

**SATURDAY 10 AUGUST 2019**

**SAT 19:00 Lost Land of the Volcano (b00mq3p1)**  
Episode 1

Series combining stunning wildlife with high-octane adventure, as a team of scientists and wildlife film-makers from the BBC's Natural History Unit explores one of the last great unspoilt jungle wildernesses on earth.

New Guinea is a rugged tropical island that is home to some of the strangest creatures on the planet. The team is based at the foot of Mount Bosavi, a giant extinct volcano covered in thick and largely unexplored rainforest. With the help of trackers from a remote tribe, they aim to search for the animals that live there - and they make amazing finds.

Wildlife cameraman Gordon Buchanan discovers the nest of the world's smallest parrot, insect expert Dr George McGavin finds a talking beetle, the scientists identify types of frog, gecko and bat that are completely new to science, and adventurer Steve Backshall has to live and sleep underground as he explores a cave system flooded with white water.

The cameras follow the team every sweaty step of the way as they search for the evidence that may help preserve this last great jungle forever.

**SAT 20:00 New Zealand: Earth's Mythical Islands (b07mh601)**  
Wild Extremes

The most extreme and wild parts of New Zealand are in the South Island, which lie towards Antarctica, in the path of the tempestuous 'roaring forties'. This is home to some of the most rapidly rising mountains in the world, the Southern Alps.

From hyper-intelligent parrots to sinister snails with teeth and magical constellations of glow-worms, this is the story of New Zealand's wildest places and its most resilient pioneers, all of whom must embrace radical solutions to survive.

**SAT 21:00 Below the Surface (m0007n0l)**  
Series 2

Episode 3

Danish thriller series. June's kidnappers threaten to kill the ferry's passengers unless she gives herself up. Meanwhile, the authorities, alerted by a silent alarm, begin to prepare a plan of action.

In Danish with English subtitles.

**SAT 21:45 Below the Surface (m0007n0n)**  
Series 2

Episode 4

Danish thriller series. Yusuf warns Danish intelligence, if any attempt is made to rescue the ferry hostages, that they will all be killed. Back on shore, SP and Simon are visited by Mahdi's wife.

In Danish with English subtitles.

**SAT 22:30 The Vietnam War (b096k8wz)**  
Series 1

Deja Vu (1858-1961)

After a long and brutal war, Vietnamese revolutionaries led by Ho Chi Minh end nearly a century of French colonial occupation. With the Cold War intensifying, Vietnam is divided in two at Geneva. Communists in the North aim to reunify the country, while America supports Ngo Dinh Diem's untested regime in the South.

**SAT 23:25 The Vietnam War (b096k948)**  
Series 1

Riding the Tiger (1961-1963)

President Kennedy and his advisers wrestle with how deeply to get involved in South Vietnam. As the increasingly autocratic Diem regime faces a growing communist insurgency and widespread Buddhist protests, a grave political crisis unfolds.

**SAT 00:20 Top of the Pops (m0007f4k)**

Gary Davies and Nicky Campbell present the pop chart programme, first broadcast on 28 April 1988 and featuring Pat and Mick, James Brown, Fairground Attraction, Brenda Russell, the Primitives, Luther Vandross, Joyce Sims, Bananarama, Will

Downing, S'Express and Scott Fitzgerald.

**SAT 00:50 Top of the Pops (m0007f4t)**

Bruno Brookes and Adrian John present the pop chart programme, first broadcast on 5 May 1988 and featuring Joyce Sims, New Order, Magnum, Harry Enfield, the Adventures, Narada, Prince, the Christians, the Primitives, S'Express and Star Turn on 45 Pints.

**SAT 01:20 Lost Land of the Volcano (b00mq3p1)**  
[Repeat of broadcast at 19:00 today]

**SAT 02:20 New Zealand: Earth's Mythical Islands (b07mh601)**  
[Repeat of broadcast at 20:00 today]

**SUNDAY 11 AUGUST 2019**

**SUN 19:00 BBC Proms (m0007n0g)**  
2019

Mozart's Requiem

Join Tom Service and Danielle de Niese for a menagerie of the melancholy from Brahms's Tragic Overture and the Prelude and Liebestod from Wagner's groundbreaking opera Tristan and Isolde to Mozart's mournfully prophetic Requiem. Performed by the BBC National Orchestra of Wales and soloists Fatma Said, Kathryn Rudge, Sunnyboy Dladla and David Shipley under the baton of Nathalie Stutzmann.

**SUN 20:50 Horizon (p0327fp0)**  
2016

Tim Peake Special - How to be an Astronaut

In December 2015, Tim Peake became Britain's first astronaut on board the International Space Station. For two years Tim had been filming a video diary for Horizon as he prepared to leave; from family life, to the rigorous training, this is an intimate portrait and remarkable insight into the world of an astronaut.

