

SATURDAY 02 JULY 2016

SAT 19:00 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.

SAT 20:00 The Last Seabird Summer? (b072rpwn)
Living with the Birds

In episode one, Adam Nicolson follows the story of the seabirds on the Shiant Isles in the Outer Hebrides off the west coast of Scotland, one of the most important bird places of Europe. As the puffins, guillemots and razorbills arrive from far out in the north Atlantic, Adam traces our long history of dependence on seabirds - thousands of years of collecting eggs and hunting the birds for meat, oil and feathers.

But there is crisis in our seabird population - in the last 15 years in Scotland alone, 40 per cent have been lost. And although in Britain our relationship is now one of conservation, there are countries who still hunt the seabird. To understand how this tradition continues today, Adam travels to Iceland, home to over half the world's puffins, and meets those for whom the puffin hunt is still part of everyday life.

SAT 21:00 The Hypnotist (b04lc566)

When a man and his family are found brutally murdered in a suburb outside Stockholm, Detective Inspector Joona Linna tries to persuade a doctor, Erik Maria Bark, to hypnotise a traumatised witness. But it has been ten years since Erik last practised hypnosis, and he has promised never to do it again. When he finally agrees, a chain of terrifying events starts. Thriller based on the best-selling novels of Lars Kepler.

In Swedish with English subtitles.

SAT 22:55 Storyville (p01hs637)

Smash & Grab - The Story of the Pink Panthers

Thrilling heist documentary about the world's most notorious gang of diamond thieves, featuring exclusive and unprecedented interviews with the Pink Panther members for the first time on television.

The Pink Panthers have stolen over £270m in diamonds in more than 241 robberies in cities from Paris to Tokyo. The film explores the rise of the group during the 1990s Balkan conflict when economic sanctions imposed on Serbia fuelled illegal activities. The criminals reveal an underworld driven by fast wealth and paranoia, while the detectives and inspectors, who are working with Interpol, are on a mission to stop their crime spree with growing success.

Combining surveillance footage of the heists, archive of the Balkans' turbulent past, animation and strong testimonies, the film draws connections between international affairs, economics and the shady world of part of the diamond industry.

SAT 00:25 Top of the Pops (b07h0j5m)

David Jensen presents the pop chart show, first broadcast on 21st January 1982. Includes appearances from Gillan, the Mobiles, XTC, Jon & Vangelis, Phil Lynott, Meat Loaf, OMD, Christopher Cross, Foreigner, Bucks Fizz and Zoo.

SAT 01:05 Top of the Pops (b07jbqvh)

Simon Bates presents the pop chart show, first broadcast on 28 January 1982. Includes appearances from Tight Fit, Stiff Little Fingers, Elkie Brooks, Alton Edwards, Haircut 100, Olivia Newton John, The Stranglers and Shakin' Stevens.

SAT 01:35 Mr Blue Sky: The Story of Jeff Lynne and ELO (b01n3yf4)

Documentary which gets to the heart of who Jeff Lynne is and how he has had such a tremendous musical influence on our world. The story is told by the British artist himself and such distinguished collaborators and friends of Jeff as Paul McCartney, Ringo Starr, Tom Petty, Joe Walsh, Olivia and Dhani Harrison, Barbara Orbison and Eric Idle.

The film reveals that Lynne is a true man of music, for whom the recording studio is his greatest instrument. With access to Lynne in his studio above LA, this is an intimate account of a

great British pop classicist who has ploughed a unique furrow since starting out on the Birmingham Beat scene in the early 60s, moving from the Idle Race to the multimillion-selling ELO in the 70s and then, with Bob Dylan, Tom Petty, Roy Orbison and George Harrison, as a key member of the Traveling Wilburys.

