

# Westminster Abbey

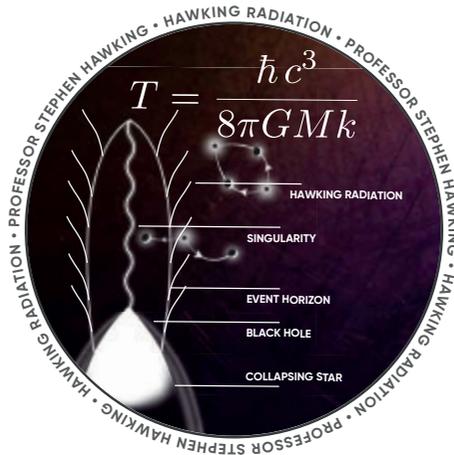


A Service of Thanksgiving for

PROFESSOR STEPHEN HAWKING

CH CBE FRS FRSA

8<sup>th</sup> January 1942–14<sup>th</sup> March 2018



Friday 15<sup>th</sup> June 2018

noon

## BIOGRAPHICAL NOTE

Stephen Hawking was a truly extraordinary man. He had enormous skills in physics and mathematics and was able to make tremendous contributions, particularly to the theory of black holes, despite his debilitating physical condition. His most important contribution was the realisation that black holes give off thermal radiation, now referred to as Hawking radiation, albeit only at an incredibly low temperature for those black holes of which we have direct evidence. The significance of this work was not so much the effect itself but the fact that he was able to provide the one clear-cut physical implication, that we know of, which brings together the two great revolutions of 20<sup>th</sup> century physics, namely general relativity and quantum mechanics, and he demonstrated that this necessarily incorporates profound notions from thermodynamics.

He faced his challenges with courage and humour and took much pleasure in the well-deserved fame that his achievements earned for him. He believed strongly in the need to communicate science to the general public, but despite his inherent optimism he would sometimes make highly insightful statements concerning his fears for the future of the human race.

He has provided us with deep understandings of startling originality and scientific insight under difficult and daunting conditions. We all miss him enormously.

*Professor Sir Roger Penrose OM FRS*

Professor Hawking was blessed by the four Popes he met for his search for the truth in the field of cosmology and for the testimony of his life, consecrated to the good of humanity, overcoming all adversities, including his own disease.

*His Grace Archbishop Marcelo Sánchez  
Chancellor of the Pontifical Academy of Sciences*



*Stephen and Jane Hawking play cards with their eldest children, Robert and Lucy, in Pasadena, 1974*



*Stephen with scientific colleagues including Roger Penrose, Bernard Carr, Peter D'Eath, and Kip Thorne (bottom left), circa 1975*

*The whole of the church is served by a hearing loop. Users should turn their hearing aid to the setting marked T.*

*Members of the congregation are kindly requested to refrain from using private cameras, video, or sound recording equipment. Please ensure that mobile telephones and other electronic devices are switched off.*

*The service is conducted by The Very Reverend Dr John Hall, Dean of Westminster.*

*The service is sung by the Choir of Westminster Abbey, directed by James O'Donnell, Organist and Master of the Choristers.*

*The organ is played by Peter Holder, Sub-Organist.*

*Before the service Benjamin Cunningham, Organ Scholar, plays:*

Good Friday Music *Richard Wagner (1813–83)*  
*from Parsifal* *arranged by Edwin Lemare (1865–1934)*

*Matthew Jorysz, Assistant Organist, plays:*

Adagietto *Gustav Mahler (1860–1911)*  
*from Symphony V* *arranged by David Briggs (b 1962)*

The Princesses' Round *Igor Stravinsky (1882–1971)*  
*from The Firebird Suite* *arranged by Ben Comeau (b 1993)*

Nimrod *Edward Elgar (1857–1934)*  
*from Variations on* *arranged by William Harris (1883–1973)*  
*an original theme 'Enigma'*

*Peter Holder, Sub-Organist, plays:*

Venus, the Bringer of Peace *Gustav Holst (1874–1934)*  
*from The Planets* *arranged by Peter Sykes (b 1977)*

*Hymns covered by Christian Copyright Licensing (International) Ltd are reproduced under CCL no 1040257.*

## ORDER OF SERVICE

*Members of the Diplomatic Corps are received at the Great West Door by the Dean and Chapter of Westminster. Presentations are made, and they are conducted to their seats. All remain seated.*

