

**SATURDAY 19 OCTOBER 2019**

**SAT 19:00 The Sky at Night (m0009dkk)**  
Question Time

A one-hour special in which The Sky at Night team face a live studio audience to answer their questions about the mysteries and wonders of the universe.

**SAT 20:00 Wild China (b00bwky1)**  
Tibet

Documentary capturing pioneering images to exhibit the dazzling array of mysterious and wonderful creatures that live in China's most beautiful landscapes.

The vast Tibetan Plateau is one of the world's most remote places and home to chiru antelopes, wild yaks, foxes and bears. It has a remarkable culture shaped by over one 1,000 years of Buddhism, while its mountains and glaciers provide a vital life support system for half the planet.

**SAT 21:00 Spiral (m0009pfb)**  
Series 7

Episode 3

Ryan is not telling the whole story, so Roban decides to lock him up. The banknotes recovered from the robbery lead police to take their investigation to a nearby housing estate. Meanwhile, a link is uncovered between Wang and Herville, and Joséphine builds a rapport with her cellmate, Lola.

In French with English subtitles.

**SAT 22:00 Spiral (m0009pfb)**  
Series 7

Episode 4

Laure follows the drug traffickers' courier to a warehouse in Aubervilliers, where the investigation suddenly acquires a new dimension. Meanwhile, still frail, she struggles to cope with the responsibilities in her personal life. Joséphine has a hearing with the judge. And Roban pursues a case of negligence at a hospital by involving the hospital director.

In French with English subtitles.

**SAT 22:50 Detectoirst (b09f2ndg)**  
Series 3

Episode 1

Lance's flat isn't his own any more and Andy's staying with the mother-in-law. But at least they have their old faithful permission to escape. Or do they? The dark cloud of a solar farm threatens the tranquillity.

**SAT 23:20 Detectoirst (b09ffxyn)**  
Series 3

Episode 2

Just as they're losing their farm, Lance and Andy start finding good stuff. But old enemies are sniffing around. Home lives are chaotic as usual and Lance is persuaded to try hypnotherapy for an awkward affliction. With mixed results.

**SAT 23:50 Detectoirst (b09g64vk)**  
Series 3

Episode 3

With time running out, Andy and Lance go to great (action-packed) lengths to protect their land. Away from the fields, life is no less stressful as Andy quits his job and Lance finds an unwelcome guest in the spare room. An audacious theft leaves Lance reeling.

**SAT 00:20 Top of the Pops (m0009dl)**  
Mike Read and Simon Mayo present the pop chart programme, first broadcast on 18 August 1988 and featuring Aztec Camera, Kylie Minogue, Chris Rea, Status Quo, Van Halen, Big Country, Fairground Attraction, Julio Iglesias and Stevie Wonder, Yazz & The Plastic Population, and Robbie Robertson.

**SAT 00:50 Peaky Blinders (b04kklmm)**  
Series 2

Episode 1

As the 1920s begin to roar, business is booming for the Peaky Blinders gang. Tommy Shelby starts to expand his legal and illegal operations, with an eye on the racetracks of the south. Meanwhile, an enemy from Tommy's past returns to Birmingham.

**SAT 01:50 Peaky Blinders (b04l8zyp)**  
Series 2

Episode 2

Tommy offers to help Polly by searching for her children, who long ago were taken from her. In London, Tommy risks his life by meeting enigmatic leader Alfie Solomons. Meanwhile Arthur continues to feel the devastating effects of the Great War.

**SAT 02:50 Peaky Blinders (b04l8zyp)**  
Series 2

Episode 3

Tommy hatches a plan to take control of the southern racecourses. He also meets the aristocratic May Carleton and sees an opportunity to move up in the world. Meanwhile both Major Campbell and London gangster Darby Sabini plan Tommy's downfall.

**SUNDAY 20 OCTOBER 2019**

**SUN 19:00 A Timewatch Guide (b052775d)**  
Series 1

Cleopatra

Using the BBC film archives, historian Vanessa Collinridge explores how our view of Cleopatra has changed and evolved over the years - from Roman propaganda, through Shakespeare's role in casting her as a doomed romantic heroine, to her portrayal in the golden age of Hollywood.

Along the way Vanessa investigates Cleopatra's relationships with Julius Caesar and Mark Anthony, her role as a politician, whether she should be seen as a murderer, and her tragic end. Drawing on the views of academic experts, BBC documentaries and drama, Vanessa charts how, throughout history, Cleopatra's image has been subject to myth, cliché and propaganda.