**SUN 21:00 The Sky at Night (b0b3lnks)**  
Guides

Galaxies

Galaxies are the building blocks of the universe. Our solar system sits inside a huge galaxy that we call the Milky Way - home to as many as 300 billion stars. But the Milky Way is itself just one of hundreds of billions of galaxies in the observable universe. Over the last 60 years of broadcasting, the Sky at Night has covered every major story of discovery about the galaxies, and in this film presenter Chris Lintott uses this archive to reveal the deepest secrets of galaxies, from their earliest beginnings to their very ends.

From the first galaxy ever discovered through to today's cutting edge attempts to map our own Milky Way, this is a story of incredible ingenuity, extraordinary technology and spectacular discoveries. We'll discover how galaxies work - from the secrets of their spiral arms to the dramatic events that drive their evolution - uncovering a weird and wonderful menagerie of objects along the way. Ultimately, the discovery of the galaxies is also the story of how we found our place in the cosmos, and discovered answers to some of the biggest questions in the Universe.

**SUN 22:00 The Sky at Night (m0007n0j)**  
Space Mission Special

Only a handful of missions are sent into space every decade, but how do we decide which missions are cleared for launch and which are grounded?

This month the Sky at Night goes behind the scenes as the European Space Agency select their next F-class mission, scheduled to be launched in 2028. And we meet the British teams vying to have their ideas selected, including a revolutionary mission to a comet.

**SUN 22:30 James May's Cars of the People (b0467lbp)**  
Series 1

Episode 1

In his quest to discover how we, the people, got our wheels, James travels to Germany, Italy and Russia to reveal the extraordinary story of how dictators kickstarted the mobilisation of the masses.

It is a tale of design brilliance, abject failure, war, fraud and double dealing, featuring some of the best (and worst) cars and characters of the 20th century. James discovers how the British motor industry blew a gift-wrapped chance to rule the world and he gets his own back with a stunt that means bad news for one of the planet's most hated cars.

**SUN 23:30 Storyville (m0002k62)**

Under the Wire

On 13 February 2012, war-correspondent Marie Colvin and photographer Paul Conroy entered war-ravaged Syria to cover the plight of civilians trapped in the besieged city of Homs, under attack by the Syrian army. Only one of them returned.

This is their story.

Marie Colvin was one of the most fearless reporters of her time. She dedicated her life to bearing witness to the lives of ordinary people caught up in the world's most dangerous conflicts. She covered Afghanistan, Iraq, Israel and Palestine, Sri Lanka, Chechnya and East Timor, and was on first-name terms with leaders like Muammar Gaddafi and Yasser Arafat.

In 2001 she lost the sight in her left eye after being caught in crossfire by a piece of shrapnel. On 13 February 2012, Marie was smuggled into Syria with her photographer, Paul Conroy. Despite intelligence reports that foreign journalists found in the area 'would be executed and their bodies put on the battlefield, as if caught in crossfire', they headed to Homs, determined to uncover the horror of Syrian civilians trapped by the conflict. Only one of them would return.

Based on the book of the same name by Paul Conroy, Under the Wire is the incredible story of Paul and Marie's fateful mission, and Paul's epic battle to escape the city to tell the world of his fallen colleague and the plight of the people of Homs. Under the Wire is a film about real journalism, about war and about an extraordinary commitment to telling the truth, whatever the cost.

**SUN 01:05 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 Schnitke, 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 02:05 The Riviera: A History in Pictures (b01ps9jr)**  
Painting Paradise

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

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

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

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

**SUN 03:05 The Sky at Night (b0b3lnks)**  
[Repeat of broadcast at 21:00 today]

**MONDAY 12 AUGUST 2019**

**MON 19:00 Beyond 100 Days (m0007n16)**  
Series 1

12/08/2019

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

**MON 19:30 Iolo's Snowdonia (b09qqnxv)**

Series 1

Episode 1

Iolo starts his journey during spring in Nant Ffrancon in the Ogwen Valley where he finds one of Britain's most-threatened birds - the twite. Mountain guide Hannah Hughes takes him high up above the stunning glacial landscape of Cwm Idwal for a spectacular view of the high peaks. On the slopes of Snowdon, bluebells bloom, while shepherd Hefin Hughes keeps sheep off arctic plants. On the foothills of the Rhinog Mountains, cuckoos call. Iolo heads to a wonderful hidden river gorge in full flow and listens to the best dawn chorus in Snowdonia in an ancient woodland. He joins Josie Bridges, who is part of a team tracking pine martens that were released in mid-Wales during 2015 after apparently disappearing from the whole of Wales over 50 years ago. A family of pine martens has made its way to Snowdonia, a journey of around 50 miles from the release site. Iolo also discovers a relic of a past landscape. Bird Rock, an imposing crag in the Dysynni Valley, may have once overlooked the sea, and to this day cormorants still nest on the rock - it being Wales's only inland nesting colony.

