

SATURDAY 09 DECEMBER 2017

SAT 19:00 Ancient Egypt - Life and Death in the Valley of the Kings (p01538rx)
Original Series

Death

What was it like to live and die in ancient Egypt, 3,500 years ago? Egyptologist Dr Joann Fletcher goes on a fascinating journey in search of people like us - not the great Pharaohs but the ordinary people who built and populated this incredible ancient civilisation.

This episode reveals a strange and mysterious world - the ancient Egyptian afterlife. To them life was just a dress rehearsal for the perfect afterlife they were trying to reach. Joann clambers into rarely visited tombs, explores a treasure trove of long-buried objects and examines spectacular mummies to discover just why the Egyptians spent a fortune preparing for death - and what they hoped to find when they got there.

SAT 20:00 Kolkata with Sue Perkins (p02z81fq)
Sue Perkins immerses herself in the complex life of Kolkata. She sees first-hand how it has evolved from a place notorious for its fabled 'Black Hole' dungeon and the dreadful poverty of its street people to a place reinventing itself as a vibrant new megacity, with a booming property sector and a reputation for eccentricity, culture and tolerance.

In this intricate human habitat, Sue explores the lives of its people, from the 250,000 homeless street kids hustling for a living to the wealthy young entrepreneurs who race their Ferraris and Lamborghinis down the streets of the New Town.

She joins the rickshaw wallahs navigating the chaotic city streets and narrow lanes, thronged with people, and descends into Kolkata's Victorian sewers as part of an epic clean-up. She limbers up with the ladies of the Laughing Club and makes an offering to the goddess in the sacred Kalighat Temple.

No other city tells the remarkable story of India more clearly than the beautiful, crazy, colourful city of Kolkata. Through encounters with people from every strata of society, from the richest to the poorest, Sue paints a picture of contemporary India emerging from a brutal colonial past to take its place among the most powerful nations on earth.

SAT 21:00 Witnesses (b09j2vqd)
A Frozen Death

Episode 5

Antoine's car is found on the side of the road in the middle of a forest, but there is no trace of Antoine himself. Sandra is still on the run with Catherine, as the two try to figure out who Martin Souriau is covering for and extract information from him to lead them to the killer, and to Catherine's missing baby. Meanwhile, police uncover the identity of the second killer.

In French with English subtitles.

SAT 21:55 Witnesses (b09j2vqg)
A Frozen Death

Episode 6

Sandra investigates the Mount St Michel orphanage, and discovers an old group photo of the children who once lived there. She decides to track down each of the children. Is she starting to close in on the killer?

In French with English subtitles.

SAT 22:55 The Vietnam War (b097ts0d)
Series 1

Things Fall Apart (January 1968-June 1968)

On the eve of the Tet holiday, North Vietnamese and Viet Cong forces launch surprise attacks on cities and military bases throughout the South, suffering devastating losses but casting grave doubt on promises from the Johnson administration that there is 'light at the end of the tunnel.' The president decides not to run again and the country is staggered by assassinations and unrest.

SAT 23:45 What a Performance! Pioneers of Popular Entertainment (b06s5zw9)
Variety Finds a New Home

In the third programme of this insightful and entertaining series about the history of popular entertainment, comedian Frank

Skinner and music presenter Suzy Klein examine what happened to British popular entertainment - its stars and its audiences - during the Second World War and beyond.

They explore how it braved challenges from an American invasion called rock and roll, a whole lot of nudity and how, in the 50s, it faced its biggest threat as a new form of entertainment appeared in our living rooms. They bring the period wonderfully alive by studying the lives and acts of some of the major stars of popular entertainment of the day, and recreate in a final performance an act close to their hearts. For Suzy, this means attempting to replicate the formidably powerful sound of American supergroup the Andrews Sisters - an act she has loved since she a child. Frank takes on an act a little closer to home - Max Miller was a legendary British comic, who went on to influence generations of stand-ups, Frank included.

SAT 00:45 Peaky Blinders (p01fj94w)
Series 1

Episode 1

Birmingham, 1919. Thomas Shelby controls the Peaky Blinders, one of the city's most feared criminal organisations, but his ambitions go beyond running the streets.