**SUN 20:00 Britain's Biggest Warship (b0b1z7r6)**  
Series 1

Out with the Old, In with the New

HMS Queen Elizabeth approaches the climax of her sea trials in the North Sea. The automatic flight deck fire-fighting system is a major innovation on board but must now be tested for the first time. The new super carrier makes a special and poignant visit to Scapa Flow in the Orkneys to mark an astonishing naval centenary - it is 100 years to the day that an aircraft was successfully landed on a moving vessel but with ultimately tragic consequences. Queen Elizabeth then moves at full speed to rendezvous with American carrier USS George Bush and a major battle group of international warships.

In the US we visit the British top gun pilots training on the top-secret F-35B Lightning stealth fighter that will eventually fly off HMS Queen Elizabeth. Commander Nathan Gray, the Royal Navy's top test pilot, is preparing to land the first F-35 on Queen Elizabeth's flight deck in October 2018. Meanwhile, surprising events on board the warship conspire to remind First Lieutenant Bob Hawkins of his past. He recalls bittersweet memories that prompt him to divulge closely held feelings about the modern navy, his shipmates on Queen Elizabeth and his fears about going to war at sea.

Kirsty and Dickie, the captain's stewards, let slip a secret about the captain that his wife must never know about. And Dani Hobbs, a 24-year-old gunnery instructor, amazes the entire ship's company with a hidden talent that lifts everyone's spirits. Eventually, the gruelling sea trials over, HMS Queen Elizabeth heads south for a dramatic and emotional arrival in Portsmouth which will be her home port for the next 50 years. A few weeks later, we are privy to the ship's commissioning by her namesake - Her Majesty Queen Elizabeth.

**SUN 21:00 Destination Titan (b0109ccd)**

It's a voyage of exploration like no other - to Titan, Saturn's largest moon and thought to resemble our own early Earth. For a small team of British scientists this would be the culmination of a lifetime's endeavour - the flight alone, some two billion miles, would take a full seven years.

This is the story of the space probe they built, the sacrifices they made and their hopes for the landing. Would their ambitions survive the descent into the unknown on Titan's surface?

**SUN 22:00 Britain's Greatest Generation (b05wdp6g)**  
Fight for Freedom

This film interweaves stories of extraordinary courage, terrible suffering and miraculous survival from servicemen and women between 1942 and 1945. We meet the bomber boys who flew on some of the most dangerous missions of the war. We discover what it was like for the soldiers who helped turn the tide against the Germans - from El Alamein to the beaches of Normandy. We hear from the frontline nurses who risked everything to care for them. And we find out what it took to survive years of hard labour, disease and punishment as a prisoner in the far east. The fight for freedom was finally won in 1945 - only then did the full truth about the extermination of Jews in German concentration camps finally come to light.

We begin with the extraordinary story of Fergus Anckorn, who was once the youngest member of the Magic Circle and - at 96 - is now the oldest. He was captured and taken prisoner by the Japanese in Singapore, then miraculously survived a massacre of wounded British soldiers. He was put to work on the Burma Railway, but - starved and beaten - he used his magic to entertain the Japanese troops, who rewarded him with food which helped keep him and his fellow prisoners alive.

Alongside Fergus, we hear other equally remarkable stories, like that of the last surviving Dambuster Jonny Johnson. Raised on a farm in the East Anglian countryside, he was to play a vital role in the Dambuster raid. Another bomber boy, Bob Frost, emotionally recalls how his plane was shot down and how he secretly made his way back across Europe to Britain, to be reunited with his mother who feared he was dead.

We hear some deeply moving, untold stories from D-Day, the great turning point in the war in Europe. Fred Glover, a boy soldier who lied about his age to join the Parachute Regiment, tells the story of how he survived one of the dangerous missions of all. We see rare footage of nurses like Betty Evans - one of the unsung female heroes of D-Day - treating the injured troops behind the lines.

Today, these modest last survivors feel proud of the role they played in helping to win the war. Their experience made them value the simple things in life - freedom most of all.

**SUN 23:00 Britain's Greatest Generation (b05xbv48)**  
A Better World

This final episode of Britain's Greatest Generation follows the lives of some of the servicemen and women of the Second World War across seventy years of British history, from 1945 up to the present day. This episode features Arctic convoy survivor Austin Byrne, former Fleet Air Arm pilot and Scotland football manager Bobby Brown and ex-prisoner of war Jim Purcell - just a few of the extraordinary and inspiring members of Britain's Greatest Generation who recall their stories and memories.

Also appearing will be individuals who played their part in creating a more culturally diverse postwar Britain, such as pioneering actor Earl Cameron, gay rights activist George Montague and Brian Rix, who has campaigned passionately on the issue of disability.

