

**SATURDAY 10 DECEMBER 2016**

**SAT 19:00 The Other Pompeii: Life and Death in Herculaneum (b01rrld8)**

Professor Andrew Wallace-Hadrill presents a documentary following the scientific investigation that shows what life was like in the small Roman town of Herculaneum, moments before it was destroyed by a volcanic eruption.

Just 10 miles from Pompeii, 12 vaults tell a new story about what life was like before the eruption of Mount Vesuvius. They contain the skeletons of 340 people, 10 per cent of the local population, killed by the volcano. Amongst them are the first new skeletons to be found in the area for 30 years which are now the subject of a ground-breaking scientific investigation. The finds included a toddler holding his dog, a two-year-old girl with silver earrings and a boy embracing his mother.

Those found inside the vaults were nearly all women and children. Those found outside on the shoreline were nearly all men. Why?

It is revealed that the local population went to their deaths not as in often portrayed in Pompeii's popular myth, but more like the passengers of the Titanic, where women and children were put first.

Professor Andrew Wallace-Hadrill takes us to meet the scientists leading the forensic project - Luca Bondioli and Luciano Fattore - and then on a tour of the town. He uncovers houses, wooden furniture (including their beds and the only surviving baby's cradle from the Roman world), and food and human waste, preserved by a layer of ash up to five times deeper than Pompeii, as well as perfectly preserved court transcripts scratched on wooden tablets telling of slaves challenging their status in the town's courts. New scientific analysis has enabled us to unearth not just what they ate, but how they ate it, it seems they had a penchant for eating fish whole including their heads, a tradition, that has survived in Herculaneum to this day.

**SAT 20:00 Pavlopetri - The City Beneath the Waves (b015yh6f)**

Just off the southern coast of mainland Greece lies the oldest submerged city in the world. It thrived for 2,000 years during the time that saw the birth of western civilisation.

An international team of experts uses cutting-edge technology to prise age-old secrets from the complex of streets and stone buildings that lie less than five metres below the surface of the ocean. State-of-the-art CGI helps to raise the city from the seabed, revealing for the first time in 3,500 years how Pavlopetri would once have looked and operated.

Underwater archaeologist Dr Jon Henderson leads the project in collaboration with Nic Flemming, the man whose hunch led to the discovery of Pavlopetri in 1967, and a team from the Hellenic Ministry of Culture. Working alongside the archaeologists are a team from the Australian Centre for Field Robotics.

The teams scour the ocean floor, looking for artefacts. The site is littered with thousands of fragments, each providing valuable clues about the everyday lives of the people of Pavlopetri. From the buildings to the trade goods to the everyday tableware, each artefact provides a window into a forgotten world.

Together these precious relics provide us with a window to a time when Pavlopetri would have been at its height, showing us what life was like in this distant age and revealing how this city marks the start of western civilisation.

**SAT 21:00 Modus (b068d7xd)**

Series 1

Episode 5

More violence is unleashed, as police begin to grapple with what they now believe is a homophobic motive. They start to trace the case back to an American organisation of religious Christian fanatics who take contracts out on homosexuals. Meanwhile, Inger Johanne enlists her past FBI experience and connections to make headway in the case.

In Swedish and English with English subtitles.

**SAT 21:45 Modus (b068rct2)**

Series 1

Episode 6

The noose is tightening around Marcus Stahl, who also finds himself unjustly suspected of murder. Meanwhile, the secret of Bishop Elisabeth Lindgren can no longer be kept under wraps, as police probe further and her widowed husband buckles under the pressure. And Inger Johanne suddenly realises there may be

a frightening connection between the killer and her daughter Stina.

In Swedish and English with English subtitles.

**SAT 22:30 Top of the Pops (b084zy8n)**

Peter Powell presents the weekly pop chart show, first broadcast on 21 December 1982. Includes appearances from The Piranhas, Toyah, The Kids from Fame, Imagination, Kool and the Gang, Bauhaus, Spandau Ballet, Culture Club, Sharon Redd and Shakin' Stevens.

