

SATURDAY 02 SEPTEMBER 2017

SAT 19:00 The Brain with David Eagleman (b07030n9)
How Do I Decide?

Series in which Dr David Eagleman takes viewers on an extraordinary journey that explores how the brain, locked in silence and darkness without direct access to the world, conjures up the rich and beautiful world we all take for granted.

The human brain is the most complex object we've discovered in the universe, and every day much of its neural circuitry is taken up with the tens of thousands of decisions we need to make. This episode takes a journey through the unseen world of decisions, and how they get made. We start with a simple one - choosing a flavour of frozen yoghurt - and learn that every decision we make is born of a 'winner takes all' competition between rival neural networks.

We meet a woman who is unable to make decisions because of damage to her orbito-frontal cortex - an area that is key to integrating the signals streaming in from the body - and discover that feedback from the body is vital to the decision-making process. Dr Eagleman reveals that something as simple as when you ate your last meal can even influence life-changing decisions, as a study of judges showed they were less likely to give parole when they were hungry.

So many of our conscious life-defining decisions are actually steered by unconscious influences, whether it's deciding whom we find attractive or how to vote in the next election. Professor Read Montague reveals that he can be 95 per cent certain about which political party we will vote for based on our brain's response to disgusting imagery. The more disgusted a brain response is, the more likely that person is to vote Conservative.

Finally, Dr Eagleman takes a look at how we can take better control of the decisions we make, and uses an exciting new technique called fMRI neurofeedback to retrain the brains of drug addicts who want to make better decisions, to say 'no'.

SAT 20:00 Fossil Wonderlands: Nature's Hidden Treasures (b03z05zz)
The Mammal Hothouse

Professor Richard Fortey investigates the remains of an ancient volcanic lake in Germany where stunningly well-preserved fossils of early mammals, giant insects and even perhaps our oldest known ancestor have been found.

Among the amazing finds are bats as advanced and sophisticated as anything living today, more than 50 million years later, dog-sized 'dawn' horses, the ancestor of the modern horse, and giant ants as large as hummingbirds.

SAT 21:00 Inspector Montalbano (b0940bf1)
A Nest of Vipers

Businessman Cosimo Barletta is found dead in his holiday home, with a gunshot to the head. Montalbano's investigation reveals a series of unexpected facts about the man's life and death - starting with the discovery of an archive of photographs of young women and continuing with the autopsy results, which indicate there might have been more to the man's killing than had initially met the eye. Salvo meets with Barletta's disowned son Arturo, and is helped in his investigation by Arturo's mysterious sister, Giovanna.

In Italian with English subtitles.

SAT 23:00 Top of the Pops (b093lx59)
John Peel and David Jensen present the pop chart programme, first broadcast on 7 June 1984. Includes appearances from Spandau Ballet, Howard Jones, Evelyn Thomas, Bananarama, Bronski Beat and Wham!

SAT 23:30 Top of the Pops (b093lyjn)
Peter Powell and Mike Read present the pop chart programme, first broadcast on 14 June 1984. Includes appearances from The Art Company, The Smiths, Scritti Politti, Ozzy Osbourne, Nick Heyward, Nik Kershaw and Frankie Goes To Hollywood.

SAT 00:10 The Everly Brothers: Harmonies from Heaven (b077x1fh)
Documentary which celebrates, over the period covering the end of the 1950s and the beginning of the 60s, the phenomenon of The Everly Brothers, arguably the greatest harmony duo the world has witnessed, who directly influenced the greatest and most successful bands of the 60s and 70s - The Beatles, The Stones, The Beach Boys and Simon & Garfunkel to name but a few.

Don and Phil Everly's love of music began as children, encouraged by their father Ike. Little Donnie and Baby Boy Phil

sang on Ike's early morning radio shows in Iowa.

After leaving school, the brothers moved to Nashville where, under the wing of Ike Everly's friend, the highly talented musician Chet Atkins, Don and Phil signed with Cadence Records. They exploded onto the music scene in 1957 with Bye Bye Love, written by Bouleaux and Felice Bryant.