Whilst for some, life was getting better after the Second World War, there were still many people in society who were victims of prejudice. Earl Cameron was determined to change this and recalls how he broke through the colour bar in the British film industry. Novelist Diana Athill also played an important role in the movement towards both sexual and racial openness in the 1960s and speaks about how she flouted the taboo on mixed-race relationships at that time.

One of the defining features of many of our greatest generation is a commitment to their local community. People such as Gladys Parry, who became a local magistrate in Manchester after the Second World War, and former railwayman Bill Graves, who became a local councillor in Bristol, are no exception. Others who display a strong sense of civic duty are Dorothy Hughes, who has made numerous public appearances as one of the first female Chelsea Pensioners and Jim Purcell, who is a local legend in his home town of Jarrow, having raised money for charity through running several marathons since his 60s and still takes part in long-distance races in memory of his partner Betty.

**SUN 00:00 The Sinner (m0001jff)**  
Series 1

Episode 4

Cora regaining her memory helps Ambrose to uncover a new suspect, while Mason still blames JD for what has happened to his wife.

**SUN 00:40 Peaky Blinders (b04mlypg)**  
Series 2

Episode 4

Tommy finds out exactly what mission Major Campbell is forcing him to undertake. Arthur spearheads a ferocious takeover of London's Eden Club. Meanwhile, Polly's son Michael is welcomed into the business and quickly experiences the dark side of the Peaky Blinders.

**SUN 01:40 Peaky Blinders (b04n6zyy)**  
Series 2

Episode 5

Tommy is caught by surprise when his powerbase in London is obliterated. As Tommy struggles to save his family and regain the upper hand, May expresses her feelings for him, and he is paid a visit by an old friend.

**SUN 02:40 Peaky Blinders (b04nyw0f)**  
Series 2

Episode 6

As derby day arrives, Tommy is faced with impossible decisions as he plans to strike back at his enemies and take the family business to another level. Meanwhile, Major Campbell has one final card to play - one that he is certain will bring about Tommy's demise.

**MONDAY 21 OCTOBER 2019**

**MON 19:00 Beyond 100 Days (m0009m7q)**  
Series 1

21/10/2019

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

**MON 19:30 Pubs, Ponds and Power: The Story of the Village (b0bsrqbz)**  
Series 1

South West

Archaeologist Ben Robinson explores the Cornish fishing village of Port Isaac. Behind the quaint facade lies something far more gritty - a place where people exploited a range of natural resources, on land and at sea, to make a living and find profits far beyond Britain's shores.

**MON 20:00 American History's Biggest Fibs with Lucy Worsley (m00029m9)**  
Series 1

Supremacy

In the third and final film in the series, Lucy Worsley reveals the historic myths and deceptions told following the United States' emergence as a superpower after the Second World War. We often remember the 1950s and early 1960s in America as a golden era of abundance, harmony and the American dream made real. This film reveals that to be a carefully constructed illusion. In truth, the era of America's supremacy was a time of government deception, racial conflict and fears of nuclear annihilation.

**MON 21:00 Storyville (m0009m7s)**  
The PM, the Playboy and the Wolf of Wall Street

A Malaysian wealth fund is robbed of US\$3.5 billion. It is the world's biggest white-collar heist involving government corruption at the highest level, an abuse of power and international money laundering.

With little to go on, dogged investigative reporters from The New York Times, Wall Street Journal and Hollywood Reporter retrace the dirty money - via real estate deals and movie financing including 'The Wolf of Wall Street' - back to the top echelons of the Malaysian government.

Malaysia's prime minister and his inner circle are implicated, assets are frozen, money is seized, but the Malaysian people fight back.

**MON 22:20 The Machine Gun and Skye's Band of Brothers (b03z2d1g)**

In the summer of 1914, a company of Cameron Highlanders left Portree and sailed off to war. On the battlefields of France, these raw recruits would meet the Maxim machine gun - invented in London, and capable of firing a hellish 666 rounds per minute. The German army deployed these weapons with mathematical efficiency.

Neil Oliver examines the development of these ruthless, impersonal weapons, and the legacy they left in one Hebridean community.

**MON 23:20 The Story of China (b070p2q0)**  
The Ming

The tale of one of China's most famous dynasties begins with the amazing story of Hongwu, a peasant rebel who founded one of greatest eras in Chinese history.

The film takes us to his great capital Nanjing, with its 21 miles of walls, each brick stamped with the name of the village that made it. Following the trail, we go to the Bao family village and see the villagers act a Ming murder story. Like many authoritarian states, the Ming were obsessive about architecture. We see the giant fortifications of the Great Wall, the ritual enclaves of the Forbidden City in Beijing and travel with bargeman Mr Hu down the Grand Canal, China's great artery of commerce right up to the present day. We then hear about Admiral Zheng He's voyages to Africa and the Gulf decades before Columbus, watch the construction of an ocean-going wooden boat 250ft long, and hitch a ride on a replica Ming junk in the South China Sea.