**SAT 23:10 Top of the Pops (b084zy9d)**

Simon Bates presents the weekly chart show, first broadcast on 28 October 1982. Includes appearances from Raw Silk, Blue Zoo, Culture Club, Dionne Warwick, Melba Moore, The Beatles, Tears for Fears and Eddy Grant.

**SAT 23:45 Britain's Most Dangerous Songs: Listen to the Banned (b048wwlk)**

From My Little Stick of Blackpool Rock to God Save the Queen, this is the story of ten records from the 1930s to the present day that have been banned by the BBC. The reasons why these songs were censored reveals the changing controversies around youth culture over the last 75 years, with Bing Crosby and the Munchkins among the unlikely names to have met the wrath of the BBC.

With contributions from Carrie Grant, Paul Morley, Stuart Maconie, Glen Matlock, Mike Read and John Robb.

**SAT 00:45 More Dangerous Songs: And the Banned Played On (b048wvwpz)**

Compilation of songs previously banned by the BBC, including Lola by The Kinks, Jackie by Scott Walker and We Don't Need This Fascist Groove Thang by Heaven 17.

**SAT 01:45 Metal Britannia (b00r600m)**

Nigel Planer narrates a documentary which traces the origins and development of British heavy metal from its humble beginnings in the industrialised Midlands to its proud international triumph.

In the late 60s a number of British bands were forging a new kind of sound. Known as hard rock, it was loud, tough, energetic and sometimes dark in outlook. They didn't know it, but Deep Purple, Uriah Heep and, most significantly, Black Sabbath were defining what first became heavy rock and then eventually heavy metal.

Inspired by blues rock, progressive rock, classical music and high energy American rock, they synthesised the sound that would inspire bands like Judas Priest to take metal even further during the 70s.

By the 80s its originators had fallen foul of punk rock, creative stasis or drug and alcohol abuse. But a new wave of British heavy metal was ready to take up the crusade. With the success of bands like Iron Maiden, it went global.

Contributors include Lemmy from Motorhead, Sabbath's Tony Iommi, Ian Gillan from Deep Purple, Judas Priest singer Rob Halford, Bruce Dickinson from Iron Maiden and Saxon's Biff Byford.

**SAT 03:15 Metal at the BBC (b00r600p)**

Compilation of memorable heavy metal performances from BBC TV shows, including Iron Maiden, Black Sabbath, Judas Priest and Motorhead.

**SUNDAY 11 DECEMBER 2016**

**SUN 19:00 Horizon (b00pssgh)**

2009-2010

**The Secret Life of the Dog**

We have an extraordinary relationship with dogs - closer than with any other animal on the planet. But what makes the bond between us so special?

Research into dogs is gaining momentum and scientists are investigating them like never before. From the latest fossil evidence, to the sequencing of the canine genome and cognitive experiments, dogs are fast turning into the new chimps as a window into understanding ourselves.

Where does this relationship come from? In Siberia, a unique breeding experiment reveals the astonishing secret of how dogs evolved from wolves. Swedish scientists demonstrate how the human/dog bond is controlled by a powerful hormone also

responsible for bonding mothers to their babies.

Why are dogs so good at reading our emotions? Horizon meets Betsy, reputedly the world's most intelligent dog, and compares her incredible abilities to those of children. Man's best friend has recently gone one step further - helping us identify genes responsible for causing human diseases.

**SUN 20:00 Choir of the Year (b0855j28)**

2016

Josie d'Arby is joined by Julian Ovenden to present highlights from the UK's most prestigious choir competition from the Wales Millennium Centre in Cardiff. Now in its 32nd year, Choir of the Year showcases the best in amateur choral singing from across the UK. Lloyd Coleman is backstage to bring all the excitement and will be speaking to the choirs themselves.

Competing in the 2016 Grand Final are the Musical Originals Training Choir from Jersey, The White Rosettes from Leeds, The Rainbow Connection Singers from Doncaster, Cŵr y Cwm from the Rhondda Valley, Johns' Boys from Rhoslanerchrugog and Voices of Hope from Newcastle.

Who will impress the jury and walk away with the ultimate choral accolade?