After Bye Bye Love came other hits, notably Wake Up Little Susie, followed by the worldwide smash hit All I Have to Do Is Dream and a long string of other great songs which also became hits.

By 1960, however, the brothers were lured away from Cadence to Warner Bros with a \$1,000,000 contract. Their biggest hit followed, the self-penned Cathy's Clown, which sold 8 million copies. Remaining at Warner Bros for most of the 60s, they had further success with Walk Right Back, So Sad and the King/Greenfield-penned track Crying in the Rain.

SAT 01:10 Metal at the BBC (b00r600p)
Compilation of memorable heavy metal performances from BBC TV shows, including Iron Maiden, Black Sabbath, Judas Priest and Motorhead.

SAT 01:40 Fabric of Britain (b03c2766)
The Wonder of Embroidery

The Reformation in England witnessed the destruction of the most brilliant art of the medieval age. Church paintings and stained glass - even sculpture - were destroyed throughout England in the name of religion. And yet one art survived against the odds - the art of medieval embroidery.

Portable and easily squirrelled away, English embroidery was spirited out of the country in the 16th century and many brilliant examples survive today - if slightly unappreciated and forgotten in Italian churches and museums, even the Vatican. And yet it is an art form that rivalled the very finest in medieval painting or stained glass and for 200 years was the finest embroidery in the western world. Known simply as Opus Anglicanum (English work), the work of English embroiders was desired by kings and popes throughout Christendom.

Dan Jones, Plantagenet expert and medievalist, goes in search of these fragile yet stunning survivors from the great age of embroidery - encountering a world of finery, bejewelled luxury and sacred beauty on an undreamt-of scale.

SAT 02:40 Fossil Wonderlands: Nature's Hidden Treasures (b03z05zz)
[Repeat of broadcast at 20:00 today]

SUNDAY 03 SEPTEMBER 2017

SUN 19:00 The World's Most Beautiful Eggs: The Genius of Carl Faberge (b0336tf3)

Stephen Smith explores the extraordinary life and work of the virtuoso jeweller Carl Faberge. He talks to HRH Prince Michael of Kent about Faberge items in the Royal Collection and to Russian billionaire Viktor Vekselberg, who spent \$100 million acquiring nine exquisite Faberge eggs. The bejewelled trinkets Faberge made for the last tsars of Russia in the twilight of their rule have become some of the most sought-after treasures in the world, sometimes worth millions.

Smith follows in Faberge's footsteps, from the legendary Green Vaults in Dresden to the palaces of the tsars and the corridors of the Kremlin museum, as he discovers how this fin-de-siecle genius transformed his father's modest business into the world's most famous supplier of luxury items.

SUN 20:00 BBC Proms (b0940b5f)
2017

Simon Rattle's Gurelieder

In one of the highlights of this year's Proms season, Sir Simon Rattle brings Schoenberg's colossal Gurrelieder to the Royal Albert Hall, uniting the London Symphony Orchestra & Chorus, CBSO Chorus, Orfeo Catala and a stunning line-up of soloists including Eva-Maria Westbroek, Simon O'Neill and speaker Thomas Quasthoff. An epic love story conceived on a Wagnerian scale, it reaches its climax with a truly unforgettable depiction of sunrise.

SUN 22:00 BBC Proms (b0940b5h)
2017

Classical Music of India and Pakistan

To mark the 70th anniversary of independence from British

rule and the subsequent Partition of India from Pakistan and Bangladesh, this special late-night Prom celebrates the power of music to heal and unify. Curated by the cultural heritage trust Darbar, it brings together virtuoso soloists and world-leading groups representing the three great traditions of classical music from India and Pakistan.

From late evening into the night, the concert takes us from the Hindustani music of north India to the Carnatic music of the south, and leads to an ecstatic climax with devotional Sufi qawwali from Pakistan.