**MON 20:00 Operation Grand Canyon with Dan Snow (p01m732z)**

Episode 2

Dan Snow and his team continue down the Grand Canyon in antique wooden boats as they rediscover one of the Wild West's great adventures.

**MON 21:00 Deep Ocean: Lights in the Abyss (b0bs367k)**

In a huge submarine canyon in California's Monterey Bay, there is an illuminating twilight zone. It is a world of countless exotic creatures, including sparkling jellyfish and deep sea fish that give off flashes. Using an ultra-high sensitivity 4K camera specifically developed for deep sea filming, together with experts in the field, Lights in the Abyss captures bioluminescent creatures in their natural habitat, deep in the Pacific Ocean.

Narrated by Sir David Attenborough.

**MON 21:50 Life (b00p4r14)**

Creatures of the Deep

Marine invertebrates are some of the most bizarre and beautiful animals on the planet, and thrive in the toughest parts of the oceans.

Divers swim into a shoal of predatory Humboldt squid as they emerge from the ocean depths to hunt in packs. When cuttlefish gather to mate, their bodies flash in stroboscopic colours. Time-lapse photography reveals thousands of starfish gathering under the Arctic ice to devour a seal carcass.

A giant octopus commits suicide for her young. A camera follows her into a cave which she walls up, then she protects her eggs until she starves.

The greatest living structures on earth, coral reefs, are created by tiny animals in some of the world's most inhospitable waters.

**MON 22:50 Farther and Sun: A Dyslexic Road Trip (b0bm6pdtg)**

Could dyslexia be a gift? Or can it only ever be a disability? Documentary maker Richard Macer sets off on a road trip with his dyslexic son Arthur to find the answer. En route, they meet Richard Branson and Eddie Izzard, and many other successful dyslexic people.

Dyslexia is a difficulty with reading and writing that affects one in ten people. It causes misery to many schoolchildren, and it can lead to greater problems later in life. Fifty per cent of prisoners are thought to be dyslexic, but at the same time, many successful people are also dyslexic, and businesses like Google, Nasa and GCHQ see the benefit in a neuro-diverse workforce. Richard and Arthur are looking for an answer to this conundrum and interview academics, scientists and designers.

But there is a personal narrative too. Richard struggled at school just like his son, and now 40 years on, he is assessed for dyslexia. Will the result give him closure on a lifetime of feeling different? And if he is dyslexic, does that mean his son has inherited a gift or a curse?

**MON 23:50 How the Celts Saved Britain (b00kps7h)**

A New Civilisation

Dan Snow blows the lid off the traditional, Anglo-centric view of history and reveals how the Irish saved Britain from cultural oblivion during the Dark Ages, in this provocative, two-part documentary.

Travelling back in time to some of the remotest corners of the

British Isles, Dan unravels the mystery of the lost years of 400-800 AD, when the collapse of the Roman Empire left Britain in tatters.

In the first episode, Dan shows how in the 5th century AD Roman 'Britannia' was plunged into chaos by the arrival of Anglo-Saxon invaders. As Roman civilisation disappeared from Britain, a new civilisation emerged in one of the most unlikely places - Ireland. Within a few generations, Christianity transformed a backward, barbarian country into the cultural powerhouse of early medieval Europe.

This is a visually and intellectually stimulating journey through one of the least known chapters of British history.

**MON 00:50 My Astonishing Self: Gabriel Byrne on George Bernard Shaw (b09tk1h)**

Award-winning Irish actor Gabriel Byrne explores the life, works and passions of George Bernard Shaw, a giant of world literature, and - like Byrne - an emigrant Irishman with the outsider's ability to observe, needle and puncture.

With Ireland in his heart, he made England his home and London his stage. His insight was ageless - his ideas still resonate almost 70 years after his death. He is one of only two people to have ever been awarded both the Nobel Prize for Literature and an Oscar.

Gabriel Byrne sees Shaw as a revolutionary - a literary anarchist. Sharing Shaw's perspective as an 'artistic exile', Byrne explores Shaw's radical and unapologetic political thinking, and his unwavering ability to charm and satirise the establishment that so adored him. It is the story of the most relevant thinker, artist and literary genius Ireland ever produced.

**MON 01:50 Art of Spain (b008yw7p)**

The Mystical North

Andrew Graham-Dixon reveals how northern Spain has produced some of the most dazzling and iconic art of the modern age. He shows how Spain's turbulent history has shaped its artists, from Francisco Goya and Pablo Picasso to Joan Miro and Salvador Dali. As well as the giants of painting, Graham-Dixon argues that Spanish architecture is the art form taking the nation forward into the new millennium.