**SUN 21:30 The Flying Archaeologist (b01s1czf)**

Norfolk Broads

Archaeologist Ben Robinson flies over the Broads where aerial photos have discovered a staggering 945 previously unknown ancient sites. Many are making historians rethink the history of the area.

The fate of the Roman town of Caistor St Edmund has puzzled archaeologists for decades. It's long been a mystery why the centre never became a modern town. Now archaeologists have discovered a key piece of evidence. And near Ormsby, the first proof of Bronze Age settlement in the east of England has been revealed.

**SUN 22:00 The Sky at Night (b0857syb)**

Review of the Year

2016 has been a remarkable year in many ways, but one area in which it has been particularly good is in space science. There have been new missions to Jupiter and Mars, planets have been found on the outskirts of the solar system and around our nearest neighbouring star, and the discovery of gravitational waves has potentially given us a new way of investigating the universe.

In this episode, the Sky at Night team looks back on the major stories of the year and sees how they have developed since they hit the headlines. What has the Juno probe discovered at Jupiter? Has Planet 9 been found? And are we any closer to finding Earth-like planets elsewhere in the galaxy?

**SUN 22:30 Horizon (b013pnv4)**

2011-2012

**Seeing Stars**

Around the world, a new generation of astronomers are hunting for the most mysterious objects in the universe. Young stars, black holes, even other forms of life.

They have created a dazzling new set of supertelescopes that promise to rewrite the story of the heavens.

This film follows the men and women who are pushing the limits of science and engineering in some of the most extreme environments on earth. But most strikingly of all, no-one really knows what they will find out there.

**SUN 23:30 How to Build... a Nuclear Submarine (b00syt1w)**

Fourteen years in the making and costing over a billion pounds, the Astute nuclear submarine is one of the most technologically advanced machines in the world, and for over a year the BBC filmed its construction inside one of the most secure and secret places in the country.

An amazing piece of British engineering or a controversial waste of tax payers' money? This documentary allows viewers to make up their own minds.

Among many of the workers, the film features Erin Browne, a 19-year-old apprentice electrician who wires up the boat; Commander Paul Knight, responsible for the safety of the nuclear reactor; and Derek Parker, whose job involves moving massive pieces of the submarine that weigh hundreds of tons into position before the welding team join them together.

Amazing computer graphics take us inside the construction of the submarine itself, giving a blueprint of the design, the life support systems and the weaponry, and help illustrate the areas that national security precluded filming in.

The story also takes a dramatic turn when an unforeseen event means the submarine has to sail into the open sea - for the first time - during one of the wettest and windiest weekends of the year.

**SUN 00:30 Storyville (b05nyy9)**  
Masterspy of Moscow - George Blake

He said he was doing God's work on earth, but betrayed his colleagues to the KGB. Sentenced to 42 years in jail, George Blake escaped from Wormwood Scrubs five years later and fled to the Soviet Union. George Carey's film follows the strange life of this enigmatic traitor, tracking down people who knew him, and ending with an unexpected encounter in the woods outside Moscow.

**SUN 02:00 Monkey Planet (p01s0zg9)**  
Master Minds

There's one thing that sets us primates apart from most other families on the planet, and that's a flexible mind. Our primate cousins are much smarter than you might imagine. Just like us they use tools, solve problems and even have emotions. Monkey Planet discovers how these animals are individuals with a sense of self and why brainpower is essential to primate survival.

In Thailand, long-tailed macaques floss their teeth with human hair and use tools to open oysters on the beach. In Uganda, chimps pass on cultures and customs through generations. George McGavin goes to orangutan school in Sumatra and meets a bonobo in the States who can order his own picnic on a smart phone and toast marshmallows in a fire he makes himself.

**SUN 03:00 The Other Pompeii: Life and Death in Herculaneum (b01rrld8)**  
[Repeat of broadcast at 19:00 on Saturday]

**MONDAY 12 DECEMBER 2016**

**MON 19:00 World News Today (b0850zd8)**  
The latest national and international news, exploring the day's events from a global perspective.