As state prosperity grew, so did a rising middle class. Wood looks at Ming culture in Suzhou, the 'Venice of China'. Staying in a merchant's house, he discovers the silk, ceramic and lacquer-making industries, and visits one of the most beautiful gardens in the city. Then on to Macao and the arrival of Jesuit missionary Matteo Ricci, who hoped to convert China to Christianity. In the cathedral in Beijing, we learn more about these fateful exchanges with the west. Finally in Shaoxing, we visit the house of the 'Ming Proust' and at grassroots the Zhao family in Fujian where the film ends in an elegiac mood with the fall of the Ming in 1644.

**MON 00:20 Pubs, Ponds and Power: The Story of the Village (b0bsrqbz)**  
[Repeat of broadcast at 19:30 today]

**MON 00:50 Peaky Blinders (b079vtpm)**  
Series 3

Episode 1

It is Thomas Shelby's long-awaited wedding day. In the middle of the celebrations, a mysterious visitor imperils the entire Shelby family, and Tommy finds himself pulled into a web of intrigue more lethal than anything he has yet encountered.

**MON 01:50 Peaky Blinders (b07bksbb)**  
Series 3

Episode 2

Tommy discovers the extent of the mission given to him and the extreme lengths his new paymasters are willing to go to in their quest for power.

Meanwhile his own family's activities lead to escalating danger in Birmingham.

**MON 02:50 Peaky Blinders (b07cgy2)**  
Series 3

Episode 3

Responding to the Italians' actions, Tommy is set on a path of deadly vengeance. Meanwhile, as he makes plans for his mission on behalf of the Russians, he realises there is a traitor in his midst.

**TUESDAY 22 OCTOBER 2019**

**TUE 19:00 The Flying Archaeologist (b01s1llz)**  
Hadrian's Wall: Life on the Frontier

Archaeologist Ben Robinson flies over Hadrian's Wall to reveal a new view of its history. The first full aerial survey of Hadrian's Wall has helped uncover new evidence about the people who once lived there. Carried out over the last few years by English Heritage, it is allowing archaeologists to reinterpret

the wall. Across the whole landscape hundreds of sites of human occupation have been discovered, showing that people were living here in considerable numbers. Their discoveries are suggesting that far from being a barren military landscape, the whole area was richly populated before during and after the wall was built. There is also exciting new evidence that the Romans were here earlier than previously thought.

**TUE 19:30 Pubs, Ponds and Power: The Story of the Village (b0bsrqj7)**  
Series 1

London

Archaeologist Ben Robinson explores London, the ultimate 'city of villages'. Despite many rural settlements like Hornsey and Dagenham being swallowed up by the expanding capital, Hampstead residents successfully fought to preserve their village heritage. And in recent years Londoners have created a new breed of urban villages like Crouch End and Walthamstow.

**TUE 20:00 Turtle, Eagle, Cheetah: A Slow Odyssey (m0001kx4)**  
An Eagle's Flight

Take a flight on a summer morning with a white-tailed eagle around Scotland's west coast. A falconry-trained sea eagle wearing a specially designed on-board camera is the only way to glimpse the lives of these rare and protected species. From the high tops of Crois Bheinn on the remote Morvern Peninsula, the eagle traverses across beautiful rolling moors and glens, along craggy cliff faces and finally ventures towards the Sound of Mull. With a two-metre wingspan, it is the biggest bird around - but that doesn't stop it being challenged by noisy crows and ravens. After its long flight, the hungry eagle is finally drawn down to the coast by the promise of a fish. Flying through torrential rain, it dives at over 100mph to grab the fish from a coastal pool before being reunited with its handler.

**TUE 20:30 Spotlight on the Troubles: A Secret History (m0009m81)**  
Series 1

Episode 7

The story of how the Troubles ended. How the UK government policy changed, from seeking to destroy the IRA to bringing it to peace. And how secret talks, doublespeak and smart tactical manoeuvring ensured that Gerry Adams was able to persuade the IRA to go with the deal.

In this final episode of the series, reporter Darragh MacIntyre hears the inside story of the peace process from within the IRA and the British government. He discovers new information about the internal battle for control of the IRA during the most delicate days of the peace process and learns about the scale of secrecy that still surrounds the conflict.