SAT 02:35 Jeff Lynne's ELO at Hyde Park (b04ltd74)

On a sunny day in September 2014, Jeff Lynne, head honcho of 70s hit-making band ELO took to the stage in London's Hyde Park and, with the help of his backing band and the strings of the BBC Concert Orchestra, brought to a close Radio 2's Live in Hyde Park annual festival. After an absence from the live stage for 28 years, this headline set by Jeff Lynne's ELO was a much-anticipated and talked-about event, and he did not disappoint.

In front of 50,000 people, Lynne delivered a rousing and crowd-pleasing string of the Electric Light Orchestra's chart-topping hits, including Livin' Thing, Sweet Talkin' Woman, Don't Bring Me Down, Mr Blue Sky, and Roll Over Beethoven. And there was also a special treat, Jeff's touching tribute to his band buddies from the ultimate supergroup of all time, the Traveling Wilburys, with his performance of their 1988 hit Handle With Care.

All in all, a memorable night and a fantastic return to the live arena for Mr Jeff Lynne's ELO!

SUNDAY 03 JULY 2016

SUN 19:00 Five Children and It (b07k0t27)

Episode 1

In 1902, four children and their baby brother are spending their summer in the countryside while their parents are away. While playing in a nearby sand pit, the children discover 'It', which turns out to be a Psammead, or sand fairy, thousands of years old and with the power to grant wishes. The Psammead agrees to give the children a wish a day - but warns them that the wishes will fade at sunset.

SUN 19:25 Five Children and It (b07k76j5)

Episode 2

In 1902, four children and their baby brother are spending their summer in the countryside while their parents are away. Having wished for riches 'beyond the dreams of avarice', the children have arrived in town determined to buy lots of things with the gold the Psammead has granted them.

SUN 19:50 Five Children and It (b07k76j9)

Episode 3

In 1902, four children and their baby brother are spending their summer in the countryside while their parents are away. While playing in a nearby sand pit, the children discover 'It', which turns out to be a Psammead, or sand fairy, thousands of years old and with the power to grant wishes.

The children are stranded on the church tower - the wings the Psammead had granted them have vanished, and all they can do is shout for help.

SUN 20:15 Natural World (b0377t15)

2013-2014

Giant Squid: Filming the Impossible - Natural World Special

The giant squid is a creature of legend and myth which, even in the 21st century, has never been seen alive. But now, an international team of scientists think it has finally found its lair, 1,000 metres down, off the coast of Japan. This is the culmination of decades of research. The team deploys underwater robots and state-of-the-art submersible vessels for a world first - to find and film the impossible.

SUN 21:00 War of Words: Soldier-Poets of the Somme (b04pw01r)

The 1916 Battle of the Somme remains the most famous battle of World War I, remembered for its bloodshed and its limited territorial gains. What is often overlooked, however, is the literary importance of the Somme: more writers and poets fought in it than in any other battle in history.

Narrated by Michael Sheen, this film details the experiences of the poets and writers who served in the battle. The work of Siegfried Sassoon, Robert Graves, David Jones, Isaac Rosenberg and JRR Tolkien (who arrived at the Western Front with ambitions to be a poet) was informed and transformed by the battle. Taken together, their experiences allow us to see this dreadful historical event through multiple points of view.

The film uses animation, documentary accounts, surviving artefacts, battalion war diaries and the landscape itself to reconnect this literature to the events that inspired it.

SUN 22:30 Hidden Histories: WW1's Forgotten Photographs (b03xsrvv)

Documentary telling the extraordinary untold story of soldiers' photography in the First World War. The British and German soldiers marched off to war with secret 'vest pocket' cameras, determined to record what they thought would be a great adventure, but few were prepared for the horrors they were about to witness and photograph. Their photos - many never seen before in public - provide a deeply moving document of their lives in the trenches and their rapid loss of innocence.

With no soldier photographer alive to tell the tale, we join their close relatives on emotional journeys of discovery as they go in search of the secrets hidden within their ancestors' photographs.

This is the war viewed from a new and surprising perspective - through the eyes of the men who fought in it.