**MON 19:30 The River Taff with Will Millard (b0705d04)**  
Series 1

Episode 2

Writer and fisherman Will Millard travels the length of the wild River Taff in South Wales, from its source high in the stunning Brecon Beacons to the Bristol Channel. He explores how the coal industry changed this beautiful landscape and its people forever. The river once ran black with coal dust but is now one of the finest trout and salmon rivers in Wales. Will meets the members of the Lewis Merthyr Colliery Brass Band and fishes for grayling with a former miner who is now a champion fly-fisherman. He visits one of Britain's biggest open-cast coal mines and sees how this spectacular landscape is being reclaimed after centuries of mining.

**MON 20:00 Digging for Britain (b084xym3)**  
Series 5

West

Professor Alice Roberts presents the very best in British archaeology 2016 - filmed by the archaeologists themselves, straight from the trenches, so you can see each exciting discovery as it happens. The teams then bring their best finds - from skeletons to treasure - back to the Digging for Britain lab, to examine them with Alice and reveal how they are changing the story of Britain.

This episode looks at the west of Britain, and archaeologists are in the lab to look at the new finds and what they mean.

Finds include the lost World War I training trenches on Salisbury Plain, Britain's first 'double henge' - discovered just down the road from Stonehenge, where the evidence suggests our ancestors feasted and made sacred offerings as part of a visit to the ritualistic Stonehenge landscape, and luxury foreign goods discovered at Tintagel, the legendary childhood home of King Arthur.

**MON 21:00 Time Commanders (b084xym1)**  
Episode 1

Hosted by Gregg Wallace, a show in which ordinary members of the public go toe to toe with the greatest generals, as they refigure some of the most significant battles from history in an innovative mix of genuine history and game show competition.

It's 202 BCE and Rome has had enough of the upstart Carthaginian, Hannibal. Desperate to end his 16-year campaign of war against the Republic, one of its greatest ever generals, Scipio, is charged with freeing Italy of this menace. Scipio elects to fight Hannibal in his homeland - forcing him to return to Africa to protect the city of Carthage itself. This time, a team of wrestlers will attempt to rewrite history by defeating Scipio and keeping him from taking Carthage. As Hannibal and his Carthaginians, they'll be defending their home town. Up against them, a team of historical board game enthusiasts taking on the role of Romans in a fight that will set the course of European history for centuries to come.

**MON 22:00 The Richest Songs in the World (b01pjrt5)**  
Mark Radcliffe presents a countdown of the ten songs which have earned the most money of all time - ten classic songs each with an extraordinary story behind them. Radcliffe lifts the lid on how music royalties work and reveals the biggest winners and losers in the history of popular music.

**MON 23:30 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 happened to the one-off hitmakers since and exploring the unwritten laws that help make sense of the one-hit wonder phenomenon.

**MON 00:30 Dan Cruickshank's Adventures in Architecture (b00brpqp)**  
Pleasure

In the final episode, Dan explores how architecture gives us pleasure - both to its creators and to the people who enjoy the buildings today.

In India, Dan visits one of the world's greatest and most luxurious hotels, the Taj in Mumbai. Like a palace sitting at the ocean's edge, the hotel is a vision from the age of the great maharajahs and the British raj, a spectacular fusion of east and west. And in Germany, Dan goes to the Schloss Neuschwanstein, a fantasy castle created by one of history's most outrageous monarchs, King Ludwig II. Even today it is the stuff of fantasy for the many millions of visitors who reach its heights in the Bavarian mountains.

Moving to Italy, Dan celebrates the hedonism and excess of ancient Pompeii - visiting the oldest brothel in the world. He then heads for Brazil and the Amazon basin to find opera at the heart of the rainforest - the opera house at Manaus. Built on the back of the rubber trade, the pleasure it brings is a painful mix for the people of the region.

And finally Dan explores the Villa Barbaro, one of the world's most beautiful country houses where pleasure was deemed to be created by perfect architecture and perfect architecture was arrived at by mathematical proportion - designed by the world's greatest architect, Andrea Palladio.