When a crate of guns goes missing, Thomas recognises an opportunity to move up in the world.

SAT 01:45 Peaky Blinders (b03bgw2m)
Series 1

Episode 2

Birmingham, 1919. Thomas Shelby controls the Peaky Blinders, one of the city's most feared criminal organisations, but his ambitions go beyond running the streets.

Thomas fixes a horse race, provoking the ire of local kingpin Billy Kimber. He also starts a war with gypsy family the Lees. Meanwhile, Inspector Campbell carries out a vicious raid of Small Heath in search of the stolen guns.

SAT 02:45 Peaky Blinders (b03bsw9p)
Series 1

Episode 3

Thomas Shelby plans to go to Cheltenham races in order to get closer to Billy Kimber. Knowing the gangster's appetite for beautiful women, Thomas invites Grace to accompany him.

Meanwhile some IRA sympathisers approach Thomas with an offer to buy the stolen guns.

SUNDAY 10 DECEMBER 2017

SUN 19:00 Only Connect (b09gvgj6)
Series 13

Dandies v Beaks

Victoria Coren Mitchell hosts the series where knowledge will only take you so far. Patience and lateral thinking are also vital.

The Dandies and Beaks return for this second-round game. They compete to draw together the connections between things which at first glance, seem utterly random. So join Victoria if you want to know what connects Something's Got to Give, The Athenaeum Portrait, The Last Tycoon and Schubert's Symphony No 8.

SUN 19:30 University Challenge (b09j0ndv)
2017/18

Episode 20

Two more student teams fight it out in the second round to get through to the quarter-final stage of the competition. Jeremy Paxman asks the questions.

SUN 20:00 Young, Gifted and Classical: The Making of a Maestro (b083d749)

Sheku Kanneh-Mason made history in 2016 when he became the first black winner of the BBC Young Musician competition. Sheku has six musically gifted siblings and this film explores their extraordinary talents and issues of diversity in classical music.

We follow Sheku and his brothers and sisters and examine the sacrifices that parents Stuart and Kadie make in order to

support their children in pursuing their musical dreams. Told through the prism of family life we get an understanding of what it is that drives this family to be the best musicians they can be.

At the heart of the story is 17-year-old Sheku, and we see him coming to terms with his Young Musician win and the pressures and opportunities it brings. His life is changing dramatically as he now has to learn to deal with the challenges of becoming a world-renowned cellist.

He gets advice from those who have trodden this path already, including international violinist Nicola Benedetti and renowned cellist Julian Lloyd Webber, discovering what it takes to be a famous international solo musician.

The documentary culminates with Sheku's biggest performance to date, playing at the world-famous Royal Festival Hall in London, with Britain's first all-black and ethnic minority orchestra, Chineke!. As the preparations for this groundbreaking concert begin, the film explores what it means to be a young, black, classical musician in today's society.

SUN 21:00 Leonora Carrington: The Lost Surrealist (b09j0lp9)

British surrealist Leonora Carrington was a key part of the surrealist movement during its heyday in Paris and yet, until recently, remained a virtual unknown in the country of her birth. This film explores her dramatic evolution from British debutante to artist in exile, living out her days in Mexico City, and takes us on a journey into her darkly strange and cinematic world.

SUN 22:00 The Sky at Night (b09jc0ys)
Wonders of the Night Sky

The Sky at Night celebrates one of the most profound, moving and enjoyable activities there is - the ancient art of looking up, studying and marvelling at the night sky. The programme is based at the Royal Observatory, Greenwich - the spiritual home of British astronomy - and sets out to discover the many and varied ways we can all enjoy the majesty of the skies.

Maggie Aderin-Pocock travels to Norway to see the northern lights, and discovers that we are in a golden age of aurora research as she learns what they tell us about the solar system. Chris Lintott learns the ancient art of navigating by the stars, whilst Pete Lawrence helps choose the right equipment to set yourself up as an amateur astronomer. This is your guide to observing and enjoying all the Wonders of the Night Sky.