SUN 23:30 Timeshift (b06pm5vf)

Series 15

How Britain Won the Space Race: The Story of Bernard Lovell and Jodrell Bank

The unlikely story of how one man with some ex-WWII army equipment eventually turned a muddy field in Cheshire into a key site in the space race. That man was Bernard Lovell, and his telescope at Jodrell Bank would be used at the height of the Cold War by both the Americans and the Russians to track their competing spacecraft. It also put Britain at the forefront of radio astronomy, a new science which transformed our knowledge of space and provided the key to understanding the most mind-bending theory of the beginnings of the universe - the Big Bang.

SUN 00:30 Wonders of the Universe (b0101h6w)

Messengers

In the last episode of Professor Brian Cox's epic journey across the universe, he travels from the fossils of the Burgess Shale to the sands of the oldest desert in the world to show how light holds the key to our understanding of the whole universe, including our own deepest origins.

To understand how light holds the key to the story of the universe, you first have to understand its peculiar properties. Brian considers how the properties of light that lend colour to desert sands and the spectrum of a rainbow can lead to profound insights into the history and evolution of our universe.

Finally, with some of the world's most fascinating fossils in hand Brian considers how, but for an apparently obscure moment in the early evolutionary history of life, all the secrets of light may have remained hidden. Because although the universe is bathed in light that carries extraordinary amounts of information about where we come from, it would have remained invisible without a crucial evolutionary development that allowed us to see. Only because of that development can we now observe, capture and contemplate the incredible wonders of the universe that we inhabit.

SUN 01:30 Horizon (b03wyr3c)

2013-2014

How You Really Make Decisions

Horizon uncovers the truth about how you really make decisions.

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

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

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

SUN 02:30 Rise of the Continents (b036ks6f)

Eurasia

Two hundred million years ago the continent we know as Eurasia - the vast swathe of land that extends from Europe in the west to Asia in the east - didn't exist.

To reveal Eurasia's origins, Professor Iain Stewart climbs up to the 'eternal flames' of Mount Chimera in southern Turkey, blazing natural gas that seeps out of the rock. Formed on the

sea floor, it shows that where the south of Eurasia is today, there was once a 90-million-square-kilometre ocean known as the Tethys. It is the destruction of the Tethys Ocean that holds the key to Eurasia's formation.

In the backwaters of Kerala in southern India, he finds evidence of how that happened, in the most unlikely of places: the bones of the local fishermen's catch. The freshwater fish called karimeen shares anatomical features with another group of fish that live in Madagascar, evidence that India and Madagascar were joined. India was once 4,000 kilometres south of its current position on the other side of the Tethys.

As it moved north, the ocean in front of it closed. And as it collided with the rest of Eurasia the impact built the Himalayas, the greatest mountain range on Earth. Professor Stewart reveals how the mountains aren't simply pieces of the land pushed upwards. In fact the rock that forms them was once the floor of the Tethys Ocean.

As Eurasia assembled, Arabia, Greece and Italy too moved north, completing the continent we know today and creating a mountain chain that spans the continent. And it was in the shadow of these mountains that the continent's first civilisations rose.

But the formation of Eurasia is just the beginning, because the process that formed it is still active today. On the island of Stromboli, Italy's most continually active volcano, the spectacular eruptions show that the ocean floor is being pulled beneath Eurasia. It is this process that closed the Tethys, and today is closing the Mediterranean, revealing Eurasia's future. 250 million years in the future all of the continents will collide together once more, forming a new Pangea, with Eurasia at its heart.

MONDAY 04 JULY 2016

MON 19:00 World News Today (b07jgxxn)

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

MON 19:30 Five Children and It (b07k772c)

Episode 4

In 1902, four children and their baby brother are spending their summer in the countryside while their parents are away. While playing in a nearby sand pit, the children discover 'It', which turns out to be a Psammead, or sand fairy, thousands of years old and with the power to grant wishes.