**MON 02:50 Africa: A Journey into Music (b0b624f1)**

Series 1

Mali

DJ and broadcaster Rita Ray travels to Mali in West Africa, home to a deep musical culture and ancient instruments that are the hallmark of their sound.

Mali has produced more Grammy-winning artists than any other African country, and this well of talent has drawn in artists and producers from around the world to collaborate with the local musicians.

Whilst the country has been rocked by Islamist insurgency, leading to a ban on music in some areas, Rita finds out how a traditional way of life and rich musical culture have endured.

**TUESDAY 13 AUGUST 2019**

**TUE 19:00 Beyond 100 Days (m0007mzt)**

Series 1

13/08/2019

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

**TUE 19:30 Iolo's Snowdonia (b09qtryj)**

Series 1

Episode 2

It's summer and peak season on the summit of Snowdon. It's time for Iolo to get away from the crowds to look for peaceful, stunning scenery and spectacular wildlife. In secret hidden sites, he finds buzzards nesting, beautiful dragonflies and night-flying moths being hunted by migrant nightjars from Africa. There's a colony of rare silver-studded blue butterflies who were once living by the sea but today have been isolated inland as the coastline has changed. Iolo also climbs Cadair Idris, the highest peak in the southern part of the park, and explores extraordinary sand dunes full of colourful orchids along Snowdonia's 30 miles of stunning coast. But summer isn't complete for Iolo without a day on the moors watching the most threatened bird of prey in Britain - the hen harrier.

**TUE 20:00 SAS: Rogue Warriors (b08g8917)**

Series 1

Episode 3

Stirling is locked away in Hitler's most secure prison - Colditz. Leadership of the SAS passes to Paddy Mayne, a man who has built his reputation on the battlefield as a warrior of the first rank, but has no interest in charming high command. In 1943, the SAS leaves the desert for Europe to enter a darker and far more complex theatre of war, led by a man who is often drunk and disorderly and prone to acts of savagery. They will face the terror of execution and the trauma of civilian casualties. And they will be the first to witness the nightmare of Belsen concentration camp.

**TUE 21:00 Revolutions: The Ideas that Changed the World (m0007mzw)**

Series 1

The Smartphone

Jim Al-Khalili and a team of experts investigate the fascinating story of the smartphone. It took a Hollywood star, a missed holiday and a Roman siege to give us the device that connects us all.

In 133BC, Greek tutor Polybius updates the method the Roman army uses to communicate. His system uses fire to spell out words. It is the world's first encrypted communications system.

In 1825, Samuel Morse is far away from home when he receives a letter telling him that his wife is dying. By the time he gets back, she is already buried. Determined to find a faster way to communicate, Morse learns about electricity. His invention sends pulses of current down a wire and records them at the other end - in morse code. But how do you send the human voice along a wire? We trace the legal shenanigans surrounding the invention of the telephone, including the courts that finally decide in Alexander Bell's favour.

In 1894, Guglielmo Marconi hears how electrical sparks can cause something to travel invisibly through thin air. Marconi uses this principle to send 'radio' messages.

During World War Two, the need for secure communications leads to the forerunner of the first digital communication system, but it is not until the invention of the microchip by a bored employee at Texas Instruments that the device can be made small enough to carry in a pocket.

The cell phone's success triggers a new problem - a lack of network capacity. Enter a system conceived by 1940s Hollywood actress Hedy Lamarr. Inspired by a pianola, her design sends information over several frequencies called spread spectrum. In the 1990s, the idea increases network capacity 20-fold. It is called 2G. Then, with the internet, phones are used for more than just voice calls; they can send messages and pictures too. A new generation of smartphones will soon connect us just by thinking - the ultimate interface with the world.

**TUE 22:00 The Rise and Fall of Nokia Mobile (b0b9kj80)**

Once upon a time there was a large Finnish company that manufactured the world's best and most innovative mobile phones. Nokia's annual budget was larger than that of the government of Finland and everyone who worked there shared in the windfall. But global domination cost the company its pioneering spirit and quality gradually took over from quality, with new phone models being churned out by the dozen. Market share eroded, until in 2016, mobile phone production in Finland ceased.

The Rise and Fall of Nokia is a wry morality tale for our times, told by those that lived and worked through the rollercoaster years in a company that dominated a nation.

**TUE 23:00 Horizon (b0747199)**

2016

The Immortalist

The gripping story of how one Russian internet millionaire is turning to cutting-edge science to try to unlock the secret of living forever.

Dmitry Itskov recently brought together some of the world's leading neuroscientists, robot builders and consciousness researchers to try to devise a system that would allow him to escape his biological destiny. Entering Dmitry's seemingly sci-fi world, Horizon investigates the real science inspiring his bold plan to upload the human mind to a computer.