SUN 22:30 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 23:30 Secret Knowledge (b036qfcy)
Walter Scott's Castle

Novelist, poet and all-round cultural impresario Sir Walter Scott is renowned for inventing many of the myths of Scotland that still dominate how the country is imagined. His home in the Scottish Borders, Abbotsford House, brilliantly brings to life his romantic views of Scotland.

In the run-up to the reopening of Abbotsford House Scott-fan Stuart Kelly gets exclusive behind-the-scenes access as over 13,000 treasures are moved back into the strange and wonderful building. Exploring some newly discovered secret corners Stuart finds out just how controversial the bizarre building and the man who built it remain.

SUN 00:00 Britain's Lost Waterlands: Escape to Swallows and Amazons Country (b07k18jf)

Documentary which follows presenters Dick Strawbridge and Alice Roberts as they explore the spectacular British landscapes that inspired children's author Arthur Ransome to write his series Swallows and Amazons.

The landscapes he depicted are based on three iconic British waterlands. The beauty and drama of the Lake District shaped by ancient glaciers and rich in wildlife and natural resources, the shallow man-made waterways of the Norfolk broads so crucial to farming and reed production, and the coastal estuaries and deep-water harbours of the Suffolk coastline shaped by ferocious tides and crucial to trade.

Engineer and keen sailor Dick uses vintage boats to explore the

landscapes and meet people whose lives are shaped by the water, while wildlife enthusiast Alice explores the rich shorelines, interrogating the underlying geography and meeting the wildlife. Together they evoke the nostalgia of Ransome's writing and a bygone era of childhood freedom and adventure, but they also explore the economic significance of these special locations and the ways in which water was harnessed to change the course of British history.

SUN 01:00 Peaky Blinders (b03c58wp)

Series 1

Episode 4

Thomas Shelby's war with the Lee family of gypsies escalates and Campbell puts further pressure on him to deliver the stolen guns. Meanwhile, Thomas's brother John plans to marry a former prostitute, but Thomas suspects that she's still on the game.

SUN 02:00 Peaky Blinders (b03cntw3)

Series 1

Episode 5

Thomas Shelby has to deal with an IRA chief who has come to Small Heath to avenge his cousin's death. Meanwhile, Campbell gets closer to the stolen guns, and Grace has to decide whether her loyalties lie with him or with Thomas.

SUN 03:00 Peaky Blinders (b03dwq3x)

Series 1

Episode 6

As Thomas Shelby prepares to oust Billy Kimber, hidden secrets are revealed and the family have to face up to the problems that have divided them. Meanwhile, Campbell, obsessed with taking down the Peaky Blinders, unleashes one last plan to destroy them.

MONDAY 11 DECEMBER 2017

MON 19:00 Beyond 100 Days (b09j0kpf)

Series 1

11/12/2017

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

MON 19:30 University Challenge (b086y3hp)

Christmas 2016

Manchester v St Anne's, Oxford

In the opening match of the series, a University of Manchester team featuring poet Simon Armitage and author Sarfraz Manzoor takes on a St Anne's College, Oxford side that includes Dame Mary Archer and broadcaster Janina Ramirez.

Jeremy Paxman asks the questions.

MON 20:00 Mexico: Earth's Festival of Life (b08r78bv)

Series 1

Forests of the Maya

The ancient temples of the Maya still tower over the forests of the Yucatan, where jaguars, monkeys and vibrant tropical birds now make their home. It's a forest full of secrets, with a vast watery underworld that is still being explored and which holds the key to how animals and people survive the dry season.

MON 21:00 The Art That Made Mexico: Paradise, Power and Prayers (b09j2vvp)

Series 1

Power

Alinka Echeverria reveals how artists became the authors of Mexico's official history, defining the origins of its power and wielding significant influence over millennia.

Following the Mexican Revolution that began in 1910, landscape paintings established a new style that was resolutely Mexican, and confirmed the re-established connections between Mexico's indigenous population and their land. Forces of nature and Mexico's landscape continue to be integral to the Mexican sense of artistic identity.

The relationship between art and power can be seen throughout world history. But Alinka argues that Mexico differs. Not only did indigenous artists project the power of the elites in its ancient civilisations, artists became the authors of Mexican history and the power brokers in the struggles for political dominance.