*The Right Honourable Matt Hancock MP, Secretary of State for Digital, Culture, Media, and Sport, representing Her Majesty's Government, the Right Honourable Sam Gyimah MP, Minister of State for Universities, Science, Research, and Innovation, and the Right Honourable Jeremy Corbyn MP, Leader of the Opposition, are received at the Great West Door by the Dean and Chapter of Westminster. Presentations are made, and they are conducted to their seats. All remain seated.*

*The Lord Lieutenant of Greater London and the High Sheriff of Greater London are received at the Great West Door by the Dean and Chapter of Westminster. Presentations are made, and they are conducted to their seats. All remain seated.*

*The Lord Mayor of London's Representative is received at the Great West Door by the Dean and Chapter of Westminster. Presentations are made, and he is conducted to his seat. All remain seated.*

*The Lord Mayor of Westminster Locum Tenens is received at the Great West Door by the Dean and Chapter of Westminster. Presentations are made. All stand as he is conducted to his seat, and then sit.*

*Representatives of Her Royal Highness The Princess Royal and Her Royal Highness Princess Alexandra, the Honourable Lady Ogilvy, are received at the Great West Door by the Dean and Chapter of Westminster. Presentations are made. All stand as the Royal Representatives are conducted to their seats.*

*The choir sings*

### THE INTROIT

**B**RING us, O Lord God, at our last awakening into the house and gate of heaven, to enter into that gate and dwell in that house, where there shall be no darkness nor dazzling but one equal light, no noise nor silence but one equal music, no fears nor hopes but one equal possession, no ends nor beginnings but one equal eternity, in the habitation of thy glory and dominion, world without end. Amen.

*William Harris (1883–1973)*

*John Donne (1573–1631)*

*All sing*

THE HYMN

*during which the procession  
moves to places in Quire and the Sacrarium*



**A**LL creatures of our God and King,  
lift up your voice and with us sing  
Alleluia, alleluia!

Thou burning sun with golden beam,  
thou silver moon with softer gleam:  
*O praise him, O praise him,  
Alleluia, alleluia, alleluia!*

Thou rushing wind that art so strong,  
ye clouds that sail in heaven along,  
*O praise him, Alleluia!*

Thou rising morn, in praise rejoice,  
ye lights of evening, find a voice:

Thou flowing water, pure and clear,  
make music for thy Lord to hear,  
*Alleluia, alleluia!*

Thou fire so masterful and bright,  
that givest man both warmth and light:

Dear mother earth, who day by day  
unfoldest blessings on our way,  
*O praise him, Alleluia!*

The flowers and fruits that in thee grow,  
let them his glory also show:

Let all things their Creator bless,  
and worship him in humbleness,  
*O praise him, Alleluia!*

Praise, praise the Father, praise the Son,  
and praise the Spirit, three in One:

*Lasst uns erfreuen 263 NEH*  
Ralph Vaughan Williams (1872–1958)

*St Francis of Assisi (1182–1226)*  
translated by William Draper (1855–1933)

*All remain standing. The Very Reverend Dr John Hall, Dean of Westminster, gives*

## THE BIDDING

WE come to celebrate the life and achievements of Stephen Hawking in this holy place where God has been worshipped for over a thousand years and where kings and queens and the great men and women of our national history and international influence are memorialised. We shall bury his mortal remains with those of his fellow scientists.

Stephen Hawking's grave will be beside that of Isaac Newton, buried here eight days after his death in 1727, and near the graves of John Herschel, buried here in 1871, Charles Darwin in 1882, Ernest Rutherford in 1937, and John Joseph Thompson in 1940. Nearby are memorials to other distinguished scientists, including Paul Dirac, at whose memorial dedication here in 1995 Professor Hawking gave the address.

We shall give thanks for Stephen Hawking's remarkable gifts and for his life: for his years as Lucasian Professor of Mathematics at the University of Cambridge and for his international reach and influence as a scientist; for his personal courage, endurance, and perseverance living with motor neurone disease; and for his family and friends. We shall with love commend his immortal soul to almighty God.

*All sit for*

## THE TRIBUTES

*by*

Professor Kip Thorne  
*from the Nave Pulpit*

*and*

Tom Nabarro  
*from the Lantern*

*All stand to sing*

THE HYMN



FATHER, hear the prayer we offer:  
not for ease that prayer shall be,  
but for strength that we may ever  
live our lives courageously.