There are doubters - like the major neuroscientist who tells us 'it's too stupid, it simply cannot be done'. But as we also meet the Japanese maker of Erica, one of the world's most human-like robots, who tells us the destiny of humans is to become

robots to overcome the constraints of time, see how a quadriplegic Californian man is already controlling a robot arm with his thoughts, and explore the groundbreaking work of the scientist behind the world's largest neuroscience project - the \$6 billion US Brain Initiative - who tells us the effort to map all the activity of the brain could be a crucial step towards mind uploading. Horizon asks if it's really so crazy to think Dmitry Itskov could succeed in his goal of bringing about immortality for all of us within 30 years.

**TUE 00:00 The Somme: Secret Tunnel Wars (b01skvnh)**

Beneath the Somme battlefield lies one of the great secrets of the First World War, a recently-discovered network of deep tunnels thought to extend over several kilometres. This lost underground battlefield, centred on the small French village of La Boisselle in Picardy, was constructed largely by British troops between 1914 and 1916. Over 120 men died here in ongoing attempts to undermine the nearby German lines and these galleries still serve as a tomb for many of those men.

This documentary follows historian Peter Barton and a team of archaeologists as they become the first people in nearly a hundred years to enter this hidden, and still dangerous, labyrinth.

Military mines were the original weapons of shock and awe - with nowhere to hide from a mine explosion, these huge explosive charges could destroy a heavily-fortified trench in an instant. In order to get under the German lines to plant their mines, British tunnellers had to play a terrifying game of subterranean cat and mouse - constantly listening out for enemy digging and trying to intercept the German tunnels without being detected. To lose this game probably meant death.

As well uncovering the grim reality of this strange underground war, Peter discovers the story of the men who served here, including the tunnelling companies' special military units made up of ordinary civilian sewer workers and miners. He reveals their top secret mission that launched the Battle of the Somme's first day and discovers why British high command failed to capitalise on a crucial tactical advantage they had been given by the tunnellers.

**TUE 01:00 Battlefield Britain (b00786r)**

The Battle of Britain

Dan Snow experiences how the Battle of Britain was fought at the limits of human endurance when he takes flight in a high performance stunt plane. Recreating the spiralling turns of a dogfight, he feels the extraordinary side-effects of the high G forces felt by pilots in this critical battle of World War II.

Using revolutionary graphics, Peter Snow gives a blow-by-blow account of the pivotal moments of the battle and how the RAF held off the might of the German Luftwaffe during the summer of 1940. The future of the entire country was at stake in this, the first great air battle in history.

**TUE 02:00 SAS: Rogue Warriors (b08g8917)**

[Repeat of broadcast at 20:00 today]

**TUE 03:00 Revolutions: The Ideas that Changed the World (m0007mzw)**

[Repeat of broadcast at 21:00 today]

**WEDNESDAY 14 AUGUST 2019**

**WED 19:00 Beyond 100 Days (m0007ln2)**

Series 1

14/08/2019

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

**WED 19:30 Eisteddfod (m0007nyx)**

Eisteddfod 2019 with Jason Mohammad

**Highlights**

It's one of the largest festivals in Europe and it celebrates the best of Welsh culture. The Eisteddfod is the natural showcase for music, dance, visual arts, literature, original performances and much more. Jason Mohammad heads north to Llanrwst in the Conwy Valley to bring all the highlights and stories from the National Eisteddfod of Wales and discovers how this most ancient of festivals continues to evolve as a relevant cultural force. The week-long festival starts with a high-flying musical extravaganza. Folk and contemporary music performers are joined by an Irish company specialising in aerial acrobatics. It is one of the Eisteddfod's most ambitious projects and Jason goes backstage to talk to the performers.

He catches up with Wales rugby stars Jonathan Davies and Ken Owens as well as broadcaster and comedian Tudur Owen, who are all being honoured at the Eisteddfod this year. Jason discovers more about Llanrwst's failed attempt to gain a seat on the United Nations in 1947, claiming to be independent from the rest of Wales! He visits the Lle Celf, the largest temporary modern art exhibition in Europe, to enjoy the work of a multitude of different artists including the gold medal winners in fine art, contemporary art and craft and design. Eisteddfod 2019 with Jason Mohammad brings the best stories and performances from this truly unique event.

**WED 20:00 A History of Scotland (b00f19sw)**

Series 1

**Hammers of the Scots**

Neil Oliver charts the 13th century story of the two ruthless men who helped transform the Gaelic kingdom of Alba into the Scotland we recognise today.

While Alexander II forged Scotland in blood and violence, William Wallace's resistance to the nation-breaking King Edward I of England hammered national consciousness into the Scots.

