



GIFFORD LECTURES 1997/98

GENES, GENESIS AND GOD

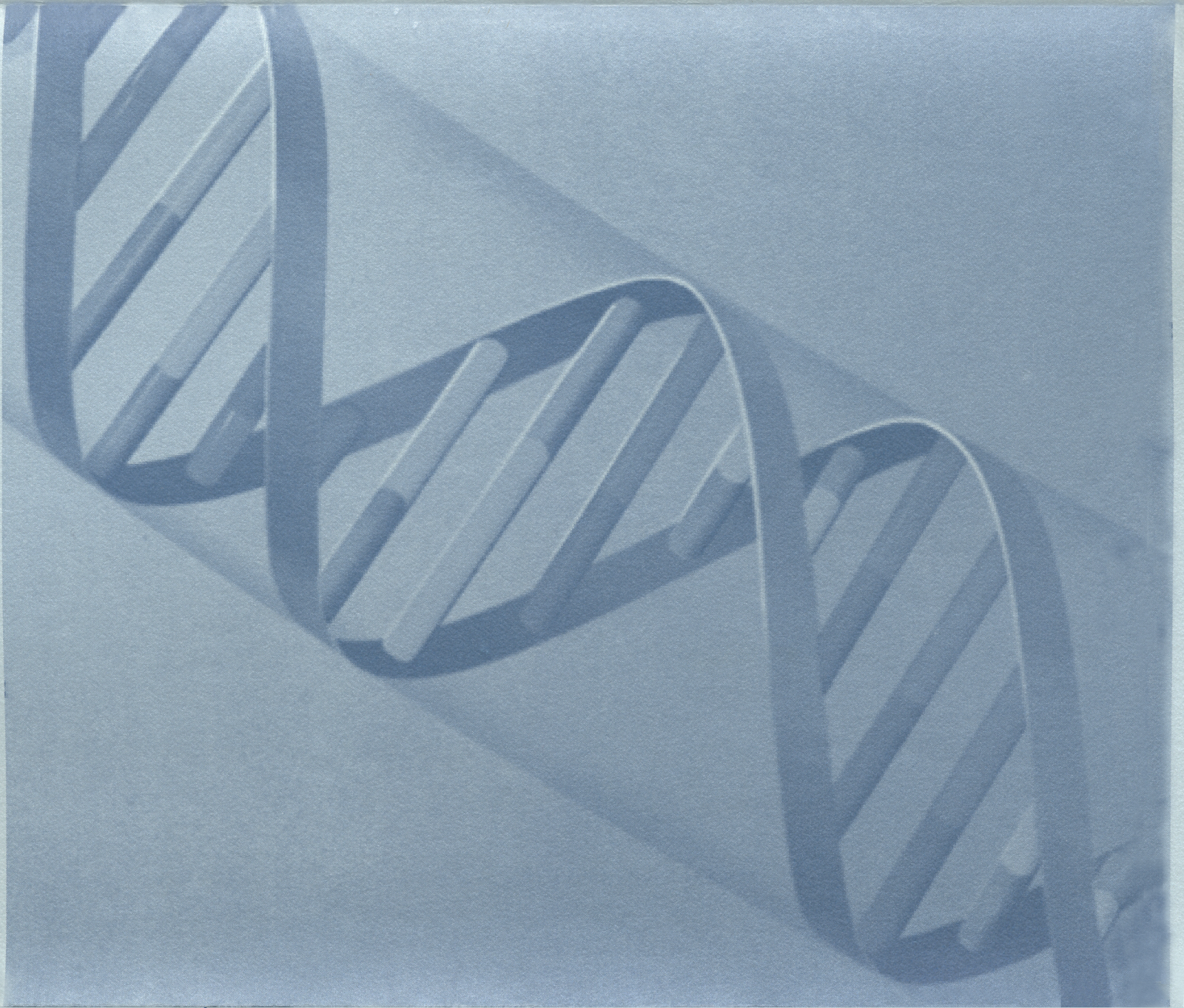
a series of ten Lectures by

PROFESSOR HOLMES ROLSTON

*Professor of Philosophy and University Distinguished Professor,
Colorado State University*

November 1997

All lectures will be held in Lecture Theatre 5,
Appleton Tower, Crichton Street, commencing at 5.15 pm.