SUN 00:20 Singer-Songwriters at the BBC (b00v9lhx)
Series 1

Episode 3

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

Featuring classic songs from Bobbie Gentry, Kris Kristofferson, Buffy Saint-Marie, Janis Ian, Gordon Lightfoot, John Martyn, Randy Newman, Linda Lewis, Joni Mitchell, Don McLean, Ralph McTell, Loudon Wainwright III, Don Williams and Paul Brady.

Programme sources include The Old Grey Whistle Test, Top of the Pops, Sounds for Saturday, The Bobbie Gentry Show and One in Ten.

SUN 01:20 Singer-Songwriters at the BBC (b00vfhy7)
Series 1

Episode 4

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

Featuring songs from Donovan, Gerry Rafferty, James Taylor, Elton John, Mickey Newbury, Tom Paxton, John Prine, Melanie, Jesse Winchester, Steve Forbert, Chris Rea, Carole King and others.

Programme sources include The Old Grey Whistle Test, In Concert, Top of the Pops, One in Ten and Cilla!

SUN 02:15 The World's Most Beautiful Eggs: The Genius of Carl Faberge (b0336tf3)
[Repeat of broadcast at 19:00 today]

MONDAY 04 SEPTEMBER 2017

MON 19:00 World News Today (b093y1f1)

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

MON 19:30 World War I at Home (b045ghms)
The Trawlermen

Miranda Krestovnikoff examines the role of east coast fishermen in World War I and in particular finds out about the Grimby trawler captain who left a zeppelin crew to die and was accused by the Germans of being a war criminal.

MON 20:00 War at Sea: Scotland's Story (b05rbnrk)
The Battle of the U-Boats

In April 1917, German U-boats were sinking a dozen British ships every day. The first sea lord, Jellicoe, warned that Britain might not be able to carry on fighting into 1918.

In the second of this two-part series, David Hayman explores Germany's World War One U-boat threat and the fascinating and dastardly ploys Britain used against the submarines.

MON 21:00 The Normans (b00tfdsd)
Conquest

In the second of this three-part series, Professor Robert Bartlett explores the impact of the Norman conquest of Britain and Ireland. Bartlett shows how William the Conqueror imposed a new aristocracy, savagely cut down opposition and built scores of castles and cathedrals to intimidate and control. He also commissioned the Domesday Book, the greatest national survey of England that had ever been attempted.

England adapted to its new masters and both the language and

culture were transformed as the Normans and the English intermarried. Bartlett shows how the political and cultural landscape of Scotland, Wales and Ireland were also forged by the Normans and argues that the Normans created the blueprint for colonialism in the modern world.

MON 22:00 Blood and Gold: The Making of Spain with Simon Sebag Montefiore (b06s5x0t)
Reconquest

Simon uncovers the truth about Spain's hero El Cid. He also investigates the horror of the Spanish Inquisition and in the process discovers an unsettling story about one of his own ancestors.

MON 23:00 Churchill's First World War (b037w3bj)
Drama-documentary about Winston Churchill's extraordinary experiences during the Great War, with intimate letters to his wife Clementine allowing the story to be told largely in his own words. Just 39 and at the peak of his powers running the Royal Navy, Churchill in 1914 dreamt of Napoleonic glory, but suffered a catastrophic fall into disgrace and humiliation over the Dardanelles disaster.

The film follows his road to redemption, beginning in the trenches of Flanders in 1916, revealing how he became the 'godfather' of the tank and his forgotten contribution to final victory in 1918 as Minister of Munitions. Dark political intrigue, a passionate love story and remarkable military adventures on land, sea and air combine to show how the Churchill of 1940 was shaped and forged by his experience of the First World War.

MON 00:30 War at Sea: Scotland's Story (b05rbrnk)
[Repeat of broadcast at 20:00 today]

MON 01:30 The High Art of the Low Countries (b01rsfgd)
Dream of Plenty

Andrew Graham-Dixon shows how the art of Renaissance Flanders evolved from the craft of precious tapestries within the Duchy of Burgundy into a leading painting school in its own right. Starting his journey at the magnificent altarpiece of Ghent Cathedral created by the Van Eyck brothers, Andrew explains their groundbreaking innovation in oil painting and marvels at how the colours they obtained can still remain so vibrant today.