**WED 21:00 The First Georgians: The German Kings Who Made Britain (p01xtmv7)**

Episode 3

Dr Lucy Worsley's story of the first Georgian kings reaches the final years of George II's reign. With extensive access to artworks in the Royal Collection, she shows how Britain's new ruling family fought the French, the Jacobites and each other, all at the same time. But while George very publicly bickered with his troublesome son Frederick, Prince of Wales, he also led from the front on the battlefield - the last British king to do so - and helped turn his adopted nation into a global superpower.

What would have seemed an unlikely outcome when the Georges first arrived from Hanover was achieved on the back of a strong navy, a dubious slave trade and a powerful new entrepreneurial spirit that owed much to the influence of the Scottish Enlightenment.

**WED 22:00 Mary Beard's Ultimate Rome: Empire Without Limit (b07cb3y6)**

Episode 4

In the fourth and final episode, Mary tackles the biggest puzzle of all: why, and how, did the Roman Empire fall? Surveying the massive walls and fortifications of Britain and Germany, she discovers an empire under pressure, struggling to control its borders.

Mary seeks to redefine our understanding of the so-called 'Barbarian Invasions', but also shows that the Roman Empire was facing even greater challenges from within. Maverick emperors upset all the assumptions of right-thinking Romans, while the traditional religion and beliefs of the Roman state came head to head with the absolute conviction of Jews and Christians. Ultimately, Mary asks whether the Roman Empire was transformed rather than destroyed, and indeed lives on in the world we still see all around us - in our institutions and infrastructure, in the aspirations, methodology and symbolism of many empires since.

**WED 23:00 Susan Calman's Fringe Benefits (m0007gxl)**

Series 1

Episode 1

Susan Calman's Fringe Benefits is the place to enjoy all the best entertainment and chat from this year's Edinburgh Festivals.

Joining Susan for a natter are special guests Frank Skinner, Larry Dean, Iain Stirling, Desiree Burch and many more, plus performances from Jo Caulfield and Stuart Mitchell.

**WED 23:45 Timeshift (b00dzdc)**

Series 8

**Last Days of Steam**

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

After the war, the largely destroyed railways of Europe were rebuilt to carry more modern diesel and electric trains. Britain, however, chose to build thousands of brand new steam locomotives. Did we stay with steam because coal was seen as the most reliable power source, or were the railways run by men

who couldn't bear to let go of their beloved steam trains?

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

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

**WED 00:45 Calculating Ada: The Countess of Computing (p030s5bx)**

Ada Lovelace was a most unlikely computer pioneer. In this film, Dr Hannah Fry tells the story of Ada's remarkable life. Born in the early 19th century, Ada was a countess of the realm, a scandalous socialite and an 'enchantress of numbers'. The film is an enthralling tale of how a life infused with brilliance, but blighted by illness and gambling addiction, helped give rise to the modern era of computing.

Hannah traces Ada's unlikely union with the father of computers, Charles Babbage. Babbage designed the world's first steam-powered computers - most famously the analytical engine - but it was Ada who realised the full potential of these new machines. During her own lifetime, Ada was most famous for being the daughter of romantic poet Lord Byron ('mad, bad and dangerous to know'). It was only with the advent of modern computing that Ada's understanding of their flexibility and power (that they could be far more than mere number crunchers) was recognised as truly visionary. Hannah explores how Ada's unique inheritance - poetic imagination and rational logic - made her the ideal prophet of the digital age.

This moving, intelligent and beautiful film makes you realise we nearly had a Victorian computer revolution.

**WED 01:45 A History of Scotland (b00f19sw)**

[Repeat of broadcast at 20:00 today]

**WED 02:40 The First Georgians: The German Kings Who Made Britain (p01xtmv7)**

[Repeat of broadcast at 21:00 today]

**THURSDAY 15 AUGUST 2019**

**THU 19:00 Beyond 100 Days (m0007njw)**

Series 1

15/08/2019

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

**THU 19:30 The Sky at Night (m0007n0j)**

[Repeat of broadcast at 22:00 on Sunday]

**THU 20:00 Skies Above Britain (b07tj8vp)**

Beneath the Clouds

For thousands of recreational pilots, uncontrolled airspace - the skies beyond commercial routes - are a place of freedom and adventure and for many, flying in them can become an obsession.

Al Coultis and Willie Cruikshank are the Wildcats, two former RAF pilots who perform aerobatic stunts at air displays across the UK. With several recent tragedies at air shows, Al and Willy must finish their display season safely.

Julia Foxwell is a champion skydiver who relinquished her crown after having her first child. Now she is juggling motherhood with an intense training schedule as she attempts to win again at the National Skydiving Championships.

Pete Dolby has been flying balloons for over a quarter of a century - now he is attempting to fly Britain's first solar balloon, powered using just the sun's energy. The experimental balloon will be launched at Europe's biggest ballooning event - the Bristol Balloon Fiesta.