In Mexico's history, power changes hands quickly and often violently. The city state of Cholula dominated central Mesoamerica around 1,000 years ago, but fell to Spanish conquistadors in the space of a day.

Nearly 500 years later, one of the largest triumphal arches in the world was intended to express the unassailable power of Porfirio Diaz. But before the arch was completed, the Mexican Revolution swept Diaz from power. The fragile nation needed a new national story to provide unity and stability. Art was to create it.

Diego Rivera painted a spectacular sweep of Mexican history as he, and the government who commissioned him, wanted it understood. It was origin myth and propaganda rolled into one. The power of art to establish Mexican nationalism was extraordinary. Frida Kahlo used her considerable influence to make the personal political, in both gender politics and amplifying indigenous voices.

Today, nowhere is it more important to express Mexican power and identity than at its borders. In Tijuana, on the border with the United States, the creativity of individual artists and collectives is fired by matters of everyday politics and the proximity to their northern neighbour. The results underline how art and power in Mexico are inextricably linked.

MON 22:00 Handmade in Mexico (b09j2vvr)

Series 1

Tree of Life

The Tree of Life is a clay sculpture originally intended to teach Bible stories to indigenous people. Overall, the tree sculpture looks something like a candelabra, and traditionally consists of biblical images and narratives, such as Adam and Eve being expelled from the Garden of Eden. Tree of Life sculpture is emblematic of Puebla State, where it began. Some modern designs - always brightly painted - sometimes include secular or fantastical imagery.

MON 22:30 Britain's Lost Masterpieces (b07xt8ww)

Series 1

Aberdeenshire

Haddo House is one of Britain's most northerly stately homes. Tucked away in the wilds of Aberdeenshire, it has been home to prime ministers and earls - but is it also home to some of Scotland's greatest lost paintings?

Nearby, in the storerooms of the Montrose Museum lies a mystery painting with a giant hole in it. The portrait shows Richard Mead, the patron of one of Scotland's most celebrated painters, Allan Ramsay. According to the history books, the painting is a copy of a painting in the National Portrait Gallery in London. But has there been an unfortunate mix-up, and is the painting in London in fact the pretender?

MON 23:30 Secret Knowledge (b05270hv)

In Search of Rory McEwen

Jools Holland tells the remarkable story of Rory McEwen - folk singer, blues guitarist, early TV presenter and artist. Rory was Jools's father-in-law, but the two men never met. He died in 1982, aged 50. Born into an aristocratic family in Scotland, Rory became a musician, touring the USA in the 1950s. He had a groundbreaking music show, Hullabaloo, and his Chelsea home was a hub of 1960s London music. Rory abandoned music and TV to focus on botanical art and his paintings are finally being recognised as masterpieces. With contributions from an eclectic cast including Van Morrison, David Dimbleby and Jonathan Miller.

MON 00:00 Everyday Miracles: The Genius of Sofas, Stockings and Scanners (b04fd6s9)

Home

Professor Mark Miodownik shows us what is so great about stuff. All the things of modern life around us that we maybe take for granted are revealed to be little pieces of domestic magic - everyday miracles - from razor blades to tights, via plywood and foam rubber. On the road and in the lab with explosive experiments, Mark reveals why the everyday, and even the mundane, is anything but.

MON 01:00 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.

MON 02:00 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.

MON 03:00 Peaky Blinders (b04lssgp)

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.

TUESDAY 12 DECEMBER 2017

TUE 19:00 Beyond 100 Days (b09j0kpf)

Series 1

12/12/2017

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

TUE 19:30 University Challenge (b086ydwyc)

Christmas 2016

Kent v Sussex

A University of Kent team with presenter Paul Ross and journalist Shiulie Ghosh battles a University of Sussex side featuring news presenter Dermot Murnaghan and comedian Hattie Hayridge for a place in the semi-finals.

Jeremy Paxman asks the questions.