The children discover that wishing by mistake can cause giant-sized problems.

MON 19:55 Pop Go the Sixties (b0087901)

Series 1

The Moody Blues

A colourful nugget of pop by the Moody Blues, mined from the BBC's archive.

MON 20:00 The River Taff with Will Millard (b06zy12v)

Series 1

Episode 1

Writer and fisherman Will Millard tells the extraordinary story of how the River Taff came back from the dead. This river, once so polluted by heavy industry that no fish could live there, has now become one of the best salmon and trout rivers in Wales. Will travels from the source high in the stunning Brecon Beacons National Park to Merthyr Tydfil where he discovers that the town's ironworks were once vital to the British Empire. Along the way he trains with a mountain rescue team facing a unique set of challenges, meets a group of conservationists working to protect a magical, hidden valley and fishes for wild brown trout in the most unlikely location.

MON 20:30 The Secret Life of Books (b07jhwf6)

The Secret Life of Children's Books

Five Children and It

Edith Nesbit is probably best known these days for *The Railway Children*, but her earlier book *Five Children and It* was even more influential, its blend of magic and the everyday paving the way for the Narnia stories and Harry Potter. A classic fantasy story about a group of siblings who discover a creature that can grant wishes, Nesbit's warm, witty children's fable was shaped by her own troubled family life.

In this film, actress and Nesbit fan Samantha Bond discovers

how a rootless childhood and terrible personal tragedy influenced *Five Children and It*, delving into the origins and legacy of a book that can be arguably said to have kick-started modern children's fiction.

MON 21:00 Life and Deaf (b07k189v)

An immersive, experiential film about the deaf world, with its unique humour and culture - a world which most of us rarely encounter. The film is in BSL: British Sign Language. There is no score, no commentary, and none of the conventions of normal film-making.

The film follows some of the key characters who frequent St John's Deaf Club in north London as they face life's twists and turns and challenges.

The Costis are a big deaf family. Tina Costi and her football-mad husband Marios are expecting a baby. For generations in Marios's family, boys are always born deaf and girls are always born hearing. Will this new Costi baby break with tradition?

Like the Costis, Abigail also comes from a big deaf family. She has just turned 30 and is about to make one of the biggest decisions of her life. She is considering undergoing surgery to have a cochlear implant fitted to help her deteriorating hearing, and also to better connect with her hearing friends. Abigail wants to be part of both worlds. But it's a controversial decision for her family, who proudly trace their deaf heritage back eight generations. How will this affect her relationship with both her family and the wider deaf community?

At the heart of St John's Deaf Club is its football team. The rivalry between deaf football teams is intense. Marios's brother Memnos is captain of the team. He eats, sleeps and breathes football. Passionate to the point of obsession, can he inspire his team to win the English Deaf Cup for the second time in a row?

MON 22:00 Twin Sisters: A World Apart (b053pxdt)

Documentary telling the poignant true story of twin sisters from China, found as babies in a cardboard box in 2003 and adopted by two separate sets of parents - one from California, the other from a remote fishing village in Norway.

In the US, Mia is raised a typical all-American girl, with a bustling life filled with violin lessons, girl scouts and soccer, while Alexandra grows up in the quietude of the breathtakingly beautiful but isolated village of Frevsk, Norway.

Neither of the adoptive parents were told their daughters were twins, but a chance sighting at the orphanage enabled them to keep in touch, until a DNA test proved their hunch had been right. Both girls grew up knowing they had an identical twin living on the other side of the world.

The film tells the remarkable story of their parallel journey, punctuated by only the odd visit, videos and photographs - until they meet for a longer visit in Norway when they are eight years old. Despite living completely different lives and speaking different languages, they are mirrors of each other - the magical bond between them is extraordinary.

This is the story of our notions of family - the genetic ones we inherit and the ones we create.