Elsewhere, Ady Dolan, NATS air traffic controller at Heathrow, works the most congested and highly regulated patch of sky in the UK - the congested skies above the capital.

**THU 21:00 Operation Wild (b04dvt5p)**

## Episode 2

In a world first, vets call on a plastic surgeon to give a rhino a skin graft operation. Plus, Rosemary the blind orangutan has microsurgery to try to restore her sight so she can see her daughter again, and a seal with a mystery illness is diagnosed using the kind of scanner usually seen in a human hospital.

**THU 22:00 From Ice to Fire: The Incredible Science of Temperature (b09sc7yj)**  
Series 1

## A Temperature for Life

Physicist Dr Helen Czerski explores the narrow band of temperature that has led to life on Earth. She reveals how life began in a dramatic place where hot meets cold, and how every single living creature on Earth depends on temperature for its survival. She uncovers the extraordinary natural engineering that animals have evolved to keep their bodies at the right temperature. And she witnesses the remarkable surgery that's using temperature to push the human body to the very brink of life.

**THU 23:00 Immortal Egypt with Joann Fletcher (b06wj4bw)**

## Chaos

In the second episode, Joann explores how the Pyramid Age ended in catastrophe. In one of Saqqara's last pyramid complexes, Joann uncovers evidence of famine as the young Egyptian state suffered a worsening climate and political upheaval. With depleted coffers, Egypt was plunged into the dark ages and civil war. With the land fractured into many small states, Joann tells the story of small-town leaders rising through the ranks.

In a little-known tomb in Thebes, Joann uncovers stories of warriors who fought in the bloody battle which eventually would mark the reunification of Egypt. This burial represents the world's first recorded war cemetery and the rise of Thebes. The country was reborn, resuming grand building projects for Egypt's mighty kings and bejewelled queens.

Joann reveals how settlers known as the Hyksos tried to infiltrate the government and take the throne. But their rule was short-lived as they were ousted by southern rulers who laid the groundwork for Egypt's largest empire.

**THU 00:00 Constable: A Country Rebel (b04gv42q)**

The Haywain by John Constable is such a comfortingly familiar image of rural Britain that it is difficult to believe it was ever regarded as a revolutionary painting, but in this film, made in conjunction with a landmark exhibition at the V&A, Alastair Sooke discovers that Constable was painting in a way that was completely new and groundbreaking at the time.

Through experimentation and innovation he managed to make a sublime art from humble things and, though he struggled in his own country during his lifetime, his genius was surprisingly widely admired in France.

**THU 01:00 Unsung Heroines: Danielle de Niese on the Lost World of Female Composers (b0b6znwz)**

Danielle de Niese explores the lives and works of five female composers - from the Middle Ages to the late 20th century - who were famous in their lifetimes, but whose work was then forgotten.

Western classical music has traditionally been seen as a procession of male geniuses, but the truth is that women have always composed. Hildegard of Bingen, Francesca Caccini, Clara Schumann, Florence Price and Elizabeth Maconchy - all these women battled to fulfil their ambitions and overcome the obstacles that society placed in their way. They then disappeared into obscurity, and only some have found recognition again.

**THU 02:00 A Brief History of Graffiti (b067xfxr)**

Dr Richard Clay goes in search of what it is that has made us scribble and scratch mementoes of our lives for more than 30,000 years. From the prehistoric cave paintings of Burgundy in France, through gladiatorial fan worship in Roman Lyons to the messages left on the walls of Germany's Reichstag in 1945 by triumphant Soviet troops, time and again we have wanted to leave a permanent record of our existence for our descendants. And it may be that this is where what today we call art comes from - the humble scratch, graffiti.

**THU 03:00 From Ice to Fire: The Incredible Science of Temperature (b09sc7yj)**

[Repeat of broadcast at 22:00 today]

## FRIDAY 16 AUGUST 2019

**FRI 19:00 World News Today (m0007n1y)**

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

**FRI 19:30 BBC Proms (m0007n20)**  
2019

Pappano and the National Youth Orchestra of the USA

Suzu Klein introduces America's most talented young musicians in an ambitious concert from the National Youth Orchestra of the USA. Sir Antonio Pappano conducts the UK premiere of Benjamin Beckman's new work, Occidentalis and mezzo Joyce DiDonato sings Berlioz's beautifully crafted miniatures Les nuits d'été. The impressive programme culminates with Richard Strauss's epic work, An Alpine Symphony.

**FRI 21:30 Top of the Pops (m0007n22)**

Mike Read and Simon Mayo present the pop chart programme, first broadcast on 12 May 1988 and featuring Harry Enfield, Prince, the Adventures, Narada, Liverpool FC, Belinda Carlisle, Derek B, Prefab Sprout, Star Turn On 45 Pints, Wet Wet Wet, Fairground Attraction and Kylie Minogue.