Andrew describes how, in the early Renaissance, the most urgent preoccupation was not the advancement of learning, humanist or otherwise, but the Last Judgment. People believed they were living in the end of days; a subject popular with preachers and artists and intensely realised in swarming microscopic detail by Hieronymus Bosch.

MON 02:30 The Normans (b00ftdsk)
[Repeat of broadcast at 21:00 today]

TUESDAY 05 SEPTEMBER 2017

TUE 19:00 World News Today (b093y1ff)
The latest national and international news, exploring the day's events from a global perspective.

TUE 19:30 World War I at Home (b045ghyr)
When the Whistle Blew

Rugby world cup winner Josh Lewsey tells the story of the ultimate sacrifice made by rugby and football players during the First World War, and how they shaped the game as we know it today. To commemorate those who lost their lives, he dons his boots one more time to play a centenary rugby match.

TUE 20:00 India's Frontier Railways (b05mp8mt)
The Last Train in Nepal

In 1927 a British civil servant drew a line on a map to define the border between their Indian empire and the kingdom of Nepal. Today, that border line is only marked by a chain of boundary stones and pillars - it's a border that is almost invisible.

This is the story of an international railway line. It runs for 20 miles from the little-known town of Janakpur in Nepal and crosses over the border to Jaynagar junction in India.

But now the last train in Nepal is under threat of closure. Starved of funds from central government, the train and the track are in a dilapidated state. Derailments are common and the engine often breaks down. Yet it's a lifeline both for the

community and the railway workers - their little train is held together with determination, invention and love.

Regina is strong, independent Nepali woman, married at 12 and pregnant at 13. Deserted by her husband, she's now a single mother of two teenage boys. She makes a living as a smuggler of small household goods. But it's illegal, so even when the train is running there's always the chance of getting caught.

Aarman is a ticket collector in Janakpur station. Married with three small children, he's the sole breadwinner for an extended family and he hasn't been paid for three months. Already deeply in debt, he wanted to send his kids to school, but if the line closes he's out of job - and no job means no money.

This is the story of the last train in Nepal and the community and railway workers who struggle every day to keep their train and their hopes alive.

TUE 21:00 Great War Horses (b094f4d)
The horses that provided the backbone of the Australian Light Horse regiments in World War I were popularly known as 'Walers'. Bred for Australia's tough Outback conditions, Walers were well-equipped for the harsh climate and terrain of the Middle East, where the ANZAC forces faced the armies of the Ottoman Empire.

Great War Horses is a powerful, moving account of the men and horses of the Australian Light Horse and the pivotal role they played in World War I at the Battle of Romani (1916), the celebrated Light Horse charge at the Battle of Beersheba (1917) and the capture of Damascus in 1918.

TUE 22:00 Inspector Montalbano (b0940bf1)
[Repeat of broadcast at 21:00 on Saturday]

TUE 00:00 The Brain with David Eagleman (b070ss9x)
Why Do I Need You?

Series in which Dr David Eagleman takes viewers on an extraordinary journey that explores how the brain, locked in silence and darkness without direct access to the world, conjures up the rich and beautiful world we all take for granted.

This episode explores how the human brain relies on other brains to thrive and survive. Dr Eagleman demonstrates how, from as young as ten months old, babies can discern who is trustworthy and who isn't.

Our fundamentally social brain draws us together into groups. An experiment with a simple game of catch reveals that the pain we feel when we are excluded from the group is the same kind of pain as when we hurt ourselves. The powerful testimony of Sarah Shourd, who was imprisoned in Iran for over a year and was kept in solitary confinement - and others like her - demonstrates the absolute need the human brain has for others. She describes the slow disappearance of her 'self'.

In groups, humans have accomplished great things - but there's a darker side. For every 'in group' there is always an 'out group'. Dr Eagleman reveals the results of an experiment he carried out in his lab showing that people who witness a hand getting stabbed with a needle feel less empathy at a deep neural level if that hand is labelled with a religion to which they do not belong.