TUE 20:00 Armada: 12 Days to Save England (b05xj5t4)

Series 1

The Battle for England

In the second part of a major three-part drama-documentary series, Anita Dobson stars as Elizabeth I, and Dan Snow takes to the sea to tell the story of how England came within a whisker of disaster in summer 1588. Using newly discovered documents, Dan relives the fierce battles at sea and we go behind the scenes in the royal court of Elizabeth as the Spanish fleet prepares for full-on invasion.

TUE 21:00 Invasion! with Sam Willis (b09j2vwt)

Series 1

Episode 2

Dr Sam Willis tells the story of the Barbary Corsaire pirates, who made their HQ on Lundy Island, and brings together the evidence of the little-known tale of King Louis the Lion. This French king invaded Britain in the 13th century after being invited to do so by plotting nobles. He was even crowned at St Paul's, but politely retreated when asked. Sam also looks at one day in 1687 when a huge Dutch task force sped up the River Medway, and plots the progress of perhaps one of the most audacious attempted invasions ever - by the imposter Perkin Warbeck.

TUE 22:00 A Timewatch Guide (b051h0gy)

Series 1

The Mary Rose

Historian Dan Snow explores the greatest maritime archaeology project in British history - the Mary Rose. Using 40 years of BBC archive footage Dan charts how the Mary Rose was

discovered, excavated and eventually raised, and what the latest research has revealed about this iconic ship and her crew. Dan also investigates how the Mary Rose project helped create modern underwater archaeology, examining the techniques, challenges and triumphs of the divers and archaeologists involved.

TUE 23:00 The Greatest Knight: William the Marshal (b03z216l)

The fascinating story of knighthood, told through the extraordinary life and times of William Marshal, whom many consider the world's greatest knight. From Europe's medieval castles to the holy city of Jerusalem, presenter Thomas Asbridge explores William's incredible life, revealing a rip-roaring adventure story in the spirit of King Arthur's Knights of the Round Table.

In a career that spanned half a century, this English soldier and statesman served some of Christendom's greatest leaders, from Eleanor of Aquitaine to Richard the Lionheart. Marshal fought in battles across Europe, survived court intrigue and exile, put his seal to the Magna Carta and proved to be the best friend a king could have, remaining loyal to those he served through disaster and victory. Then at the age of 70, despite all the odds, he saved England from a French invasion.

TUE 00:00 Everyday Miracles: The Genius of Sofas, Stockings and Scanners (b04fmg34)
Away

Professor Mark Miodownik concludes his odyssey of the stuff of modern life. This time he looks at how materials have enabled us to indulge our curiosity about the world around us. To go further and travel faster. He looks at how the bicycle suddenly stirred our national gene pool, why we should all be grateful for exploding glass and what levitation has to do with discovering your inner self. On the road and in the lab with dramatic experiments, Mark reveals why the everyday and even the mundane is anything but.

TUE 01:00 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.

TUE 02:00 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.

TUE 03:00 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.

WEDNESDAY 13 DECEMBER 2017

WED 19:00 Beyond 100 Days (b09j0kpr)
Series 1

13/12/2017

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

WED 19:30 University Challenge (b086fyf8)
Christmas 2016

City v Newcastle

Journalist Samira Ahmed and Chair of Acas Sir Brendan Barber represent City, University of London, as they take on Newcastle University, whose team includes singer, songwriter and actor Wilko Johnson and TV presenter Charlie Webster.

Jeremy Paxman asks the questions.

WED 20:00 Horizon (b05vn777)
2014-2015

70 Million Animal Mummies: Egypt's Dark Secret

Investigating the use of modern medical technology to scan Egyptian animal mummies from museums across the world. By creating 3D images of their content, experts are discovering the truth about the strange role animals played in ancient Egyptian belief.

This episode of Horizon also meets the scientists working in Egypt who are exploring the ancient underground catacombs where mummies were originally buried to reveal why the ancient Egyptians mummified millions and millions of animals.

WED 21:00 Digging for Britain (b09j0qcc)
Series 6

The Horsemen of Hadrian's Wall

In this special, Professor Alice Roberts reveals the forgotten story of the Roman Army's secret weapon in Britain - their cavalry. These fearsome horsemen were the key to defending Britain's most famous Roman monument fortification, Hadrian's Wall.