**TUE 22:00 Contact (m0009m8n)**  
Drama about a platoon of British paratroopers on patrol in Northern Ireland.

**TUE 23:05 Bill Bailey's Jungle Hero (p0160p2p)**  
Wallace in the Spice Islands

Comedian Bill Bailey ventures to Indonesia's remote Spice Islands, in the footsteps of his hero - Victorian naturalist Alfred Wallace. Wallace was a bug collector who survived pirate attacks, boating disasters and malarial fevers to change the way we see life on earth. Independently of Charles Darwin, he came up with the theory of evolution by natural selection. But he has since been forgotten.

In the second of this two-part series, Bill encounters boggle-eyed tarsiers, monkeys with mohicans and spectacular birds of paradise on his mission to understand how Wallace cracked evolution. Ultimately Bill achieves his goal of getting Wallace the recognition he rightly deserves.

**TUE 00:05 Majesty and Mortar: Britain's Great Palaces (b0488trx)**  
Opening the Palace Doors

With the widowhood of Queen Victoria, the glorious life of palaces almost came to an abrupt end. There would be just one final flowering of palatial style just before the First World War, on an imperial scale - the redesign of Buckingham Palace and The Mall. The interwar period was a difficult time for many of Britain's best palaces, forced into a half-life of grace-and-favour accommodation for exiled royalty and aristocracy down on their luck. But more recent times would see restoration and conservation on a new scale and, with it, detective work to uncover palace secrets.

**TUE 01:05 Peaky Blinders (b07czw04)**  
Series 3

Episode 4

Tommy and Tatiana play a personal and dangerous game to acquire information from one another, and Tommy finally comprehends the magnitude of Tatiana's warped ideals.

Meanwhile, Polly reveals a dark secret, with terrible consequences for Tommy.

**TUE 02:00 Peaky Blinders (b07dwnqg)**  
Series 3

Episode 5

As the Russians test the Peaky Blinders, Tommy realises that he is being seriously outmanoeuvred. But he has an ace up his sleeve in the form of an enemy turned ally - if only he can control him.

**TUE 03:00 Peaky Blinders (b07fg86c)**  
Series 3

Episode 6

As Tommy prepares to commit the most audacious crime of his career, a blow is struck against him that could change everything. As he faces his worst fears, he needs his family more than ever - but who can he trust?

**WEDNESDAY 23 OCTOBER 2019**

**WED 19:00 Beyond 100 Days (m0009m7v)**  
Series 1

23/10/2019

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

**WED 19:30 Pubs, Ponds and Power: The Story of the Village (b0bsrqm9)**  
Series 1

East

Archaeologist Ben Robinson explores Lavenham in Suffolk, the best-preserved medieval village in the country. In the 16th century, Lavenham was one of the wealthiest places in England, becoming rich on its woollen cloth industry, but the industry declined and the wealthy abandoned Lavenham. By the 19th century it was a place of poverty, but today it is once more a jewel of a village.

**WED 20:00 Castles: Britain's Fortified History (b04v85sy)**  
Defence of the Realm

Sam Willis explores how, by the Wars of the Roses, castles were under attack from a new threat - the cannon - but survived into the Tudor era only to find their whole purpose challenged. What had once been strategic seats of power now had to keep up with the fickle fashions of the court and become palaces to impress monarchs such as Elizabeth I.

Just as castles seemed to have lost their defensive function, the English Civil War erupted. The legacy of that tumultuous period resulted in castles no longer being associated with protection. Rather, their ruins took on a unique appeal, embodying a nostalgia for an age of chivalry that became a powerful part of the national psyche.

**WED 21:00 Korea: the Never Ending War (m0009m7x)**  
Between 1950 and 1953, more than 24 nations sent troops to Korea as the opposing ambitions and ideologies of the emerging Cold War superpowers - China, Russia and the USA - fought for supremacy on the peninsula.

With first-hand testimony and new historical material, Korea: The Never Ending War retraces the history of a conflict that resulted in millions of deaths, brought the world to the brink of nuclear war, and continues to shape history to this day. The 1953 armistice brought a fragile peace to the Korean Peninsula, but the war has never officially ended and deep divisions - and the threat of nuclear conflict - remain.

**WED 22:30 The Age of Shadows (m0009m7z)**  
Period action thriller. In Japanese-occupied Seoul in the 1920s, the police try to infiltrate the Korean resistance as they plan an attack. In Korean and Japanese with English subtitles.

**WED 00:40 Peaky Blinders (b09g85kh)**  
Series 4

The Noose

December 1925. Tommy Shelby OBE (Cillian Murphy) has acquired unprecedented legitimacy. The former gangster is also a man alone, estranged from his family and focused only on business. But when he receives a mysterious letter on Christmas Eve, Tommy realises that the Shelbys are in danger of annihilation.