Lecture 1	Monday 10 November	Genetic Creativity: Diversity and Complexity in Natural History
Lecture 2	Tuesday 11 November	Genetic Values: Intrinsic, Inclusive, Distributed, Shared
Lecture 3	Thursday 13 November	Genetic Identity: Conserved and Integrated Values
Lecture 4	Monday 17 November	Genes and the Genesis of Human Culture
Lecture 5	Tuesday 18 November	Genes and the Genesis of Science
Lecture 6	Thursday 20 November	Genes and the Genesis of Ethics
Lecture 7	Monday 24 November	Ethics Naturalised and Universalised
Lecture 8	Tuesday 25 November	Genes and the Genesis of Religion
Lecture 9	Thursday 27 November	Genes and the Prolific Earth
Lecture 10	Monday 1 December	Genes, Genesis and God

THE LECTURES ARE FREE AND OPEN TO THE PUBLIC

**THE UNIVERSITY OF EDINBURGH
GIFFORD LECTURES
1997/98
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HOLMES ROLSTON III
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GENES, GENESIS AND GOD

The Earth is remarkable, and valuable, for the genesis that occurs on it. Ours is an age of many doubts, but no one doubts that there has been dramatic genesis on our planet, no one including those who doubt "creation", since this hints of a Creator. For the puzzled, there are, in broadest outline, two complementary or competing explanations of this genesis: a scientific account, for which one can take the word "genes", and a religious account for which the symbolic word is "God". The term "genesis" mediates between the dual accounts.

In this genesis, the Earth is striking for both the nature and the culture that occur on it. There appears, nascently in the higher animals and flourishing in Homo sapiens, a "spirit" of extraordinary ingenuity and intelligence, a **Geist** (German), or, to continue the alliteration at some risk of arrogance, a "genius" -using that term to register these inventive ("ingenious") human capacities so notable for the building of cumulative transmissible cultures. Such phenomena too demand explanation; human cultural life is an outcome of genes, a part of their genesis. Especially brilliant parts of this cultural genius, because they are such critical cases for explanation, are the human capacities for religion, ethics, and science.

A major conceptual task is to relate cultural genesis to natural genesis. Darwinian evolutionary biology is a brilliant achievement, the more so when coupled with that of genetic and molecular biology. Unfortunately, biology has been less successful relating itself to culture. There is a genuine novelty that emerges with culture, now superimposed on the wild nature out of which humans once emerged. It is important to see how biological phenomena gave rise to culture, but it is just as critical to realise how culture exceeds biology, just as it is vital to see how biology exceeds physics and chemistry.

Values are created and transmitted in both natural history and human cultural history. Few persons will deny that, one way or another, much that has occurred on Earth is valuable ("able to be valued - if not "valuable in itself"), and this despite the fact that nature is often taken, alike by natural scientists and humanist philosophers, to be "value free". The Earth story, or, more pluralistically, the developing stories on this remarkable planet, are the genesis of value, for which, in biological evolution, the genes are critical in a set-up remarkably propitious for life, and, later and equally remarkable, as the culturing of value, for which the genes, however necessary, are insufficient.

One needs to locate the human self, with its genius, in its genesis in nature and culture, in a value-laden world. To do so, one must work a way first through natural history, and then through cultural history, particularly through science, ethics, and religion. These three great domains for the generating, conserving, and distributing of values are test cases, demanding their incorporation into the larger picture of what is taking place on our planet.

The more comprehensive model is the generating and testing of value, which takes place through the generating of information, first in nature and later in culture. Evolutionary history is interpreted as the genesis of natural value, which is conserved, enriched, and appreciated by humans using their capacities for science, ethics, and religion.