**FRI 22:00 Woodstock - Three Days that Defined a Generation (m0007n24)**

For three days in August 1969, half a million people from all walks of life converged on a small dairy farm in upstate New York. They came to hear the concert of their lives, but most experienced something far more profound: a moment that came to define a cultural revolution.

This documentary tells the story of the lead-up to those three historic days, through the voices of those who were there and the music of the time. It includes extraordinary moments from the concert itself, iconic images of both performers and festival goers, and tells how this groundbreaking event, pulled off right at the last minute, nearly ended in disaster and put the ideals of the counterculture to the test.

**FRI 23:25 Jimi Hendrix: The Road to Woodstock (b03p7p6v)**

The definitive documentary record of one of Jimi Hendrix's most celebrated performances, now digitally remastered and featuring footage never seen on television before. It includes such signature songs as Purple Haze, Voodoo Child (Slight Return) and his rendition of the Star Spangled Banner, as well as interviews with Woodstock promoter Michael Lang and Hendrix band members Mitch Mitchell, Billy Cox, Larry Lee and Juma Sultan among others.

**FRI 00:25 Hits, Hype & Hustle: An Insider's Guide to the Music Business (b09mbfjx)**

## Series 1

## Making a Star

In the first programme of the series, music agent Emma Banks looks at how the music business finds talent and creates superstars.

Over 25 years as one of the top agents in the business, Emma has worked with some of the world's most famous artists, including Katy Perry, Kanye West and Red Hot Chili Peppers. She's seen first-hand the fine line between success and failure, following the careers of hundreds of acts - from geniuses who never quite made it to megastars who conquered the world.

The secret to success and stardom is an elusive formula of luck, timing and of course talent. But as Emma explores in this film, it's also about the team behind the talent - the record execs, label bosses and A&R gurus who find, develop and make a star. From Motown's musical finishing school to Damon Dash's dogged promotion of Jay-Z, the missed potential of sixties group The Zombies to Blur's record label steering their career from one-hit wonders towards chart domination, this film offers an entertaining behind-the-scenes peek into the peaks and pitfalls of making a musical superstar.

Contributors include Motown's Martha Reeves, Blur's Alex James, record producing legend Clive Davis, Jane's Addiction's Perry Farrell and Labelle's Nona Hendryx. And we follow Emma as she works with new grime star Lady Leshurr to take her career to the next level.

**FRI 01:25 Top of the Pops (m0007n22)**

[Repeat of broadcast at 21:30 today]

**FRI 01:55 The Fall: The Wonderful and Frightening World of Mark E Smith (b0074r00)**

A profile of one of England's truly unique and underrated bands, The Fall. One of the most enigmatic, idiosyncratic and chaotic garage bands of the last 30 years, The Fall are led by the belligerent and poetic Mark E Smith and grew out of the fringe of the Manchester punk scene. By 2005, they had released in excess of three dozen albums, toured relentlessly, inspired two successful stage plays, recorded 24 Peel Sessions, and performed with contemporary ballet dancer Michael Clark along with various spoken word events.

All this has happened under the guidance of Smith with various line-ups totalling over 40 different members. They have never conformed to fashion or musical trends and when asked why they were his favourite band, John Peel replied 'they are always different, they are always the same'.

This is the first time that Mark E Smith has agreed to the story being told on television and he along with many of the major players take us through this unique English rock 'n' roll story. It is told alongside footage of their most recent and sadly now last Peel Session recorded in August 2004 at the BBC Maida Vale studios, and there is also film of John playing out the session at Peel Acres a week later.

Contributors include past and present band members such as Marc Riley, Una Baines, Steve Hanley, Ben Pritchard and Eleni Smith, plus thoughts from key fans/critics including Paul Morley, Tony Wilson, Stewart Lee, promoter Alan Wise, original Buzzcocks manager Richard Boon, and Franz Ferdinand.

**FRI 02:55 Singer-Songwriters at the BBC (b00tzpbq)**

## Series 1

## Episode 1

Compilation which unlocks the BBC vaults to explore the burgeoning singer-songwriter genre that exploded at the dawn of the 1970s and became one of the defining styles of that decade.

Featuring Elton John's Your Song, whose line 'My gift is my song and this one's for you' helps define this new, more personal style of songwriting, alongside an eclectic selection of classic artists and songs. James Taylor, Cat Stevens, Harry Nilsson, Sandy Denny, Steve Goodman, Joni Mitchell, Neil Young, Judee Sill, Jackson Browne, Neil Diamond, Tim Hardin, Joan Armatrading, Tom Waits all feature next to more commercial hits from the likes of Terry Jacks and Gilbert O'Sullivan.

Programme sources include The Old Grey Whistle Test, In Concert, Top of the Pops, The Shirley Bassey Show and Twiggy's Show of the week.