his tale of mechanical monsters by investigating the strange story of a machine that never existed except in the heads of its creators. It was a device dreamed up at the end of the 19th century by the famous science fiction writer HG Wells, in concert with an instrument maker called Robert Paul. Their plan was to build a time machine - not a machine which could actually travel through time, but one which would harness revolutionary new technologies to give a paying audience the experience of what time travel might actually be like. As Simon shows, although the time machine was never actually built, it played an extraordinary and unexpected role in the birth of British cinema.

WED 23:30 Andrew Marr's Great Scots: The Writers Who Shaped a Nation (b04fh2rr)

James Boswell

As Scotland stands on the brink of a momentous decision, Andrew Marr explores the writers who have reflected, defined and challenged Scottish national identity over the last three hundred years.

He begins with an unlikely literary hero, James Boswell, a man torn between his patriotic duty at home and his desire for fame and adventure elsewhere. It is his colourful life and work that captures so vividly the uneasy relationship between England and Scotland in the century that followed the Acts of Union.

WED 00:30 Horizon (b03wyr3c)
2013-2014

How You Really Make Decisions

Horizon uncovers the truth about how you really make decisions.

Every day you make thousands of decisions, big and small, and behind all them is a powerful battle in your mind, pitting intuition against logic.

This conflict affects every aspect of your life - from what you eat to what you believe, and especially to how you spend your money.

And it turns out that the intuitive part of your mind is a lot more powerful than you may realise.

WED 01:30 Every Breath We Take: Understanding Our Atmosphere (b04bdqsz)

The air around us is not just empty space; it is an integral part of the chemistry of life. Plants are made from carbon dioxide, nitrogen nourishes the soil and oxygen gives us the energy we need to keep our hearts pumping and our brains alive. But how did we come to understand what air is made of? How did we come to know that this invisible stuff around us contains anything at all?

Gabrielle Walker tells the remarkable story of the quest to understand the air. It's a tale of heroes and underdogs, chance encounters and sheer blind luck that spans the entire history of science. It began as a simple desire to further our knowledge of the natural world, but it ended up uncovering raw materials that have shaped our modern world, unravelling the secrets of our own physiology and revealing why we are here at all.

WED 02:30 The Science of D-Day (b045gr8m)
[Repeat of broadcast at 19:30 on Tuesday]

WED 03:00 Victorian Sensations (m0005pr9)
[Repeat of broadcast at 21:00 today]

THURSDAY 06 JUNE 2019

THU 19:00 Beyond 100 Days (m0005prk)
Series 1

06/06/2019

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

THU 19:30 TOTP2 (b01br9df)
The 60s

Episode 1

First of three shows compiling some of the BBC's rare 60s archive hits by the likes of The Foundations, Julie Driscoll, Sandie Shaw, Procol Harum and more from Top of the Pops and other BBC shows of the time. Narrated by Mark Radcliffe.

THU 20:00 Normandy '44: The Battle Beyond D-Day (b0461mvr)

As veterans gather to relive one of the turning points of the Second World War, historian James Holland moves beyond the D-Day beaches to reassess the brutal 77-day Battle for Normandy that followed the invasion.

Challenging some of the many myths that have grown up around this vital campaign, Holland argues that we have become too comfortable in our understanding of events, developing shorthand to tell this famous story that does great injustice to those that saw action in France across the summer of 1944.

Including perspectives from those who fought on both sides, Holland examines not only the nature of the fighting and the higher aims of the campaign, but also the operational level - the nuts and bolts - and in so doing reveals the true complexity of

this bitter and bloody battle.

This story is about the challenge for both sides to adapt to conditions in a campaign of carnage that has rarely been acknowledged.

More than just well trodden tales of heroic struggle, it is also the story of two competing military doctrines: one ill-prepared for the organisational demands of a long battle, the other in the process of building the greatest military machine ever seen.

THU 21:00 Double Cross: The True Story of the D-Day Spies (b01kftlc)

The story of D-Day has been told from the point of view of the soldiers who fought in it, the tacticians who planned it and the generals who led it. But that epic event in world history has never been told before through the perspective of the strange handful of spies who made it possible. D-Day was a great victory of arms, a tactical coup, and a moral crusade. But it was also a triumph for espionage, deceit, and thinking of the most twisted sort.