Alice sets off across Hadrian's Wall to investigate any evidence the Roman cavalry left behind, while a team of archaeologists and historical re-enactors attempt to restage a Roman cavalry tournament - a spectacle that no-one has seen for over 1,600 years.

We follow the team's training as they prepare for the performance, and Alice joins them at a public display in Carlisle where 30 riders perform in front of a crowd of spectators.

To put the cavalry's story in context, the film also explores the latest archaeological digs happening across the UK, each of which is searching for new evidence of the Roman cavalry.

On her journey across Hadrian's Wall, Alice visits some of the most iconic sites associated with the Roman cavalry, including Chester's Roman fort, Vindolanda fort and museum and Hexham Abbey. Along the way she builds a picture of the horsemen's lives here on the northern frontier of the Roman Empire.

WED 22:00 Detectorists (b09j0qcs)
Series 3

Episode 6

'There's something about karma going on' is Lance's wise observation, and there certainly seems to be something in the air. They have one last day on the farm, one last chance to pull out all the stops and find that gold. Terry's got a new gazebo. Perfect time for a rally.

WED 22:30 The League of Gentlemen (p008wm0m)
Series 1

Escape from Royston Vasey

Black comedy series about small-town life. Mr Chinnery has some bad luck with a calving cow. Edward's local shop receives an unexpected visitor.

WED 23:00 Spike Milligan: Love, Light and Peace (b04tt1yj)

A very personal portrait of the truly unique comedy genius of Spike Milligan, as told in his own words and featuring exclusive home movie footage. With contributions from those who worked with him, lived with him and were inspired by him.

WED 00:30 Goya Exposed with Jake Chapman (b06s1w08)
Throughout their artistic career, Jake and Dinos Chapman have returned again and again to a single artwork by the great Spanish artist Francisco de Goya. The Disasters of War are a set of 83 etchings that offer a harrowing account of the atrocities of the Peninsular War (1807-14), but for Jake Chapman they are much more than a matter of historical record. They have provided the inspiration for countless Chapman Brothers artworks across more than two decades, from model recreations and 'rectified' prints to shop mannequins and full-scale sculptures in bronze, some of which were nominated for the Turner Prize.

In this film, Jake explores why Goya's famous etching series is so central to his art. He re-examines his relationship to the

Spanish artist by visiting Goya's hometown Zaragoza for the first time, and by spending time at the Prado in Madrid where some of Goya's greatest works hang on the walls.

As Jake works on a new Disasters of War model in his London studio, he explains why for him there is a fundamental conflict at the heart of Goya's art - in their gruesome detail his images seem to celebrate violence rather than protest against it. Jake explores this contradiction that art history has chosen to ignore, and explains how it tells us something profound about the way we see ourselves and our past.

WED 01:00 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.

WED 02:00 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.

WED 03:00 Peaky Blinders (b07cgpy2)
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.

THURSDAY 14 DECEMBER 2017

THU 19:00 Beyond 100 Days (b09j0kpz)
Series 1

14/12/2017

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

THU 19:30 University Challenge (b086ybv0)
Christmas 2016

Soas v Leeds

A team representing Soas, featuring comedian Dom Joly and presenter Gus Casely-Hayford, take on a University of Leeds side that includes BBC economics editor Kamal Ahmed and Guardian cartoonist Steve Bell.

Jeremy Paxman asks the questions.

THU 20:00 The Secrets of Quantum Physics (b04v85cj)
Let There Be Life

Physicist Jim Al-Khalili routinely deals with the strangest subject in all of science - quantum physics, the astonishing and perplexing theory of sub-atomic particles. But now he's turning his attention to the world of nature. Can quantum mechanics explain the greatest mysteries in biology?

His first encounter is with the robin. This familiar little bird turns out to navigate using one of the most bizarre effects in physics - quantum entanglement, a process which seems to defy common sense. Even Albert Einstein himself could not believe it.