MON 23:00 Natural World (b0377115)

[Repeat of broadcast at 20:15 on Sunday]

MON 23:45 The Last Seabird Summer? (b072rpnw)

[Repeat of broadcast at 20:00 on Saturday]

MON 00:45 Nigel Slater: Life Is Sweets (p00y4hd1)

Chocolate limes, buttered brazils, sherbet dib-dabs and marshmallows. Food writer Nigel Slater charts the origins of British sweets and chocolates from medicinal, medieval boiled sweets to the chocolate bars that line the supermarket shelves today.

With adverts of the sweets everyone remembers and loves, this nostalgic, emotional and heartwarming journey transports Nigel back to his childhood by the powerful resonance of the sweets he used to buy with his pocket money. Nigel recalls the curiously small toffee that inspired him to write his memoir, the marshmallow, which he associates with his mother, and the travel sweet, which conjures up memories of his father. He marvels at the power of something as incidental as a sweet to reveal emotions, character and the past.

MON 01:45 Sex and Sensibility: The Allure of Art Nouveau (b01f1959)

British Cities

Britain's art nouveau heritage is excavated as cultural correspondent Stephen Smith unearths the bright, controversial

but brief career of Aubrey Beardsley.

On a mission to uncover lesser-known stars of Britain's version of this continental fin-de-siècle style, he explores the stunning work of Mary Watts and the massive influence of department store entrepreneur Arthur Liberty.

In Scotland, he celebrates the innovative art nouveau of Charles Rennie Mackintosh, but looks harder at the extraordinary and influential work of Mackintosh's wife, Margaret MacDonald.

MON 02:45 Life and Deaf (b07k189v)

[Repeat of broadcast at 21:00 today]

TUESDAY 05 JULY 2016

TUE 19:00 World News Today (b07jgxxt)

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

TUE 19:30 Five Children and It (b07k772j)

Episode 5

In 1902, four children and their baby brother are spending their summer in the countryside while their parents are away. While playing in a nearby sand pit, the children discover 'It', which turns out to be a Psammead, or sand fairy, thousands of years old and with the power to grant wishes.

Cyril wishes that the baby was grown up, and suddenly he is. The children spend an anxious afternoon trying to stop him riding bicycles and romancing young ladies.

TUE 19:55 Pop Go the Sixties (b0088xv2)

Series 1

Helen Shapiro

A colourful nugget of pop mined from the BBC's archive, as Helen Shapiro performs *Walking Back to Happiness*.

TUE 20:00 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.

TUE 21:00 B is for Book (b07jlb7)

Documentary following a group of primary schoolchildren over the course of a year as they learn to read. Some of them make a flying start, but others struggle even with the alphabet. The film takes us into their home lives, where we find that some parents are strongly aspirational, tutoring children late into the night, while others speak English as a foreign language, if at all.

As the children master the basics, they discover the magical world of stories and look with fresh eyes at the world around them. The film gives us privileged access to a profound process that all of us only ever do once in our lives.

TUE 22:00 Seven Ages of Britain (b00r14zv)

Age of Empire

The story of the British Empire from 1750 to 1900, revealed through its art and treasures. David Dimbleby travels through Britain, America and India, tracing the descent from adventure and inspiration into moral bankruptcy as the Empire became a self-serving bureaucratic machine.

In Britain, David looks at William Hodges' paintings of Captain Cook's famous voyages, Sir Hiram Maxim's original machine gun, the relics of General Gordon brought back from the Sudan, and some of the priceless trophies plundered in foreign campaigns: Tipu's mechanical Tiger and the Benin Bronzes.

In Philadelphia, he explores William Penn's utopian Old Town, the Liberty Bell, and painter Benjamin West's pictorial white-washing of history in Penn's Treaty With the Indians.

In India, David looks at the colonial architecture of Calcutta, and some fabulous frescoes in a Rajasthan village mocking British customs and personalities.