The root idea in the English word "nature" is "giving birth", found also in such words as "native", "natal", "nation", from a Latin root going back to a Greek one, *natans*, being born. Though no longer evident in English, this is from the same root

Latin root going back to a Greek one, *natans*, being born. Though no longer evident in English, this is from the same root as "gene", (*gi[g]nomai*, to generate, give birth), with various *gna* forms, surviving in such words as "genesis", "pregnant", "progeny", "Gentile". The essential idea in "nature" is a kind of generative creativity, so remarkably exemplified in the events studied by the biological sciences.

The questions become ultimately ones, though they are born in the phenomena of natural history and of human culture. The religions have steadily thought to detect a Beyond in the midst of the here and now. They have found neither nature nor culture to be in and of themselves either final or fully self-explanatory. They have claimed a Presence immanent and transcendent, stirring in the Earth history. The evidence for such presence is the striking emergence or genesis, of information and of value. There are genes, there is genesis, but explanations are not over until one has reckoned with the question of God. That claim takes the form of whether the phenomena of religion and ethics, in their powers of self-transformation, can be reduced to phenomena of biology, that is whether such culture can be reduced to nature, and nature in turn found to be its own explanation. If not, perhaps explanations must rise to something beyond.

The question, from this perspective, is whether biology forbids, or discourages, or permits, or even invites religious inquiry. Any study in self-identity proves to be a study in one's location in the world and in the location of value. In terms of human intellectual history, after a century of Darwin, ending also the century of molecular biology, facing a new century, indeed a new millennium, we urgently need an account of human selves and their values in this value-laden world of natural and cultural history. Earth is prolific, and when life is renewed in the midst of its perpetual perishing, genes and their genesis still invites the haunting question of God.

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HOLMES ROLSTON III

Holmes Rolston III has been described as the father of environmental ethics as a modern academic discipline. A prolific writer, he has written six critically acclaimed books, chapters in three dozen other books, and over 70 articles for philosophy, science and popular journals. He is a founder of the 19 year old journal *Environmental Ethics*, and has been an editor of *Biology, Ethics, and the Origins of Life*. He has spoken as a distinguished lecturer on six continents. He has served as a consultant with over two dozen conservation groups, including the U.S. Congress and a Presidential Commission. It has been said that he has "devoted his distinguished career to plausibly and meaningfully interpreting the natural world from a philosophical perspective and is regarded as one of the world's leading scholars on the philosophical, scientific and religious conceptions of nature. His early work on values in nature, as well as his role as founder of the influential academic journal *Environmental Ethics*, was critical not only in establishing but in shaping and defining the modern field of environmental philosophy."

Rolston was born in the Shenandoah Valley of Virginia. He is the son of a Presbyterian pastor and the grandson of a Presbyterian pastor, and an ordained minister himself who served as a pastor for nine years. He studied physics as an undergraduate before entering theological seminary, then completed a PhD in Theology and Religious Studies at the University of Edinburgh. Later he studied the Philosophy of Science, then entered an academic career at Colorado State University where he currently holds the prestigious position of University Distinguished Professor.

His books include:

- Science and Religion: A Critical Survey (Random House and McGraw Hill, 1987)
- Philosophy Gone Wild (Prometheus Books, 1989)
- Environmental Ethics (Temple University Press, 1988)
- Conserving Natural Value (Columbia University Press, 1994)

Avocationally, he is a backpacker, accomplished field naturalist, and respected bryologist.

The Gifford Lectureships

The Gifford Lectureships, which are held at the Universities of Edinburgh, Glasgow, Aberdeen and St. Andrews, were established under the will of Adam Lord Gifford, a Senator of the College of Justice, who died in 1887. Established to 'promote and diffuse the study of Natural Theology in the widest sense of the term - in other words, the knowledge of God,' the Lectureships have enabled a most notable field of scholars to contribute to the advancement of theological thought.

The University of Edinburgh Gifford Lectureships

At Edinburgh, past Gifford Lecturers have included:

William James The pragmatic founder of American scientific psychology and the most influential American thinker of his day. His published Gifford Lectures of 1901-02 on *The Varieties of Religious Experience: a Study of Human Nature* are widely regarded as the most important American work on religion.