Not for ever in green pastures  
do we ask our way to be;  
but the steep and rugged pathway  
may we tread rejoicingly.

Not for ever by still waters  
would we idly rest and stay;  
but would smite the living fountains  
from the rocks along our way.

Be our strength in hours of weakness,  
in our wanderings be our guide;  
through endeavour, failure, danger,  
Father, be thou at our side.

*Sussex 357 NEH*  
*traditional English melody*

*Aspiration after Psalm 23*  
*Love Maria Willis (1824–1908)*

*All sit. Benedict Cumberbatch reads from the Great Lectern*

THE FIRST LESSON

MAY God grant me to speak with judgement,  
and to have thoughts worthy of what I have received;  
for he is the guide even of wisdom  
and the corrector of the wise.  
For both we and our words are in his hand,  
as are all understanding and skill in crafts.

For it is he who gave me unerring knowledge of what exists,  
to know the structure of the world and the activity of the elements;  
the beginning and end and middle of times,  
the alternations of the solstices and the changes of the seasons,  
the cycles of the year and the constellations of the stars,  
the natures of animals and the tempers of wild animals,  
the powers of spirits and the thoughts of human beings,  
the varieties of plants and the virtues of roots;  
I learned both what is secret and what is manifest,  
for wisdom, the fashioner of all things, taught me.

There is in her a spirit that is intelligent, holy,  
unique, manifold, subtle,  
mobile, clear, unpolluted,  
distinct, invulnerable, loving the good, keen,  
irresistible, beneficent, humane,  
steadfast, sure, free from anxiety,  
all-powerful, overseeing all,  
and penetrating through all spirits  
that are intelligent, pure, and altogether subtle.  
For wisdom is more mobile than any motion;  
because of her pureness she pervades and penetrates all things.

*Wisdom 7: 15–24*

*The choir sings*

## THE PSALM

**O** LORD our Governor, how excellent is thy name in all the world :  
thou that has set thy glory above the heavens!  
Out of the mouth of very babes and sucklings hast thou ordained strength,  
because of thine enemies :  
that thou mightest still the enemy, and the avenger.  
For I will consider thy heavens, even the works of thy fingers :  
the moon and the stars, which thou hast ordained.  
What is man, that thou art mindful of him :  
and the son of man, that thou visitest him?  
Thou madest him lower than the angels :  
to crown him with glory and worship.

Thou makest him to have dominion of the works of thy hands :  
and thou hast put all things in subjection under his feet;  
all sheep and oxen :  
yea, and the beasts of the field;  
the fowls of the air, and the fishes of the sea :  
and whatsoever walketh through the paths of the seas.  
O Lord our Governor :  
how excellent is thy name in all the world!

Glory be to the Father and to the Son,  
and to the Holy Ghost :  
as it was in the beginning, is now, and ever shall be,  
world without end. Amen

*Henry Lawes (1595–1662)*

*Psalm 8*

*Lucy Hawking reads from the Great Lectern*

## THE SECOND LESSON

**L**ET love be genuine; hate what is evil, hold fast to what is good; love one another with mutual affection; outdo one another in showing honour. Do not lag in zeal, be ardent in spirit, serve the Lord. Rejoice in hope, be patient in suffering, persevere in prayer. Contribute to the needs of the saints; extend hospitality to strangers.

Bless those who persecute you; bless and do not curse them. Rejoice with those who rejoice, weep with those who weep. Live in harmony with one another; do not be haughty, but associate with the lowly; do not claim to be wiser than you are. Do not repay anyone evil for evil, but take thought for what is noble in the sight of all. If it is possible, so far as it depends on you, live peaceably with all. Beloved, never avenge yourselves, but leave room for the wrath of God; for it is written, ‘Vengeance is mine, I will repay, says the Lord.’ No, ‘if your enemies are hungry, feed them; if they are thirsty, give them something to drink; for by doing this you will heap burning coals on their heads.’ Do not be overcome by evil, but overcome evil with good.

*Romans 12: 9–21*

*All stand to sing*

THE HYMN



**H**E who would valiant be  
'gainst all disaster,  
let him in constancy  
follow the Master.  
There's no discouragement  
shall make him once relent  
his first avowed intent  
to be a pilgrim.