The programme ends at the Victoria Memorial in front of Buckingham Palace, not so much a monument to the British Empire as its mausoleum.

TUE 23:00 Genius of the Modern World (b07ht3cd)
Freud

Bettany Hughes travels to Vienna on the trail of Sigmund Freud, the father of psychoanalysis. Freud's influence surrounds us. In our vocabulary - repression, penis envy, the Freudian slip - and in the freedom we take for granted, to talk openly about our deepest feelings and insecurities.

A pioneer in the study of the human mind, Freud's psychoanalytic methods addressed emotional issues, seldom even discussed in the 19th century. Talking to his patients inspired his radical understanding of the unconscious mind, as a repository of hidden repressed emotions and irrational primal desires.

TUE 00:00 Twin Sisters: A World Apart (b053pxdt)
[Repeat of broadcast at 22:00 on Monday]

TUE 01:00 A Timewatch Guide (b052775d)
[Repeat of broadcast at 20:00 today]

TUE 02:00 Timeshift (b06pm5vf)
[Repeat of broadcast at 23:30 on Sunday]

TUE 03:00 B is for Book (b07jlb7)
[Repeat of broadcast at 21:00 today]

WEDNESDAY 06 JULY 2016

WED 19:00 World News Today (b07jgxxz)
The latest national and international news, exploring the day's events from a global perspective.

WED 19:30 Five Children and It (b07k77kc)
Episode 6

In 1902, four children and their baby brother are spending their summer in the countryside while their parents are away. While playing in a nearby sand pit, the children discover 'It', which turns out to be a Psammead, or sand fairy, thousands of years old and with the power to grant wishes.

The children get into a ghastly mess, but the Psammead is nowhere to be seen.

WED 19:55 Pop Go the Sixties (b008d00q)
Series 1

Tony Bennett

A colourful nugget of pop mined from the BBC's archive.

WED 20:00 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.

WED 21:00 Jet! When Britain Ruled the Skies (b01m9vj)
The Shape of Things to Come

In the heady years following World War II, Britain was a nation in love with aviation. Having developed the jet engine in wartime, British engineers were now harnessing its power to propel the world's first passenger jets. By 1960 the UK's passenger airline industry was the largest in the world, with routes stretching to the furthest-flung remnants of Empire.

And the aircraft carrying these New Elizabethans around the globe were also British - the Vickers Viscount, the Bristol Britannia and the world's first pure jet-liner, the sleek, silver De Havilland Comet, which could fly twice as high and twice as fast as its American competitors. It seemed the entire nation was reaching for the skies to create the shape of things to come for air travel worldwide. But would their reach exceed their grasp?

WED 22:00 A303: Highway to the Sun (b0116ly6)
The A303 is the road that passes Stonehenge on the way to the beaches of Devon and Cornwall. On the way, it whisks drivers through 5,000 years of remarkable moments in British history. And it is the star of this film made for armchair travellers and history lovers.

Writer Tom Fort drives its 92-mile length in a lovingly restored Morris Traveller. Along the way he has many adventures - he digs up the 1960s master plan for the A303's dreams of superhighway status, meets up with a Neolithic traveller who knew the road like the back of his hand, gets to know a section of the Roman 303, uncovers a medieval murder mystery and discovers what lies at the end of the Highway to the Sun.

WED 23:00 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?

WED 00:00 Horizon (b01cywtq)
2011-2012

The Truth about Exercise

Like many, Michael Mosley wants to get fitter and healthier but can't face hours on the treadmill or trips to the gym. Help may be at hand.

Michael uncovers the surprising new research which suggests many of us could benefit from just three minutes of high intensity exercise a week.

He discovers the hidden power of simple activities like walking and fidgeting, and finds out why some of us don't respond to exercise at all.

Using himself as a guinea pig, Michael uncovers the revealing new research about exercise that has the power to make us all live longer and healthier lives.