Sir James Frazer Born in Glasgow in 1854, he spent most of his adult life at Cambridge, where he became a distinguished social anthropologist of religion and indigenous peoples, classical scholar and folklorist. His major work was *The Golden Bough* (1890 and 1911-15).

Albert Schweitzer Alsatian theologian, musician and medical missionary. His *The Quest for the Historical Jesus* transformed Christology. For his humanitarian work he was awarded the 1952 Nobel Peace Prize.

Sir Charles Sherrington The father of understanding of brain and spinal cord function. The *British Medical Journal* wrote that he 'did for neurology what the atomic theory did for chemistry.' As a philosopher he addressed the issue of the mind/body relationship.

Alfred N. Whitehead Mathematician and philosopher. After his earlier work with Bertrand Russell he developed a system known as 'process philosophy', which has given birth to the still highly influential 'process theology'.

Reinhold Niebuhr American theologian who sought to establish the relevance of the Christian faith to contemporary problems; highly respected by secular and humanist thinkers.

Niels Bohr Danish physicist who is best known for his epoch-making research into atomic structure and radiation, for which he was awarded the 1922 Nobel Prize for Physics; philosopher of quantum theory.

Arnold Toynbee World-renowned historian, philosopher of history, and author of the twelve volume *A Study of History*; coined the phrase 'industrial revolution'. His 1952/53 Gifford Lectures led to the publication of *An Historian's Approach to Religion*.

Sir John Eccles Professor of Physiology and Biophysics who was awarded the Nobel Prize for Medicine in 1963; philosopher of the mind, known for his commitment to dualism.

Paul Ricoeur French existentialist, theologian, philosopher and literary critic; an influential

and prolific practitioner of hermeneutics.

Stanley Jaki Hungarian-born Benedictine priest with doctorates in theology and physics; an eminent historian and philosopher of science.

John Hick A foremost theologian and philosopher of religion of today, who has developed his own

and examined others' theories on religious pluralism.

Further information

For further information on the Gifford Lectures, or if you wish to be included on the mailing list, please contact Mr Paul McGuire, Faculty of Arts Office, University of Edinburgh, David Hume Tower, George Square, Edinburgh EH8 9JX. Tel 0131 6503664 Fax 0131 6506536 E.mail Gifford.Lectures@ed.ac.uk

Webpages

This text and information about future Gifford Lecture series can be found on or via <http://www.admin.ed.ac.uk/arts/docs/giff97.htm>

GIFFORD LECTURES 1997/98 SEMINAR A Prolific Earth: Genetic and Theological Explanations Wednesday 12 November, 1997

10.00 am

Professor RJ (Sam) Berry,
Geneticist and Ecologist of University College, London,
the 1997/98 University of Glasgow Gifford Lecturer
and

Professor Holmes Rolston,
Professor of Philosophy and University Distinguished Professor,
Colorado State University,
the 1997/98 University of Edinburgh Gifford Lecturer

**The General Assembly Hall, New College, Mound Place, Edinburgh.
This is FREE and open to the public.**

By a remarkable coincidence, at around the same time as **Professor RJ (Sam) Berry**, a Geneticist and Ecologist of University College, London, the 1997/98 University of Glasgow Gifford Lecturer, presents his Lecture series entitled 'Genes, God and Everything', **Professor Holmes Rolston**, Professor of Philosophy and University Distinguished Professor at Colorado State University, the 1997/98 University of Edinburgh Gifford Lecturer, will present his Lecture series entitled 'Genes, Genesis and God'. Professors Berry and Rolston have very kindly agreed to hold a joint seminar, at the University of Edinburgh.

First part - Nature

Second part - Culture

In the first part of the discussion the two Gifford Lecturers expect to debate, from their respective standpoints, such topics as the origin of life, complexity and diversity in the biosphere, and natural values. In the second part, they propose to turn to culture, ethics, truth, and other human values.