Jim finds that even the most personal of human experiences - our sense of smell - is touched by ethereal quantum vibrations. According to the latest experiments, it seems that our quantum noses are listening to smells. Jim then discovers that the most famous law of quantum physics - the uncertainty principle - is obeyed by plants and trees as they capture sunlight during the vital process of photosynthesis.

Finally, Jim asks if quantum physics might play a role in evolution. Could the strange laws of the sub-atomic world, which allow objects to tunnel through impassable barriers in

defiance of common sense, effect the mechanism by which living species evolve?

THU 21:00 The Science of Doctor Who (b03hybnv)

For one night only, Professor Brian Cox takes an audience of celebrity guests, including Charles Dance and Rufus Hound, and members of the public on a journey into the wonderful universe of the Doctor, from the lecture hall of the Royal Institution of Great Britain. Drawing on the latest theories as well as 200 years of scientific discoveries and the genius of Einstein, Brian tries to answer the classic questions raised by the Doctor. Can you really travel in time? Does extra-terrestrial life exist in our galaxy? And how do you build something as fantastical as the Tardis?

THU 22:00 Horizon (b0695t56)

2014-2015

Which Universe Are We In?

Imagine a world where dinosaurs still walk the earth. A world where the Germans won World War II and you are president of the United States. Imagine a world where the laws of physics no longer apply and where infinite copies of you are playing out every storyline of your life.

It sounds like a plot stolen straight from Hollywood, but far from it. This is the multiverse.

Until very recently the whole idea of the multiverse was dismissed as a fantasy, but now this strangest of ideas is at the cutting edge of science.

And for a growing number of scientists, the multiverse is the only way we will ever truly make sense of the world we are in.

Horizon asks the question: Do multiple universes exist? And if so, which one are we actually in?

THU 23:00 Every Breath We Take: Understanding Our Atmosphere (b04bdqsz)

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

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

THU 00:00 Empire of the Seas: How the Navy Forged the Modern World (b00qlmcq)

Series 1

Sea Change

In the last of this four-part series, historian Dan Snow explores the ups and downs of a climactic century in naval and British history.

Rapacious and ruthless, the 19th-century Navy used 'gunboat diplomacy' to push British interests further afield than ever before. It was control of the sea rather than her land empire that was the key to Britain's growing wealth.

Technological advances saw Britain and France engage in an arms race over battleships. While Britain's navy appeared to be winning, the meritocracy fostered in Nelson's time was slowly being eroded by an entrenched hierarchy which smothered any spark of initiative among its sailors.

When Germany emerged as a new threat, modernising admiral Jackie Fisher was called to reform the Navy. Fisher believed in peace through deterrence and had plans for a huge new battleship - the Dreadnought.

When war finally came, the British and German fleets clashed off Jutland in 1916. But the outcome was not the knock-out blow the British public wanted. Britain emerged from World War I victorious but broke, and no longer able to maintain by far the world's largest fleet. In time, other nations eclipsed her. It was the end of centuries of naval supremacy.

THU 01:00 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.

THU 01:55 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.

THU 02:55 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?

FRIDAY 15 DECEMBER 2017

FRI 19:00 World News Today (b09j0kq7)

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

FRI 19:30 University Challenge (b086ykwj)

Christmas 2016

Edinburgh v St Catharine's, Cambridge

A team representing the University of Edinburgh, featuring actress Rachael Stirling and geneticist Steve Jones, take on a side from St Catharine's College, Cambridge, that includes Matthew Price, chief correspondent of Radio 4's Today programme, and novelist Joanne Harris.

Jeremy Paxman asks the questions.

FRI 20:00 Danny Baker Rocks... A Bit (b03v0svf)

The Seventies

In the first of three programmes showcasing the best of British rock, Danny Baker tees up, with characteristic humour, great performances from the 70s by the likes of The Who, Genesis, Kate Bush and The Specials.

FRI 20:30 Top of the Pops (b09jc3kl)

The 1984 Christmas special of the pop chart programme, first broadcast on 25 December 1984. Featuring Frankie Goes To Hollywood, Howard Jones, Duran Duran, Nik Kershaw, Culture Club, Thompson Twins, Jim Diamond, Wham!, Paul Young, George Michael and Band Aid.