**MON 01:30 Time Commanders (b084xym1)**  
[Repeat of broadcast at 21:00 today]

**MON 02:30 The Richest Songs in the World (b01pjrt5)**  
[Repeat of broadcast at 22:00 today]

**TUESDAY 13 DECEMBER 2016**

**TUE 19:00 World News Today (b0850zd8)**  
The latest national and international news, exploring the day's events from a global perspective.

**TUE 19:25 DEC Yemen Crisis Appeal (b088c51j)**  
Clare Balding presents a Yemen Crisis Appeal on behalf of the DEC, the Disasters Emergency Committee. Nearly two years of conflict has devastated Yemen; now 7 million people do not know where their next meal will come from and children are dying from malnutrition. The DEC has launched this urgent appeal to raise funds so they can provide life-saving food, clean water and medical supplies.

You can give by calling 0370 60 60 900 (standard geographic charges from landlines and mobiles will apply) or send a cheque payable to DEC Yemen Crisis Appeal to PO Box 999, London EC3A 3AA.

**TUE 19:30 The River Taff with Will Millard (b07048y)**  
Series 1

Episode 3

Writer and fisherman Will Millard reaches the end of his journey down the River Taff in south Wales. This beautiful wild river, once neglected and polluted, has now come back to life. Will goes wild swimming with a group of eccentrics trying to change the image of this forgotten river. He meets retired Somali sailors drawn to Cardiff in the city's glory days as a thriving port and tells the story of how the industrial docks have been transformed. Finally, he sets out to catch the king of fish, migratory salmon returning to the river where they were born.

**TUE 20:00 How the Wild West Was Won with Ray Mears (b044j70)**  
Mountains

Ray Mears looks at how the landscapes of America's three great mountain ranges - the Appalachians, the Rockies and the Sierra Nevada - challenged the westward push of the early pioneers.

As Ray travels through each landscape he discovers how their awe-inspiring geography, extreme weather, wild animals and ecology presented both great opportunities and great challenges for the native Indians, mountain men, fur traders, wagon trains and gold miners of the Wild West.

Ray begins his westward journey in the Appalachians where he explores how their timbered slopes fuelled the lumber industry and provided the fuel and building material for the emerging nation. Native Appalachian Barbara Woodall and lumberjack Joe Currie share their family history with him, and he gets to grips with the rare 'hellbender' salamander.

Further west, in the high jagged peaks of the Rocky Mountains, Ray goes mule trekking with modern-day mountain man Stu Sorenson and he has close encounters with beaver, elk and black bear.

Finally, in the desert mountains of the Sierra Nevada, he explores the tragic story of the Donner Party wagon train whose members allegedly turned to cannibalism to survive. His journey ends as he pans for gold with modern day gold prospector John Gurney, and explores the boom and bust story of ghost town, Bodie.

**TUE 21:00 Digging for Britain (b0851gnz)**  
Series 5

North

Professor Alice Roberts with the very best in British archaeology 2016 - filmed by the archaeologists themselves, straight from the trenches, so you can see each exciting discovery as it happens. The teams then bring their best finds - from skeletons to treasure - back to the Digging for Britain lab, to examine them with Alice and reveal how they are changing the story of Britain.

This episode is from the north of Britain, where finds include: evidence for the first Roman siege in Britain, including the biggest cache of Roman bullets discovered anywhere; Britain's most famous monastery - Lindisfarne - rediscovered for the first time since it was violently sacked by the Vikings 1,000 years ago; and the incredible discovery of the ancient Scottish man-made islands that entirely rewrite our understanding of Stone Age tech.

**TUE 22:00 The Inca: Masters of the Clouds (b04xdpjj)**  
Foundations

Dr Jago Cooper reassesses the achievements of the Inca Empire. He begins in Peru, where evidence is still being uncovered that challenges preconceptions about its origins and significance. Venturing from the coast to the clouds, he reveals how the Inca transformed one of the most challenging landscapes in the world to ward off the worst effects of the climate, and created sophisticated systems of communication. He shows how one of many independent societies became a commanding empire - not through force, but by using subtle methods of persuasion.