WED 01:00 Britain's Lost Waterlands: Escape to Swallows and Amazons Country (b07k18jf)
[Repeat of broadcast at 20:00 today]

WED 02:00 Seven Ages of Britain (b00rl4zv)
[Repeat of broadcast at 22:00 on Tuesday]

WED 03:00 Jet! When Britain Ruled the Skies (b01m9vj)
[Repeat of broadcast at 21:00 today]

THURSDAY 07 JULY 2016

THU 19:00 World News Today (b07jgxy4)
The latest national and international news, exploring the day's events from a global perspective.

THU 19:30 Top of the Pops (b07jkwcr)
John Peel presents the pop chart show, first broadcast on 4 February 1982. Includes appearances from OMD, Jets, Soft Cell, XTC, Christopher Cross, Kraftwerk, Theatre of Hate and Zoo.

THU 20:00 Keys to the Castle (p01nnztr)
A touching and often funny observational documentary about a charming couple in their twilight years, who have lived in their beloved Scottish castle since rebuilding it from ruins 40 years ago.

Award-winning film-maker Darren Hercher follows Sandy and Alisoun Grant during their final few months in Inverquhar Castle as they come to terms with the emotional and practical difficulties of leaving a home they have loved.

As the challenges of age take their toll, Alisoun, for the first time in her long marriage to Sandy, has had to take control of their destiny and make increasingly difficult decisions about their day-to-day lives and future. The hardest truth for Alisoun to accept was that living in the castle had become impossible.

As the move approaches, and their lives are turned upside down, the film follows Alisoun as she faces the daunting task of downsizing from a castle to a bungalow. The distressing reasons behind the move gradually become clear and are gently explored.

Having handed over the keys to the castle, Sandy and Alisoun face the future with equal measures of trepidation and optimism, their unwavering commitment and love for each other always at the heart of the film as a new chapter approaches.

THU 21:00 The Secret Life of Bob Monkhouse (b00x9b7w)
The extraordinary story of comedian Bob Monkhouse's life and career, told through the vast private archive of films, TV shows, letters and memorabilia that he left behind.

THU 22:30 The Bridges That Built London with Dan Cruickshank (b01jv5nr)
Dan Cruickshank explores the mysteries and secrets of the bridges that have made London what it is. He uncovers stories of Bronze-Age relics emerging from the Vauxhall shore, of why London Bridge was falling down, of midnight corpses splashing beneath Waterloo Bridge, and above all, of the sublime ambition of London's bridge builders themselves.

THU 23:30 Timeshift (b053pzmd)
Series 14

Spicing Up Britain: How Eating Out Went Exotic

Timeshift looks at how postwar Britain went from a place where eating out was more of a chore than a pleasure to a nation of food adventurers, now spending up to a third of our food budget on restaurant meals. It's the story of the British palate being slowly introduced to a range of what would then have been 'exotic' cuisines by successive generations of migrants opening eateries - first Italians, then Chinese and Indians. By encouraging us to try something new - be it spaghetti, stir fry or samosa - they spiced up not just our food but our high streets and our lives.

THU 00:30 Keys to the Castle (p01nnztr)
[Repeat of broadcast at 20:00 today]

THU 01:30 Top of the Pops (b07jkwcr)
[Repeat of broadcast at 19:30 today]

THU 02:10 The Secret Life of Bob Monkhouse (b00x9b7w)
[Repeat of broadcast at 21:00 today]

FRIDAY 08 JULY 2016

FRI 19:00 World News Today (b07jgxy9)
The latest national and international news, exploring the day's events from a global perspective.

FRI 19:30 Top of the Pops (b07j11bb)
Tommy Vance presents the pop chart show, first broadcast on

11 February 1982. Includes appearances from Fun Boy Three & Bananarama, the Stranglers, Bow Wow Wow, Adrian Gurvitz, Hall & Oates, Depeche Mode, the J Geils Band, Modern Romance, Haircut 100 and the Jam.