Whoso beset him round  
with dismal stories,  
do but themselves confound—  
his strength the more is.  
No foes shall stay his might,  
though he with giants fight:  
he will make good his right  
to be a pilgrim.

Since, Lord, thou dost defend  
us with thy Spirit,  
we know we at the end  
shall life inherit.  
Then fancies flee away!  
I'll fear not what men say,  
I'll labour night and day  
to be a pilgrim.

*Monk's Gate 372 NEH*  
*adapted from an English folk song*  
*by Ralph Vaughan Williams*

*from The Pilgrim's Progress*  
*John Bunyan (1628–88)*  
*adapted by Percy Dearmer (1867–1936)*

*All sit for*

THE ADDRESS

*by*

Professor the Lord Rees of Ludlow OM  
*Astronomer Royal*

*The choir sings*

THE ANTHEM

*during which the Dean leads members of the family  
to the place of interment*

**S**EEK him that maketh the Seven Stars and Orion  
and turneth the shadow of death into the morning. Alleluia!

Yea, the darkness shineth as the day;  
the night is light about me. Amen.

*Jonathan Dove (b 1959)*

*Amos 5: 8a; Psalm 139: 11b*

*All stand for*

THE COMMITAL

**W**E have entrusted our brother Stephen to God's mercy, and we now commit his mortal remains to the ground: earth to earth, ashes to ashes, dust to dust: in sure and certain hope of the resurrection to eternal life through our Lord Jesus Christ, who will transform our frail bodies that they may be conformed to his glorious body, who died, was buried, and rose again for us. To him be glory for ever. **Amen.**

*The ashes are placed in the grave.*

**H**EAVENLY Father, we thank you for all those whom we love but see no longer. As we remember Stephen in this place, hold before us our beginning and our ending, the dust from which we come and the death to which we move, with a firm hope in your eternal love and purposes for us, in Jesus Christ our Lord. **Amen.**

*All remain standing. The choir sings*

## NUNC DIMITTIS

**N**YNE otpushchayeshi raba Tvoego, Vladyko, po glagolu Tvoyemu s mirom: yako videsta ochi moi spaseniye Tvoye, ezhe esi ugotoval pred litsem vsekh lyudei, svet vo otkrovenie yazykov, i slavu lyudei Tvoikh Izrailya.

*Lord, now lettest thou thy servant depart in peace, according to thy Word. For mine eyes have seen thy salvation which thou hast prepared before the face of all people. A light to lighten the Gentiles and the glory of thy people, Israel.*

*from All-Night Vigil Op 37  
Sergei Rachmaninoff (1873–1943)*

*after St Luke 1: 28, 42*

*The Reverend Mark Birch, Minor Canon and Sacrist, leads*

## THE PRAYERS

Let us pray.

*All kneel or sit.*

**L**ET us give thanks to God for his highest gifts: for minds that range beyond the reach of hand and eye; for intellects that search the vastness of space, and the deep structure of matter, by which we may know God's mind and nature.

Let us bless the Lord;  
**thanks be to God.**

*The Reverend Dr Cally Hammond, Dean of Gonville and Caius College, Cambridge, says:*

**L**ET us give thanks to God for Stephen: for his contribution, his character, and his courage; for his ability to see deeply into the mysteries of the cosmos; for his zeal in sharing his insights; for all who supported him personally and professionally.

Let us bless the Lord;  
**thanks be to God.**

*Jane Hawking says:*

**L**ET us give thanks for the inspiration and strength he gave to others: to his colleagues and students; to those living with illness, disability, and all kinds of hardship; to all who persevere in the face of great physical and intellectual challenges.

Let us bless the Lord;  
**thanks be to God.**

*Elinor Tatum says:*

**L**ET us pray for his family, and all who most mourn his passing; for his College and colleagues; for the work of all the charities and causes that he supported; for the Stephen Hawking Foundation and all who will carry forward his legacy; that, as he transcended his circumstances, his example may continue to inspire and encourage.

Lord, in your mercy

**hear our prayer.**

*Professor Stephen J Toope OC, Vice-Chancellor, University of Cambridge, says:*

**L**ET us pray for all who extend the bounds of human knowledge; for teachers, researchers, and all who deepen our understanding of ourselves and this universe: that knowledge may be used wisely, justly, and in the service of human flourishing.