He journeys to modern-day Bosnia to hear from an eyewitness about what happened in 1995 when genocide returned to Europe. What could have allowed for such horrific group-on-group violence? Dr Eagleman believes that neuroscience offers important answers. Dr Lasana Harris at Leiden University has discovered that there are certain circumstances under which the human brain stops perceiving others as human and it becomes easier to suspend the moral and social rules we normally live by.

Finally, Dr Eagleman explores what can be done to prevent these neural effects, and reveals that our fundamentally social nature holds the key.

TUE 01:00 India's Frontier Railways (b05mp8mt)
[Repeat of broadcast at 20:00 today]

TUE 02:00 The High Art of the Low Countries (b01rtf47)
Boom and Bust

Andrew Graham-Dixon looks at how the seemingly peaceful countries of Holland and Belgium - famous for their tulips and windmills, mussels and chips - were in fact forged in a crucible of conflict and division. He examines how a period of economic boom driven for the first time by a burgeoning and secular middle class led to the Dutch golden age of the 17th century, creating not only the concept of oil painting itself, but the master painters Rembrandt and Vermeer combining art and commerce together as we would recognise it today.

TUE 03:00 Great War Horses (b094f4d)
[Repeat of broadcast at 21:00 today]

WEDNESDAY 06 SEPTEMBER 2017

WED 19:00 World News Today (b093y1ff)
The latest national and international news, exploring the day's events from a global perspective.

WED 19:30 World War I at Home (b045gjnt)
Whose Side Are You On?

Historian Professor Jean Seaton uncovers the story of industrial conflict in Devon during World War One.

WED 20:00 Storm Troupers: The Fight to Forecast the Weather (b07f27j1)
Episode 3

The final episode tells the story of how meteorology became one of the most important scientific endeavours of the modern age.

Alok Jha charts the progress of computer-based forecasting - the bedrock for how we do things today - through the characters who pioneered it. There's the American mathematician Jule Charney, who found a way to simplify weather for the early computers of the 1940s by listening to Beethoven, and the ambitious technocrat John Mason, who gambled the future of the Met Office on unproven technology in the early 1960s.

Alok relives the moments that shook faith in forecasting to its core. He investigates the discovery of chaos theory, which threatened to undo all confidence in 20th-century science, and discovers the scientific consequences of that most infamous of all television forecasts - Michael Fish's missed hurricane, the Great Storm of 1987.

Alok uses stunning science demonstrations to investigate the chaotic, unpredictable nature of weather. He meets present-day giants of meteorology like Tim Palmer and Julia Slingo, and observes one of the most powerful supercomputers in the world in action. Based in the Met Office HQ in Exeter, it's capable of simulating our entire planet's climate. It's a vital asset - one of the key tools that will help humanity face the vagaries of our weather and climate for generations to come.

WED 21:00 The Golden Age of Steam Railways (b01p8w38)
Small Is Beautiful

Two-part documentary telling the remarkable story of a band of visionaries who rescued some of the little narrow gauge railways that once served Britain's industries. These small railways and the steam engines that ran on them were once the driving force of Britain's mines, quarries, factories and docks. Then, as they disappeared after 1945, volunteers set to work to bring the lines and the steam engines back to life and started a movement which spread throughout the world. Their home movies tell the story of how they helped millions reconnect with a past they thought had gone forever.

WED 22:00 Storyville (b094f4tn)
The Boy Who Changed America

On 25 November 1999, a six-year-old Cuban boy was found floating alone off the Florida coast after his mother drowned during an attempt to escape Cuba for the United States. Set against the tense and acrimonious relationship between the two countries, The Boy Who Changed America tells the story of Elian Gonzalez and the bitter custody battle that played out in the aftermath of his rescue between his Cuban father and American relatives. Eighteen years later and in the wake of Fidel Castro's death, the now 23-year-old Elian and his family tell their story for the first time.

WED 23:25 Tales from the National Parks (b01708v7)
Loch Lomond and the Trossachs

What happens when gold is discovered in the hills around a tiny Scottish village? In the final episode of the series, Richard Macer spends a year in the small remote community of Tyndrum, where gold fever has gripped the residents. The Loch Lomond Park Authority will decide whether to give permission for the gold mine, and there are lots of organisations that think Scotland's first gold mine is an abhorrent idea.