**TUE 23:00 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.

**TUE 00:00 Horizon (b00pssgh)**  
[Repeat of broadcast at 19:00 on Sunday]

**TUE 01:00 Pavlopetri - The City Beneath the Waves (b015yh6f)**  
[Repeat of broadcast at 20:00 on Saturday]

**TUE 02:00 The Inca: Masters of the Clouds (b04xdpjj)**  
[Repeat of broadcast at 22:00 today]

**TUE 03:00 Digging for Britain (b0851gnz)**  
[Repeat of broadcast at 21:00 today]

**WEDNESDAY 14 DECEMBER 2016**

**WED 19:00 World News Today (b0850zqd)**  
The latest national and international news, exploring the day's events from a global perspective.

**WED 19:30 Commonwealth on Film (b0486px4)**  
Work

A look at how film-makers over the decades have captured the rich diversity of the Commonwealth and the work that people do, from Trinidad to Australia, Kenya to Barbados, Canada, India and beyond.

**WED 20:00 Britain's Treasure Islands (b07882lk)**  
Southern Ocean

Stewart McPherson continues his quest to visit all of the UK's Overseas Territories.

His second journey begins on Tristan da Cunha, the most remote inhabited island on earth and home to the entire world population of a spectacular albatross. From here, he travels to the Falkland Islands, coming face to face with a fearsomely intelligent bird of prey, and arrives in Stanley, the capital, in time for celebrations following the referendum in which the islanders decided overwhelmingly to remain part of Britain.

Leaving the Falklands, he follows in the wake of Shackleton and his ill-fated Antarctic expedition, first to South Georgia to witness one of the greatest wildlife spectacles on the planet, then on to the frozen wilderness of the Antarctic peninsula.

**WED 21:00 Inside Porton Down: Britain's Secret Weapons Research Facility (b07hx40t)**

Dr Michael Mosley investigates Britain's most secretive and controversial military research base, Porton Down, on its 100th anniversary. He comes face to face with chemical and biological weapons old and new, reveals the truth about shocking animal and human testing, and discovers how the latest science and technology are helping to defend us against terrorist attacks and rogue nations.

**WED 22:00 Britain's Deadliest Rail Disaster: Quintinshill (b05vqx7v)**

On 22 May 1915, a collision at the Quintinshill signal box, near Gretna, became Britain's deadliest ever rail crash. Involving a military train filled with troops - most of whom were from Leith - heading for Gallipoli and two passenger trains, the crash claimed an estimated 226 lives and left hundreds more injured.

The duty signalmen, George Meakin and James Tinsley, were found responsible for the disaster and were both jailed on the charges of culpable homicide.

Neil Oliver explores the series of mistakes that may have caused the collision, the part played by the train companies and the government, and determines whether the investigation would have come to the same conclusions if it were carried out today. Dramatised reconstructions add to this compelling account of a tragedy which had a profound effect on several communities in Scotland, and remains the deadliest in the annals of Britain's railways.

Britain's Deadliest Rail Disaster: Quintinshill is a Finestripe Productions programme for BBC Scotland.

**WED 23:00 Timeshift (b00nf0nl)**  
Series 9

The Golden Age of Liners

Paul Atterbury embarks on an alluring journey into the golden age of ocean liners, finding out how these great ships made such a mark on the popular imagination and why they continue to enchant to this day.

Paul's voyage takes him around Britain and reveals a story of design, politics, propaganda, Hollywood glamour and tragedy. Along the way, he uncovers some amazing survivals from the liners of the past - a cinema in Scotland built from the interiors of the SS Homeric, a house in Poole in which cabins from the Mauretania are lovingly preserved - as well as the design inspiration behind the first great liners.

**WED 00:00 Britain's Treasure Islands (b07882lk)**  
[Repeat of broadcast at 20:00 today]

**WED 01:00 How the Wild West Was Won with Ray Mears (b044j170)**  
[Repeat of broadcast at 20:00 on Tuesday]

**WED 02:00 Britain's Deadliest Rail Disaster: Quintinshill (b05vqx7v)**  
[Repeat of broadcast at 22:00 today]

**WED 03:00 Inside Porton Down: Britain's Secret Weapons Research Facility (b07hx40t)**  
[Repeat of broadcast at 21:00 today]

**THURSDAY 15 DECEMBER 2016**

**THU 19:00 World News Today (b0850zdw)**  
The latest national and international news, exploring the day's events from a global perspective.