Wednesday 12 November 1997, from 10.00 am, in the General Assembly Hall, New College, Mound Place, Edinburgh. The Seminar is expected to last around one and a half to two hours, and will include a break for coffee.

This is FREE and open to the public.

Enquiries

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<http://www.admin.ed.ac.uk/arts/docs/giff97.htm>

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The 1998/99 Gifford Lectures

THE GIFFORD LECTURESHIPS

These lectures are given in the four classical Scottish universities (Edinburgh, Aberdeen, Glasgow, St. Andrews) by endowment from Lord Gifford in 1885. The original endowment was for lectures in natural theology, broadly conceived, which over the century has expanded to include the broad spectrum of modern philosophical trends, as these bear on metaphysics, ethics, cosmology, and theology. Lecturers have included philosophers, theologians, physicists, astronomers, biologists, chemists, neurologists, historians, anthropologists, psychologists, and those from other disciplines, such as comparative religion and literature.

Past Gifford Lecturers have included, among others: (in alphabetical order)

Samuel Alexander (1916-18), Space, Time, and Deity

Michael Arbib (1983-84)

Hannah Arendt (1972-74)

Alfred J. Ayer (1972-73), The Central Questions of Philosophy

John Baillie (1961-62), The Sense of the Presence of God

Arthur J. Balfour (1913-14, 1922-23)

Ian Barbour (1989-91), Religion in an Age of Science, Ethics in an Age of Technology

Karl Barth (1937-38), The Knowledge of God and the Service of God

Henri Bergson (1913-14)

Joseph Blanchard (1951-53), Reason and Goodness, Reason and Belief

Niels Bohr (1949-50)

Bernard Bosanquet (1910-12)

Emil Brunner (1946-48), Christianity and Civilization

Rudolf Bultmann (1955-56), History and Eschatology

Herbert Butterfield (1965-67)

Edward Caird (1890-92), The Evolution of Religion

John Caird (1894-96), The Fundamental Ideas of Christianity

Frederick Charles Copleston (1979-81), Religion and the One: Philosophies East and West

Don Cupitt (1988)

Richard Dawkins (1988)

John Dewey (1928-29), The Quest for Certainty

Mary Douglas (1989-90), Claims on God

Hans Driesch (1906-08), The Science and Philosophy of Organism

Freeman J. Dyson (1983-84, 84-85), Infinite in All Directions

Sir John C. Eccles (1977-79), The Human Mystery

Arthur S. Eddington (1926-27), The Nature of the Physical World

Herbert H. Farmer (1949-50), Revelation and Reason

Austin Farrar (1956-57), The Freedom of the Will

John N. Findlay (1964-66), The Discipline of the Cave, The Transcendence of the Cave

Sir James George Frazer (1894-96)