As the enemy closes in, Tommy flees his country house and returns to the only safe place he knows: Small Heath, Birmingham, the slum where he grew up. Facing a more determined and sophisticated threat than ever before, the Shelby family must find a way to put differences aside, work together, take up arms and fight for survival...

**WED 01:40 Peaky Blinders (b09gvn5j)**  
Series 4

Heathens

As the Shelbys come to terms with the shocking events of Christmas Day, Tommy endeavours to unite his family. Until the current threat is dealt with, their only safe place is together in Small Heath. Johnny Dogs and Charlie set about arming the locals - everyone is now a Peaky bodyguard. Tommy enlists the help of tough Romany Gypsy Aberama Gold, who wants something unusual in return.

Jessie Eden confronts Tommy about the workers' pay. She warns him that revolution is in the air, and when Tommy doesn't relent she calls his bluff. As the situation plays out, Tommy's factory manager tells him he has one more meeting - with a mysterious businessman from Paris. But what transpires is no ordinary meeting with no ordinary businessman...

**WED 02:40 Peaky Blinders (b09hc65q)**  
Series 4

Blackbird

The Italians launch another attack on the Peaky Blinders. Tommy realises that the Shelbys need to evolve if they are to survive, but some of the family are reluctant to part with tradition.

As the strike takes hold at the Lanchester factory, Tommy pays a personal visit to Jessie Eden, but he is outmanoeuvred when she reveals something she knows about his past.

Changretta plots to continue the vendetta in the most devastating way possible. As well as identifying an enemy of the Shelby family who could help him, Luca makes direct contact with someone at the heart of the Peaky Blinders organisation.

**THURSDAY 24 OCTOBER 2019**

**THU 19:00 Beyond 100 Days (m0009m81)**  
Series 1

24/10/2019

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

**THU 19:30 Top of the Pops (m0009m83)**  
Gary Davies and Nicky Campbell present the pop chart programme, first broadcast on 25 August 1988 and featuring Big Country, Jane Wiedlin, Brother Beyond, Bomb the Bass, Womack & Womack, Status Quo, Breathe, Yazz & the Plastic Population and Tanita Tikaram.

**THU 20:00 Forces of Nature with Brian Cox (b0711zww)**  
The Moth and the Flame

Professor Brian Cox shows how Earth's basic ingredients, like the pure sulphur mined in the heart of a deadly volcano in Indonesia, have become the building blocks of life. Hidden deep in a cave in the Dominican Republic lies a magical world created by the same property of water that makes it essential to life. Clinging to a precipitous dam wall in Italy, baby mountain goats seek out Earth's chemical elements essential to their survival. In the middle of the night in a bay off Japan, Brian explains how the dazzling display of thousands of glowing squid shows how life has taken Earth's chemistry and turned it into the chemistry of life.

**THU 21:00 The Secrets of Quantum Physics (b04tr9x9)**

Einstein's Nightmare

Professor Jim Al-Khalili traces the story of arguably the most important, accurate and yet perplexing scientific theory ever - quantum physics.

The story starts at the beginning of the 20th century with scientists trying to better understand how light bulbs work. This simple question led them deep into the hidden workings of matter, into the sub-atomic building blocks of the world around us. Here they discovered phenomena unlike any encountered before - a realm where things can be in many places at once, where chance and probability call the shots and where reality appears to only truly exist when we observe it.

Albert Einstein hated the idea that nature, at its most fundamental level, is governed by chance. Jim reveals how, in the 1930s, Einstein thought he had found a fatal flaw in quantum physics, because it implies that sub-atomic particles can communicate faster than light in defiance of the theory of relativity.

For 30 years, his ideas were ignored. Then, in the 1960s, a brilliant scientist from Northern Ireland called John Bell showed there was a way to test if Einstein was right and quantum mechanics was actually mistaken. In a laboratory in Oxford, Jim repeats this critical experiment. Does reality really exist or do we conjure it into existence by the act of observation?

The results are shocking!

**THU 22:00 Storyville (m0009m86)**  
On the President's Orders

The searing story of President Duterte's bloody campaign against drug dealers and addicts in the Philippines, told with unprecedented and intimate access to those on both sides of the war - the Manila police, and an ordinary family from the Calocan slums.

Shot in the style of a thriller, this observational film combines the look and feel of a narrative feature film with a real-life journalistic investigation into a campaign of killings. The film uncovers a murky world where crime, drugs and politics meet in a deadly embrace - and reveal that although the police have been publicly ordered to stop extra-judicial killings, the deaths continue.