Lord, in your mercy

**hear our prayer.**

*The Reverend Jane Sinclair, Canon in Residence, says:*

**L**ET us pray for all that promotes human dignity; for the National Health Service and all who dedicate their lives to the welfare of others; for those who research the causes and treatment of disease; for those working in the field of assistive technologies; for all who promote and defend the rights of all people.

Lord, in your mercy

**hear our prayer.**

*The Sacrist concludes:*

All these, our prayers and praises, let us offer to the Father in the words that Jesus taught us:

**O**UR Father, who art in heaven, hallowed be thy name; thy kingdom come; thy will be done; on earth as it is in heaven. Give us this day our daily bread. And forgive us our trespasses, as we forgive those who trespass against us. And lead us not into temptation; but deliver us from evil. For thine is the kingdom, the power, and the glory, for ever and ever. Amen.

*All stand to sing*

THE HYMN



LORD of beauty, thine the splendour  
shown in earth and sky and sea,  
burning sun and moonlight tender,  
hill and river, flower and tree:  
lest we fail our praise to render  
touch our eyes that they may see.

Lord of wisdom, whom obeying  
mighty waters ebb and flow,  
while unhasting, undelaying,  
planets on their courses go:  
in thy laws thyself displaying,  
teach our minds thyself to know.

Lord of life, alone sustaining  
all below and all above,  
Lord of love, by whose ordaining  
sun and stars sublimely move:  
in our earthly spirits reigning,  
lift our hearts that we may love.

Lord of beauty, bid us own thee,  
Lord of truth, our footsteps guide,  
till as Love our hearts enthrone thee,  
and, with wisdom purified,  
Lord of all, when all have known thee,  
thou in all art glorified.

*Regent Square 265 NEH*  
*Henry Smart (1813–79)*

*Cyril Alington (1872–1955)*

*All remain standing. Major Tim Peake CMG reads from the Nave Pulpit*

### THE READING

**E**ARTH'S distant orb appeared  
The smallest light that twinkles in the heaven;  
Whilst round the chariot's way  
Innumerable systems rolled,  
And countless spheres diffused  
An ever-varying glory.  
Below lay stretched the universe!  
There, far as the remotest line  
That bounds imagination's flight,  
Countless and unending orbs  
In mazy motion intermingled,  
Yet still fulfilled immutably  
Eternal Nature's law.  
Above, below, around,  
The circling systems formed  
A wilderness of harmony;  
Each with undeviating aim,  
In eloquent silence, through the depths of space  
Pursued its wondrous way.

*from Queen Mab  
Percy Bysshe Shelley (1792–1822)*

*The Dean pronounces*

### THE BLESSING

**G**O forth into the world in peace; be of good courage; hold fast that which is good; render to no-one evil for evil; strengthen the faint-hearted; support the weak; help the afflicted; honour all people; love and serve the Lord, rejoicing in the power of the Holy Spirit; and the blessing of God Almighty, the Father, the Son, and the Holy Spirit, be amongst you and remain with you always. **Amen.**

*All remain standing as the choir and clergy depart.*

*Music after the service:*

Ritt der Walküren (Ride of the Valkyries)  
from Die Walküre

*Richard Wagner*  
*arranged by Edwin Lemare*

**Members of the Congregation are invited to remain  
in their places until invited to move by the Honorary Stewards**

*The bells of the Abbey church are rung*

**There will be a retiring collection in aid of the  
Stephen Hawking Foundation**



## THE STEPHEN HAWKING FOUNDATION

I have devoted my life to study, teaching, and research in the field of cosmology, astrophysics, and mathematics in an attempt to understand the most fundamental questions that have faced mankind since the dawn of time. During the course of my work I have been fortunate to have worked with talented people, and in doing so, have led many projects and developed theories that have helped us better understand the world and universe around us.

The Stephen Hawking Foundation exists to ensure that the work I have dedicated my life to will continue to flourish long into the future. The foundation will progress many of my hopes for the scientific world, both in regard to the universe around us and motor neuron disease. It will facilitate the tackling of many problems and unanswered questions—probably by scientists who are currently young children, or even not yet born.

I have been fortunate that despite my physical disability I have been able to work—but I am conscious that there are all sorts of different disabilities that people suffer from; lack of resources, lack of encouragement, lack of hope; but I believe that where there is life there is hope!

*Professor Stephen Hawking, 2016*