Etienne Gilson (1930-32), L'esprit de la philosophie médiévale

Adolf Grunbaum (1984-85), Psychoanalytic Theory and Science

- John Scott Haldane (1902-04)
 Alister C. Hardy (1963-65), The Living Stream: A Restatement of Evolution Theory and its Relation to the Spirit of Man
 Werner C. Heisenberg (1955-56), Physics and Philosophy
 Mary B. Hesse (1983-84)
 John H. Hick (1986-87), An Interpretation of Religion: Human Responses to the Transcendent
 William Ernest Hocking (1936-37)
 William R. Inge (1917-19), The Philosophy of Plotinus
 Stanley J. Jaki (1974-76), The Road of Science and the Ways to God
 William James (1900-02), The Varieties of Religious Experience
 Anthony J. P. Kenny (1971-73), The Nature of Mind
 Wolfgang Kohler (1957-59), The Psychology of Values
 Richard Kroner (1939-40), The Primacy of Faith
 John Laird (1938-40), Theism and Cosmology
 Theodoor van Arend Leeuwen (1970-72), Critique of Heaven, Critique of Earth
 Alasdair MacIntyre (1987-88), Three Rival Versions of Moral Inquiry
 Donald MacKay (1986), Behind the Eye
 John Macmurray (1952-54), The Self as Agent, Persons in Relation
 John Macquarrie (1983-84), In Search of Deity: An Essay in Dialectical Theism
 Gabriel Marcel (1948-49), The Mystery of Being
 Eric L. Mascall (1970-71), The Openness of Being: Natural Theology Today
 Mary Midgley (1989-90), Science as Salvation: A Modern Myth and its Meaning
 Basil G. Mitchell (1974-76), Morality, Religious and Secular: The Dilemma of the Traditional Conscience
 Jürgen Moltmann (1984-85), God in Creation: A New Theology of Creation and the Spirit of God
 Friedrich Max Müller (1888-92), Natural Religion
 Iris Murdoch (1981-82), Metaphysics as a Guide to Morals
 Seyyed Hossein Nasr (1980), Knowledge and the Sacred
 Reinhold Niebuhr (1938-40), The Nature and Destiny of Man
 Martha C. Nussbaum (1992-93), Upheavals of Thought: A Theory of the Emotions
 Raimundo Panikkar (1988-89), The Rhythm of Being
 Arthur R. Peacocke (1992-93)
 Jaroslav Jan Pelikan (1992-93), Christianity and Classical Culture
 Roger Penrose (1992-93)
 Ralph Barton Perry (1946-48), Realms of Value
 Alvin Plantinga (1986-87), Warrant: The Current Debate, Warrant and Proper Function
 Michael Polanyi (1951-52), Personal Knowledge
 John Polkinghorne (1992-93), Science and Christian Belief
 Andrew Pringle-Pattison (1911-13), The Idea of God in the Light of Recent Philosophy, The Idea of Immortality
 Hilary Putnam (1990-91), Renewing Philosophy
 William M. Ramsay (1915-16)
 Charles E. Raven (1950-53), Natural Religion and Christian Theology
 Paul Ricoeur (1985-86)
 William David Ross (1935-36), Foundations of Ethics
 Josiah Royce (1898-1900), The World and the Individual
 Carl Sagan (1985)
 Annemarie Schimmell (1991-92), Islam: A Phenomenological Study

Albert Schweitzer (1934-35), The Problem of Natural Theology and Natural Ethics
 Sherrington, Charles Scott (1937-38), Man on His Nature
 Ninian T. Smart (1979-80), Beyond Ideology: Religion and the Future of Western Civilization
 Richard Swinburne (1982-83), The Evolution of the Soul
 Alfred E. Taylor (1926-28), The Faith of a Moralist
 William Temple (1932-34), Nature, Man, and God
 John Arthur Thompson (1914-16), The System of Animate Nature
 William H. Thorpe (1969-71), Animal Nature and Human Nature
 Paul Tillich (1952-54), Systematic Theology, vol. II, Existence and the Christ, vol. III, Life and the Spirit
 Arnold J. Toynbee (1952-53), An Historian's Approach to Religion
 Edward Burnett Tyler (1889-91)
 Gregory Vlastos (1980-81), Socrates: Ironist and Moral Philosopher
 Conrad H. Waddington (1971-73)
 William Wallace (1892-94), Lectures on Natural Theology and Ethics
 James Ward (1896-98), Naturalism and Agnosticism
 Keith J. S. Ward (1993-94), Patterns of Revelation in the World's Religions
 Mary Warnock (1992), Imagination and Understanding
 Carl Friedrich von Weizsäcker (1959-61), The Relevance of Science: Creation and Cosmogony
 Alfred North Whitehead (1927-28), Process and Reality
 John Wisdom (1948-50)
 Georg Henrik von Wright (1958-60), Norm and Action: A Logical Inquiry, The Varieties of Goodness
 Robert Charles Zaehner (1967-69), Concordant Discord: The Interdependence of Faiths

Further information on the Gifford Lectures can be obtained by
 contacting Mr Paul McGuire, Secretary to the University of Edinburgh
 Gifford Lectureships Committee on tel. (0131) 650 3664 or 650 3568 or by e.mail
 gifford.lectures@ed.ac.uk or

<http://www.admin.ed.ac.uk/arts/docs/giff97.htm>

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