**THU 23:00 Pain, Pus and Poison: The Search for Modern Medicines (b03ccs7k)**  
Pus

Infection can take over the entire human body, and if our immune systems aren't strong enough we will die - in fact, infectious disease has regularly wiped out millions of people across the planet. Dr Michael Mosley explores our earliest attempts to tackle infection and reveals the moment we began to harness the power of microbes to fight back. This is the story of how scientists, chemists and doctors helped us win the battle, from Louis Pasteur to Howard Florey, and how a small team of dedicated men and women wiped out one of mankind's deadliest diseases - smallpox.

**THU 00:00 Francesco's Venice (b0078ssj)**  
Sex

Francesco da Mosto continues his story of Venice with its most outrageous period of partying and licentiousness. This is the age of Casanova, the age of the courtesan - when Venice was the red-light district of Europe, attracting rich and hopeful dandies from across the continent.

Obviously the young men would come in search of art - and there was plenty for them, with Vivaldi, Canaletto and Canova at work in the city creating art on a scale never before seen. These were artists who responded directly to their public - Vivaldi churning out score after score as tourist-patrons demanded them. Canaletto painting the most upmarket postcards of the age for the growing number of rich visitors to the city, and Canova taking the human figure in marble to a level of perfection not seen since the time of Michelangelo.

Yet storm clouds were gathering and for the Venetians who saw them coming it could only seem as though the wrath of God was about to descend upon the city. The city had grown decadent and careless of its security. Guaranteed a safe haven for a thousand years by the hidden sandbanks of the lagoon, now new technology gave the enemies of Venice long-distance guns that could hit the city from beyond the shallows.

A new monster was rising in Europe - Napoleon Bonaparte, who saw Venice as rich pickings with which to fund his revolution. He would bring disaster to the city beyond any other it had known in its thousand-year history.

**THU 01:00 Peaky Blinders (b09j0hxs)**

Series 4

Dangerous

The Peaky Blinders are lured by the Italians into a cat-and-mouse chase on the streets of Birmingham, where it becomes clear that Tommy has met his match. Trapped in Small Heath, Tommy tries to console himself with a visit from an old flame but it soon becomes clear that he can't always get what he wants.

As his factory lies idle, Tommy confronts the possibility that the Communists might win and he will be deemed a traitor to his class. Meanwhile, Changretta prepares to spring another trap.

**THU 02:00 Peaky Blinders (b09jhm03)**

Series 4

The Duel

Tommy finds himself engaged in bloody battle with Luca Changretta and his gang. The family gather to find out what happened, but Lizzie has even greater news to break.

Meanwhile, an army colonel has questions for Ada about her past as a communist, and Jessie Eden confirms just how far she is prepared to go in pursuit of her cause. And sensing an opportunity to capitalise on his situation, Luca Changretta makes his way to London to present a plan to Alfie Solomons.

**THU 03:00 Peaky Blinders (b09k8gjf)**

Series 4

The Company

It is the night of the big fight - Bonnie Gold versus Goliath. But as the bell rings and the crowd goes wild, dangers lurk in the shadows for Tommy Shelby and his family.

When Changretta plays his final ace, he sets in motion a series of events that will change the Peaky Blinders forever.

**FRIDAY 25 OCTOBER 2019**

**FRI 19:00 World News Today (m0009m88)**

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

**FRI 19:30 The Live Lounge Show (m0009m8b)**

Series 3

With Stormzy

Clara Amfo takes us behind the scenes of the world-famous Radio 1 Live Lounge – showcasing the biggest names in music. Featuring Stormzy, Haim and Lewis Capaldi.

**FRI 20:00 Rock 'n' Roll America (b0623809)**

Be My Baby

In the years bookended by Buddy Holly's death in early 1959 and The Beatles landing at JFK in spring 1964, rock 'n' roll calmed down, went uptown and got spun into teen pop in a number of America's biggest cities. Philadelphia produced 'teen idols' like Fabian who were beamed around the country by the daily TV show Bandstand. Young Jewish songwriters in New York's Brill Building drove girl groups on the east coast who gave a female voice to teenage romance. Rock 'n' roll even fuelled the Motown sound in Detroit and soundtracked the sunshiny west coast dream from guitar instrumental groups like The Ventures to LA's emerging Beach Boys.

In the early 60s, rock 'n' roll was birthing increasingly polished pop sounds across the States, but American teens seemed to have settled back into sensible young adulthood. Enter the long-haired boys from Liverpool, Newcastle and London.

Featuring exclusive interviews with Jerry Lee Lewis, Ben E King, Chubby Checker, Ronnie Spector, Barrett Strong, Eric Burdon and Pat Boone.