FRI 21:30 Roy Orbison: Love Hurts (b09j0r8s)

Roy Orbison died 29 years ago but he's hardly forgotten. As one of rock 'n' roll's pioneers he achieved superstar status in the 60s, writing and releasing a series of smash singles such as Oh, Pretty Woman, Only the Lonely, In Dreams and Crying. But while his professional life was full of triumph, Roy suffered terrible misfortune in his personal life, losing his wife and two of his children in successive tragedies, rebuilding his life by relying on his music to distract him from desolation.

Roy's legacy as a beloved rock legend and a devoted father is revealed through intimate interviews with Roy's three surviving sons, featuring previously unseen home videos as Alex, Roy Jnr and Wesley Orbison discuss the immense talent and fierce determination that provided the driving force behind their father's incredible success and the dedication to Roy's family that helped create a strong spiritual base to escape the pressures of the rock 'n' roll lifestyle.

This is the personal story of the relationship between three children and their father; a father who died when they were young, and who they have reconnected with and come to understand through embracing his life's work. It is not often that one gets to understand the person who is the music phenomenon, but in this film about relationships, family, love, loss and affirmation, we get to see the man behind the ever-present dark sunglasses and brooding loner persona, witnessing his struggle with personal demons, and ultimately redemption and acknowledgement from his peers.

FRI 22:30 Roy Orbison and Friends: A Black and White Night (b00g6349)

First broadcast in 1988 and filmed in black and white (hence the title!), this TV concert classic features Roy Orbison performing his classic songs with friends like Bruce Springsteen, Tom Waits, Elvis Costello, Jackson Browne, kd lang, Jennifer Warnes and Bonnie Raitt.

The TCB Band which backs all featured artists was Elvis Presley's band till his death in 1977 and includes James Burton, Glen D Hardin, Jerry Scheff and Ronnie Tutt with musical director T Bone Burnett.

Filmed at the Coconut Grove nightclub in Los Angeles, the show was first broadcast on HBO in 1988, the year of Roy Orbison's death.

FRI 23:35 Rock 'n' Roll America (b061fdr7)

Whole Lotta Shakin'

As rock 'n' roll took off with teens in 1955 it quickly increased record sales by 300 per cent in America. Big business and the burgeoning world of TV moved in. Elvis made a big-money move to major label RCA instigated by Colonel Tom Parker, an illegal immigrant from Holland who had made his name at country fairs with a set of dancing chickens. Elvis made his national TV debut with Heartbreak Hotel and followed it with a gyrating version of Hound Dog that shocked America. PTAs, church groups and local councils were outraged. Rock 'n' roll was banned by the mayor of Jersey City and removed from jukeboxes in Alabama. Now Ed Sullivan would only shoot Elvis from the waist up.

The conservative media needed a cleaned-up version and the young, married-with-kids Christian singer Pat Boone shot up the chart, rivaling Elvis for sales. Not that this stopped rock 'n' roll. Jerry Lee Lewis again scandalised the nation with his gyrating finger in Whole Lotta Shakin' and the Everlys shocked with Wake Up Little Susie, both 45s being banned in parts of America.

It took bespectacled geek Buddy Holly to calm things down as a suburban down-home boy who, with his school friends The Crickets, turned plain looks into chart success. But by the end of 1958 the music was in real trouble. Elvis was conscripted into the army, Jerry Lee was thrown out of Britain and into obscurity for marrying his 13-year-old cousin and Little Richard went into the church.

Featuring Jerry Lee Lewis, Don Everly, Tom Jones, Wanda Jackson, Pat Boone, DJ Fontana, Eric Burdon, James Burton, Jerry Allison (The Crickets' drummer), Mike Stoller, PF Sloan, Joe Boyd, Jerry Phillips, Marshall Chess and JM Van Eaton (Jerry Lee Lewis's drummer).

FRI 00:35 Top of the Pops (b09jc3kl)

[Repeat of broadcast at 20:30 today]

FRI 01:35 Roy Orbison: Love Hurts (b09j0r8s)

[Repeat of broadcast at 21:30 today]

FRI 02:35 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...