Following on from his hugely successful BBC Two documentaries, Operation Mincemeat and Double Agent: The Eddie Chapman Story (Agent Zigzag), writer and presenter Ben Macintyre returns to the small screen to bring to life his third best-selling book - Double Cross The True Story of the D-Day Spies. Macintyre reveals the gripping true story of five of the double agents who helped to make D-day such a success.

THU 22:00 D-Day to Berlin: Newsnight Special (b00121wg)

George Stevens's remarkable film is acclaimed by historians as the most important colour footage taken during the war. Milestones covered include the liberation of Paris, the link-up between the Russian and American armies on the River Elbe and the Allied capture of the Dachau concentration camp.

THU 23:00 Holst: The Planets with Professor Brian Cox (m0005prm)

The BBC Symphony Orchestra, conducted by Ben Gernon, performs Gustav Holst's masterpiece, The Planets, at the Barbican, 100 years after its composition. Professor Brian Cox introduces each movement against a backdrop of the very latest in planetary imagery.

THU 00:30 TOTP2 (b01br9df)
[Repeat of broadcast at 19:30 today]

THU 01:00 Storm Troupers: The Fight to Forecast the Weather (b07f27j1)

Episode 3

The final episode tells the story of how meteorology became one of the most important scientific endeavours of the modern age.

Alok Jha charts the progress of computer-based forecasting - the bedrock for how we do things today - through the characters who pioneered it. There's the American mathematician Jule Charney, who found a way to simplify weather for the early computers of the 1940s by listening to Beethoven, and the ambitious technocrat John Mason, who gambled the future of the Met Office on unproven technology in the early 1960s.

Alok relives the moments that shook faith in forecasting to its core. He investigates the discovery of chaos theory, which threatened to undo all confidence in 20th-century science, and discovers the scientific consequences of that most infamous of all television forecasts - Michael Fish's missed hurricane, the Great Storm of 1987.

Alok uses stunning science demonstrations to investigate the chaotic, unpredictable nature of weather. He meets present-day giants of meteorology like Tim Palmer and Julia Slingo, and observes one of the most powerful supercomputers in the world in action. Based in the Met Office HQ in Exeter, it's capable of simulating our entire planet's climate. It's a vital asset - one of the key tools that will help humanity face the vagaries of our weather and climate for generations to come.

THU 02:00 Country & Beyond with The Shires (b0bs6f0f)

British singer-songwriter duo Crissie Rhodes and Ben Earle form the award-winning country act The Shires. Their ultimate soundtrack ranges from Dolly Parton to Shania Twain.

Each song is handpicked and as they watch the performances they reveal the reasons behind their choices. They kick off with the Queen of Country, Dolly Parton, and her iconic track Jolene. Following that comes legendary singer Patsy Cline, and for Crissie it brings back memories of singing along to Crazy with her grandmother.

Ben then picks country pop crossover Shania Twain, whose

That Don't Impress Me Much certainly made its mark on him. But Ben also likes his country classics and plumps for Glen Campbell's legendary Wichita Lineman. It's not only the stalwarts of the Great Country Songbook - they also make room for the edgy Americana roots music of critically acclaimed duo The Civil Wars and their spine-tingling live appearance on Later.

THU 03:00 Normandy '44: The Battle Beyond D-Day (b0461mvr)
[Repeat of broadcast at 20:00 today]

FRIDAY 07 JUNE 2019

FRI 19:00 World News Today (m0005prp)

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

FRI 19:30 TOTP2 (b00sl2g5)
Wham! Special

Mark Radcliffe with some classic Wham! performances on Top of the Pops.

FRI 20:00 The Kate Bush Story: Running Up That Hill (b04dzswb)

Documentary exploring Kate Bush's career and music, from January 1978's Wuthering Heights to her 2011 album 50 Words for Snow, through the testimony of some of her key collaborators and those she has inspired.

Contributors include the guitarist who discovered her (Pink Floyd's David Gilmour), the choreographer who taught her to dance (Lindsay Kemp) and the musician who she said 'opened her doors' (Peter Gabriel), as well as her engineer and ex-partner (Del Palmer) and several other collaborators (Elton John, Stephen Fry and Nigel Kennedy).

Also exploring their abiding fascination with Kate are fans (John Lydon, Sidi Larbi Cherkaoui) and musicians who have been influenced by her (St Vincent's Annie Clark, Natasha Khan (aka Bat for Lashes), Tori Amos, Outkast's Big Boi, Guy Garvey and Tricky), as well as writers and comedians who admire her (Jo Brand, Steve Coogan and Neil Gaiman).