**THU 19:30 The Sky at Night (b0857syb)**  
[Repeat of broadcast at 22:00 on Sunday]

**THU 20:00 Natural World (b00z7x5h)**  
2010-2011

The Last Grizzly of Paradise Valley

Canadian wildlife film-maker Jeff Turner returns to his roots and embarks on a beautiful and lyrical exploration of the wildlife around his home in the Cascade Mountains of southwestern British Columbia. Tracking the wildlife through the four seasons of one year, he encounters many animals from his childhood including black bears, a family of osprey, coyotes and mule deer. But the animal he most wants to find and film is one of the few remaining grizzly bears that still survive in these mountains.

**THU 21:00 Vienna: Empire, Dynasty and Dream (b0851kfd)**  
Episode 2

Simon Sebag Montefiore tells the story of Vienna, triumphant after the Ottoman threat receded at the end of the 17th century. No longer an outpost defending the west from Islamic invaders, the imperial capital was to become the most glittering in the world. The Habsburg emperors transformed the city from a fortress into a great cultural capital. Vienna became a city that would define the arts: a magnet for musicians, including Mozart, Haydn and Beethoven.

**THU 22:00 Project Children: Defusing the Troubles (b084kz8n)**

The extraordinary untold story of how an NYPD bomb-disposal expert played an important role in helping defuse the decades-old Troubles in Northern Ireland by bringing vulnerable children to America for a summer of peace. Featuring an exclusive contribution from Bill Clinton. Narrated by Liam Neeson.

**THU 23:30 Colour: The Spectrum of Science (b06pm718)**  
Beyond the Rainbow

We live in a world ablaze with colour. Rainbows and rainforests, oceans and humanity, earth is the most colourful place we know of. But the colours we see are far more complex and fascinating than they appear. In this series, Dr Helen Czerski uncovers what colour is, how it works, and how it has written the story of our planet.

The colours that we see are only a fraction of what's out there. Beyond the rainbow there are colours invisible to our eyes. In

this episode, Helen tells the story of scientific discovery. To see the universe in a whole new light, she takes to the skies in a NASA jumbo jet equipped with a 17-tonne infrared telescope.

We can't see in ultraviolet, but many animals can. Helen explores what the world looks like to the birds and the bees. With the discovery of x-rays we could look inside ourselves in ways that previously had only been possible after death. Today those same x-rays allow us to examine life at the atomic level, helping to develop new drugs and better materials. Ultimately, by harnessing all the colours there are, researchers are beginning to image the human body as never before, revealing new ways to treat disease.

**THU 00:30 Horizon (b013pnv4)**  
[Repeat of broadcast at 22:30 on Sunday]

**THU 01:30 Natural World (b00z7x5h)**  
[Repeat of broadcast at 20:00 today]

**THU 02:30 Vienna: Empire, Dynasty and Dream (b0851kfd)**  
[Repeat of broadcast at 21:00 today]

**FRIDAY 16 DECEMBER 2016**

**FRI 19:00 World News Today (b0850zf1)**  
The latest national and international news, exploring the day's events from a global perspective.

**FRI 19:30 Top of the Pops (b085kyh)**  
David Jensen presents the weekly pop chart show, first broadcast on 11 November 1982. Includes appearances from Blue Zoo, A Flock of Seagulls, Clannad, Dionne Warwick, Donna Summer, Marvin Gaye, Eddy Grant and Zoo.

**FRI 20:00 The Good Old Days (b0855q76)**  
Leonard Sachs presents an edition of the old time music hall programme, first broadcast on 3rd February 1977. With Barbara Windsor, Norman Collier, Valerie Masterson, Jan Hunt and members of the Players' Theatre, London.

**FRI 21:00 The Dave Clark Five and Beyond: Glad All Over (b053d7jl)**  
Three British bands defined the British Invasion of 1964 which changed America. The Beatles, The Rolling Stones and The Dave Clark Five.