The villagers are adamant that the gold mine is the only way prosperity can be brought to their struggling community and they are determined to get the mine approved. But who wins is down to the park board members who are due to vote on the goldmine at a hearing in the village hall.

WED 00:25 Storm Troupers: The Fight to Forecast the Weather (b07f27j1)

[Repeat of broadcast at 20:00 today]

WED 01:25 The High Art of the Low Countries (b01rxpy1)
Daydreams and Nightmares

Following a brief period of decline, the entrepreneurial and industrious region of the Low Countries rose again to become a cultural leader in the modern age. Despite its small and almost insignificant size it produced important forward-thinking artists like van Gogh, Mondrian, Magritte and Delvaux, who changed the face of art forever.

Andrew's journey takes him to a remote beach in north west Holland that inspired Mondrian's transition to his now-renowned abstract grid paintings. Andrew digs deep into the psychology and social history of the region, exploring how the landscape of the past has informed the culture and identity of the Low Countries today and the impossibility of the Dutch drive to turn the philosophy of Mondrian's geometric order into a way of living.

WED 02:25 The Golden Age of Steam Railways (b01p8w38)
[Repeat of broadcast at 21:00 today]

THURSDAY 07 SEPTEMBER 2017

THU 19:00 World News Today (b093y1gl)

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

THU 19:30 Top of the Pops (b0940bzk)

Steve Wright and Andy Peebles present the pop chart programme, first broadcast on 28 June 1984. Featuring The Bluebells, Human League, Bob Marley & The Wailers, Alison Moyet, Scritti Politti and Frankie Goes To Hollywood.

THU 20:00 Britain's Outlaws: Highwaymen, Pirates and Rogues (b06qskdx)

Pirates

Few figures in British history have captured the popular imagination as much as the outlaw. From gentleman highwaymen, via swashbuckling pirates to elusive urban thieves and rogues, the brazen escapades and the flamboyance of the outlaw made them the antihero of their time - feared by the rich, admired by the poor and celebrated by writers and artists.

In this three-part series, historian Dr Sam Willis travels the open roads, the high seas and urban alleyways to explore Britain's 17th- and 18th-century underworld of highwaymen, pirates and rogues, bringing the great age of the British outlaw vividly to life.

Sam shows that, far from being 'outsiders', outlaws were very much a product of their time, shaped by powerful national events. In each episode, he focuses not just on a particular type of outlaw, but a particular era - the series as a whole offers a chronological portrait of the changing face of crime in the 17th and 18th centuries.

Sam takes to the high seas in search of the swashbuckling pirates of the golden age of piracy during the early 18th century. Following in the wake of the infamous Captain Kidd, Blackbeard, Calico Jack and others, Sam charts the devastating impact these pirates had during an era of colonial expansion and how, by plundering the vast network of seaborne trade, they became the most-wanted outlaws in the world.

THU 21:00 Andrew Marr's The Making of Modern Britain (b00p3yn1)

Little Britain

Andrew Marr's epic series charting the events that shaped Britain.

For Andrew Marr, the story of Britain in the 1930s was one of betrayal, political extremism, unemployment and... hats. Bowlers, trilbies, top hats and flat caps were everywhere, as the country descended into chaos when the financial crash on Wall Street engulfed Britain. Solutions to the national crisis were offered by Britain's most unlikely paramilitaries, the Greenshirts.

Another way forward came from the Blackshirts, led by Britain's very own pantomime villain Oswald Mosley. With fascists on the march in Europe, Britain perfected the ability to look the other way and hope for the best. Dazzled by Gracie Fields and delighted by Butlins, Britain also had one nostalgic eye on the past, building mock Tudor homes for the new commuter class.