FRI 21:00 Top of the Pops (m0005prt)
The Story of 1988

1988 - and while Top of the Pops celebrates its Silver Jubilee (that's 25 years, folks!), a new showrunner brings the show to an ever younger audience with lively new presenters - step forward Anthea Turner, Nicky Campbell et al.

The charts are full of sparkling box-fresh pop stars, from tweenage heartthrobs Bros (cue the screaming!) to the boy and girl next door we shared teatime with every weekday - our favourite Neighbours Kylie and Jason.

Stock, Aitken and Waterman have reached their zenith with wall-to-wall hits. In stark contrast to the hosts of wholesomeness, Transvision Vamp put the grrr into girl and those Wee Papa Girl Rappers give great dance hall ragga in a British spin on hip-hop.

While pop reached a new purple phase, the older kids were out at Acid House parties, buying records that sent S'Express and Yazzy with Cold Cut to the top of the charts - much to the bemusement and then alarm of the grown-ups.

Aswad were the sound of the summer with a surprise smash hit after years flying the red, gold and green for British reggae, the Mission brought towering bombast to Television Centre, and All About Eve endured perhaps the most famous tumbleweed moment in the show's history. But which of our guests admits to an ecstatically enhanced Top of the Pops appearance in 1988? Clue: it's not Cliff.

With interviews from Matt Goss, Jason Donovan, Wendy James, Aswad, Wayne Hussey, Cold Cut, Mark Moore, All About Eve and Wee Papa Girl Rappers.

FRI 22:00 Top of the Pops (m0005prw)
1988 - Big Hits

As the 1980s draw to a close, Top of the Pops remains a broad church. We celebrate 1988 by cherry-picking the cream of the crop.

The programme includes stand-out hits from Yazzy, S'Express and Bomb the Bass, representing the growing popularity of house music, new Australian pop royalty Kylie Minogue and Jason Donovan, who ruled the charts along with teen stars Bros

and Tiffany, soul legends Womack and Womack, the Irish mist of Enya, British reggae from Maxi Priest and the balladry of Everything but the Girl.

Other big hitters representing a year in the TOTP studio include Celtic duo The Proclaimers, Buffalo Girl Neneh Cherry, student queen Tanita Tikaram, Annie Lennox and Dave Stewart live in the studio as Eurythmics, Israeli queen Ofra Haza and the chart-topping new authentics Fairground Attraction with Perfect.

FRI 23:00 The People's History of Pop (b083dj11)

1986-1996 All Together Now

Lauren Laverne celebrates the decade 1986-1996 when music had the power to unite fans - even sworn rivals - like never before. It's a decade that starts with a turn to the alternative, even among the fans of mega pop bands.

We hear from Depeche Mode fans who were invigorated by the band's darker sounds in Black Celebration - and have saved a lot of memorabilia from the gigs they went to see back then. We also hear from a fan of hip hop who discovered a burgeoning UK hip hop scene when he moved to London and shares footage of his friends MCing and DJing at home.

In 1988, the acid house wave hit and the show meets those who lived through it and loved it. They have saved flyers and photos from the halcyon days of raving that completely changed their lives, including one man who went from football hooligan to raver to club promoter.

Out of the clubs came mega pop bands. The programme meets an avid Take That fan who bought every type of merchandise she could as a teenager - saving pretty much all of it. Another fan takes viewers back to the site of her first ever Blur gig in 1994 and the show finishes by talking to fans of the most successful girl group of all time - The Spice Girls.

Pop treasures uncovered along the way include one of the first Hacienda membership cards, covered with signatures of Hacienda dignitaries, from New Order to Dave Haslam, A Guy Called Gerald, Bez and, of course, Tony Wilson. The programme also meets a club promoter who shares rare footage of one of The Prodigy's early rave-inspired gigs. And Lauren also meets someone with a rare Oasis demo tape from a gig at the Boardwalk in London in January 1992.

FRI 00:00 TOTP2 (b00s12g5)

[Repeat of broadcast at 19:30 today]

FRI 00:30 The Genius of Funk (b04t9cjr)

A selection of some of funk's best artists from the BBC archives and beyond, beginning in the 1970s. Includes performances from acts such as Earth, Wind & Fire, Kool & the Gang, Average White Band and Herbie Hancock.

FRI 01:30 Top of the Pops (m0005prt)

[Repeat of broadcast at 21:00 today]

FRI 02:30 Top of the Pops (m0005prw)

[Repeat of broadcast at 22:00 today]