Fifty years later this film tells the story of The Dave Clark Five, their emergence from working-class Tottenham, their unique sound, their close friendship, their self-managed business philosophy and the youthful exuberance with which they captured the USA.

Testifying to the lasting impact of the band and what made them unique in an era of brilliant, game-changing creativity, Dave Clark's two-hour documentary features newly-filmed interviews with Sir Paul McCartney, Sir Elton John, Sir Ian McKellen, Stevie Wonder, Sharon and Ozzy Osbourne, Bruce Springsteen, Steven van Zandt of The E Street Band, Gene Simmons of Kiss, Whoopi Goldberg, Dionne Warwick and Twiggy.

Interwoven throughout, boyhood fan Tom Hanks's inspirational and moving speech at the DC5's Rock & Roll Hall of Fame induction ceremony in 2008 explains what five guys from north London and the Tottenham Sound meant to Hanks's generation. As well as barnstorming live and TV performances by the DC5, the film weaves archive interviews with band members alongside extraordinary footage of The DC5 on tour and in the studio and also features rare TV footage from the legendary Ready Steady Go! series, where The DC5's fellow pop pioneers The Beatles, The Rolling Stones, The Who, Dusty Springfield, Stevie Wonder, The Supremes, Martha Reeves and the Vandellas, Marvin Gaye and Otis Redding highlight a time of unparalleled excitement and innovation. This film captures the youth, innocence and zany zest of the swinging 60s and The Dave Clark Five's driving role in those years.

And beyond the 60s? Unseen archive interviews and performances with Sir Laurence Olivier and Freddie Mercury feature among the rare footage telling the story of TIME, the spectacular, innovative and visionary rock musical with which producer and entrepreneur Dave Clark reinvented London's live music theatre in the 80s, playing to over a million people and spinning off 12 million record sales.

**FRI 22:55 Dusty Springfield at the BBC (b01qyvw7)**  
A selection of Dusty Springfield's performances at the BBC from 1961 to 1995. Dusty was one of Britain's great pop divas,

guaranteed to give us a big melody in songs soaring with drama and yearning.

The clips show Dusty's versatility as an artist and performer and include songs from her folk beginnings with The Springfields; the melodrama of *You Don't Have to Say You Love Me*; Dusty's homage to Motown with *Heatwave* and *Nowhere to Run*; the Jacques Brel song *If You Go Away*; the Bacharach and David tune *The Look of Love*; and Dusty's collaboration with Pet Shop Boys in the late 1980s.

There are also some great duets from Dusty's career with Tom Jones and Mel Tormé.

**FRI 23:55 Doris Day - Virgin Territory (b0074rwd)**

Doris Day has often been dismissed as an actress and overlooked as a singer, despite career highs such as *Calamity Jane* and *Pillow Talk*. Covering her early years as a band singer, and her troubled private life, this documentary re-evaluates one of the screen's most enduring legends.

**FRI 00:55 Top of the Pops (b085ykyh)**

[Repeat of broadcast at 19:30 today]

**FRI 01:30 Definitely Dusty (b00780bt)**

Documentary looking at the life and work of soul and pop diva Dusty Springfield, singer of such classics as *You Don't Have to Say You Love Me* and *Son of a Preacher Man*, who was equally famous for her trademark panda eyes and blonde beehive.

Using archive footage and interviews shot in the UK and the US, it charts her progress from plain Catholic schoolgirl to glamorous star and ventures behind the extravagant image to reveal a complex and vulnerable character.

Featuring interviews with fellow musicians from a career spanning four decades, including Elton John, Burt Bacharach, Neil Tennant, Lulu and Martha Reeves.

Dusty's protective inner circle of friends have never spoken about her on camera before. Pat Rhodes, Dusty's personal secretary for her entire solo career, her manager Vicky Wickham, ardent fan-turned-backing singer Simon Bell and others talk about the highs and lows of the woman they knew and loved.

**FRI 02:25 Dusty Springfield at the BBC (b01qyvw7)**

[Repeat of broadcast at 22:55 today]