**FRI 21:00 Top of the Pops (m0009m8d)**

Steve Wright and Mark Goodier present the pop chart programme, first broadcast on 1 September 1988 and featuring Level 42, Julio Iglesias and Stevie Wonder, Womack & Womack, Guns N' Roses, Gloria Estefan & Miami Sound Machine, Yello, a-ha, Bomb the Bass, Yaz & The Plastic Population and Phil Collins.

**FRI 21:30 K-Pop Idols: Inside the Hit Factory (m0009m8g)**

The K-Pop phenomenon is shaking up the pop world. For the first time ever, there is a serious challenge to the west's domination of the global music industry. Leading the way is the biggest boy band in the world, BTS. But how has this happened?

Music journalist James Ballardie travels to South Korea to uncover the secrets behind this worldwide success story and to find out how, in just 20 short years, the music industry in the country came from obscurity to become a major player on the world stage.

In the summer of 2019, BTS played two sold-out performance at the UK's most icon venue, Wembley Stadium. Their catchy pop songs, bombastic beats, good looks and natty dance moves have captivated young pop fans worldwide, and sent them to the top of the charts in the US and beyond.

To try and understand this latest pop explosion, James heads to Seoul and goes inside the K-pop industry. He meets Soo-Man Lee, the Svengali-like figure who has helped shape Korean pop music for over 30 years and still drives giant K-Pop company SM entertainment's vision today. He also catches up with some of the songwriters, producers, music video makers and the idols themselves, from the biggest names in the business to the newcomers. Among them are members of EXO, NCT 127, SHINee and WayV, all bands with millions of fans around the world. They are all part of a new star-studded supergroup, SuperM. Their success in Asia will be guaranteed, but can they replicate BTS's global achievements? James meets SuperM as they prepare to be launched on the world.

**FRI 22:30 One-Hit Wonders at the BBC (b05r7nxx)**

Compilation of some indelible hits by artists we hardly heard from again, at least in a chart sense. Featuring Peter Sarstedt's Where Do You Go To (My Lovely)? - a number one in 1969 and a hit he never really matched, Trio's 1982 smash Da Da Da, Phyllis Nelson's 1985 lovers rock-style classic Move Closer, and The New Radicals' 1999 hit You Get What You Give.

We travel through the years selecting some of your favourite number ones and a few others that came close, revealing what's happened to the one-off hitmakers since and exploring the unwritten laws that help make sense of the one-hit wonder phenomenon.

**FRI 23:30 Marc Bolan: Cosmic Dancer (b094mcwl)**

This intimate biography, narrated in Marc Bolan's own words, traces his remarkable journey from Hackney's 'king of the mods' to Tyrannosaurus Rex, as he evolved into the artist known as 'the hippie with a knife up his sleeve'.

With the dawn of the 1970s and the breakup of The Beatles, Bolan became the gender-bending glam rocker whose band T. Rex revitalised the British music scene. But director Jeremy Marre - incorporating unseen movies shot by record producer Tony Visconti and Marc Bolan himself - reveals a far more complex and driven figure whose life was tragically cut short, aged 29.

Featuring those who were closest to Marc, his friends, colleagues, family, partner Gloria Jones and producer Tony Visconti.

**FRI 00:30 Rock 'n' Roll America (b0623809)**

[Repeat of broadcast at 20:00 today]

**FRI 01:30 Top of the Pops (m0009m83)**

[Repeat of broadcast at 19:30 on Thursday]

**FRI 02:00 Top of the Pops (m0009m8d)**

[Repeat of broadcast at 21:00 today]

**FRI 02:30 Tones, Drones and Arpeggios: The Magic of Minimalism (b091bh10)**

Series 1

California

In this episode Charles Hazlewood tracks down the pioneers of minimalism, which began on America's west coast in the 1950s. Describing them as 'prophets without honour', Charles explores La Monte Young's groundbreaking experiments with musical form that included notes held for exceptionally long periods of time, and drones inspired by Eastern classical music and Hindustani singer Pandit Pran Nath.

He drives out into the Californian countryside to the ranch of Terry Riley and discusses the musician's revolutionary experiments with tape recording looping and phasing, along with early synthesizer sound. The episode includes excerpts from key early minimalist pieces, including Riley's now famous

In C, performed by Charles Hazlewood's All Stars Collective and detailed workshopping by Hazlewood where pieces are deconstructed musically.

The key attributes of minimalism, its reliance on repetition, its mesmerizing transcendent qualities and innovative use of technology are also discussed with broadcaster and writer Tom Service; Gillian Moore, Director of Music at the Southbank Centre; composers Morton Subotnick, Max Richter and Bryce Dessner, and musicians Jarvis Cocker and Adrian Utley.