FRI 20:00 The Good Old Days (b07j11bd)

Leonard Sachs presents an edition of the old-time music hall programme from the stage of the City Varieties Theatre, Leeds, first broadcast on 31 January 1975. Guests include Terry Scott, Arthur Askey, Sheila Steafel, Patricia Cahill, Duggie Brown, the Dou Violins and Albert Aldred.

FRI 20:45 Pop Go the Sixties (b0087901)

[Repeat of broadcast at 19:55 on Monday]

FRI 20:50 Pop Go the Sixties (b0088xv2)

[Repeat of broadcast at 19:55 on Tuesday]

FRI 20:55 Pop Go the Sixties (b008d00q)

[Repeat of broadcast at 19:55 on Wednesday]

FRI 21:00 ... Sings Stevie Wonder (b07jlzkd)

Compilation celebrating over 50 years of covers of Stevie Wonder's classic songbook filmed at BBC studio shows over the years. Featuring Cilla Black, Jimmy Helms, Dionne Warwick, The Osmonds, India Arie, James Morrison and a storming performance of Ed Sheeran with Jools and his Rhythm & Blues Orchestra taking on Master Blaster (Jammin') on Hootenanny. Expect a special emphasis on Wonder's bank of classic ballads which include Isn't She Lovely, Love's in Need of Love Today, For Once in My Life, You Are the Sunshine of My Life and many more.

FRI 22:00 Sounds of the 70s 2 (b01jk1b8)

Soul: Keep On Keeping On

Imported American soul was big news in the UK in the 1970s. Before the Brits developed their own brand of soul, American performers were here demonstrating how it was done and being appreciated by all and sundry. The series continues with classic performances from the kings and queens of soul, including Aretha Franklin, Billy Preston, The Tams, Curtis Mayfield, Bill Withers, The Stylistics, Gil Scott-Heron and The Jacksons.

FRI 22:30 Pop Go the Sixties (b00cw0pf)

Series 2

Procol Harum

A Whiter Shade of Pale by Procol Harum was one of the 1960s' most popular and most-played songs. It's performed here by the group who first recorded it, on Top of the Pops in 1967.

FRI 22:40 T in the Park (b07k7p6q)

2016

Highlights: Day 1

Coverage of the first night of Scotland's biggest music festival, T in the Park. Edith Bowman presents live from the beautiful Perthshire countryside bringing great live music from the likes of Alesso, Disclosure, Courteeners, Fun Lovin' Criminals and James Morrison. T in the Park is renowned for its massive crowd reaction, so get ready for a weekend of brilliant festival action from the heart of Scotland.

Plus highlights from: The Coral, Bear's Den, Frightened Rabbit and Rodrigo y Gabriela.

FRI 00:05 Ultimate Number Ones (b01nwfsv)

To celebrate the 60th anniversary of the UK chart, from the vaults of the BBC archive comes a selection of hits that attained the toppermost of the poppermost prize and made it to number one in the hit parade. From across the decades, we applaud the most coveted of all chart positions with smash hits and classics from The Bee Gees, T. Rex, Donna Summer, John Lennon, Culture Club, The Spice Girls, James Blunt, Rihanna, Adele and many more.

FRI 01:05 How to Make a Number One Record (b05r6q4r)

Great pop records are the soundtrack to our lives, and that is why number one hits hold a totemic place in our culture. This film goes in search of what it takes to get a number one hit single, uncovering how people have done it and the effect it had on their lives. As the exploration moves through the decades, the goal is to trace the various routes that lead to the top of the singles chart and discover the role played by art, science, chance and manipulation in reaching the pinnacle of pop.

FRI 02:05 Top of the Pops (b07j11bb)

[Repeat of broadcast at 19:30 today]

FRI 02:45 ... Sings Stevie Wonder (b07jlzkd)

[Repeat of broadcast at 21:00 today]