With vivid anecdotes and fascinating archive, Andrew argues that appeasement, not confrontation, was the British way. Only the lone voice of Winston Churchill warned of the horrors ahead. In an age of big, bad ideas, Britain in the 1930s could appear small-minded and reticent, but Andrew invites us to look a little harder and see how 'Little Britain' was tested, and faltered, before finally coming of age as modern Britain was born.

THU 22:00 BBC Proms (b0940bzm)
2017

Andras Schiff Plays Bach

After his extraordinary performance of Bach's Goldberg Variations at the 2015 Proms, world-renowned pianist Sir Andras Schiff returns to the Royal Albert Hall for another solo Bach recital. He performs Book One of Bach's The Well-Tempered Clavier, a cycle that he will complete next year with Book Two. Almost three centuries after Bach composed his two sequences of preludes and fugues in all 24 keys, 'the 48' remains a touchstone for all great pianists.

THU 00:00 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.

THU 01:00 Top of the Pops (b0940bzk)
[Repeat of broadcast at 19:30 today]

THU 01:35 Motown at the BBC (b00h4q4r)

To mark the 50-year anniversary of Motown in 2009, a compilation of some of the iconic record label's greatest names filmed live in the BBC studios. Visitors from Hitsville USA over the years have included Smokey Robinson and the Miracles, Diana Ross and the Supremes, the Temptations, Stevie Wonder, The Four Tops and The Jackson 5.

THU 02:35 Britain's Outlaws: Highwaymen, Pirates and Rogues (b06qskdx)

[Repeat of broadcast at 20:00 today]

FRIDAY 08 SEPTEMBER 2017

FRI 19:00 World News Today (b093y1h5)

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

FRI 19:30 BBC Proms (b0940c1m)
2017

Dvorak and Bartok

Bartok's sparkling Second Piano Concerto and Dvorak's Eighth Symphony are in the spotlight as American pianist Jeremy Denk joins conductor Karina Canellakis and the BBC Symphony Orchestra. The concert opens with Sinfonia (for Orbiting Spheres) by young American composer Missy Mazzoli, music 'in the shape of the solar system'.

FRI 21:30 BBC Proms (b0940c1p)
2017

Chineke! Orchestra with Sheku Kanneh-Mason and Jeanine De Bique

Katie Derham introduces another unforgettable Prom from the BBC archive. This week she is joined by one of the brightest

young stars of classical music, cellist Sheku Kanneh-Mason. They look back on a Prom that made history in 2017 when Chineke! became the first British majority BME symphony orchestra ever to take to the Proms stage. Including music by Dvorak, Handel and Rimsky-Korsakov, and featuring Sheku himself, soprano Jeanine De Bique and conductor Kevin John Edusei, it was a night that broke new boundaries for all involved.

FRI 23:00 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 00:00 Dusty Springfield at the BBC (b01qyv7)

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 01:00 Only Yesterday: The Carpenters Story (b007c1lb)

The Carpenters were one of the biggest selling pop artists of the 1970s, but what seemed on the surface as the perfect, wholesome brother and sister duo hid a destructive complex truth that was unknown to the world.

Featuring behind the scenes footage, interviews with brother Richard, family and friends, this documentary traces the story that ended in tragedy with sister Karen's untimely death aged just 32.

FRI 02:00 Shirley Bassey at the BBC (b01psct4)

Forever sequinned, stylish and sassy, Dame Shirley Bassey, one of Britain's all-time great voices, turned 76 in January 2013.

She began her rise to fame as a 16-year-old singer in 1953 and 60 years on she is still going as strong as ever. Join us as we celebrate Dame Shirley's birthday and her remarkable career, taking a trip down memory lane to uncover some of her finest performances from the vaults of the BBC.

From early BBC appearances on Show of the Week, The Shirley Bassey Show, via the Royal Albert Hall, Glastonbury 2007 and right up to her recent jaw dropping show at the Electric Proms. This is a compilation of some of Dame Shirley's classic performances, taking in iconic songs such as The Performance of My Life, Goldfinger, Big Spender and Diamonds Are Forever.

Producer: Sam Bridger

FRI 03:00 Definitely Dusty (b00780bt)

[Repeat of broadcast at 23:00 today]