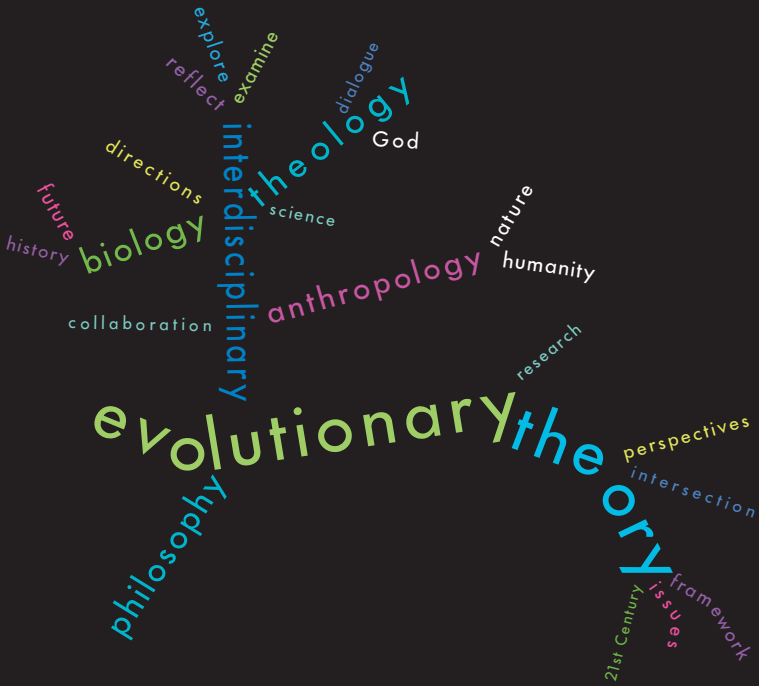


Notre Dame's John J. Reilly Center for Science, Technology, and Values and the Science, Theology, and the Ontological Quest (STOQ) Project present

Darwin in the 21st Century: Nature, Humanity, and God



November 1–3, 2009
University of Notre Dame





Darwin in the 21st Century: Nature, Humanity, and God

November 1–3, 2009

All sessions are in McKenna Hall Auditorium
unless otherwise noted.

SUNDAY, NOVEMBER 1

- 12–4 pm** **Registration**
- 4 pm** **Opening Remarks**
Welcome from the Reilly Center
Gerald McKenny, University
of Notre Dame
- Greetings from the Pontifical Council
for Culture
- Conference Overview**
Phillip Sloan, University of Notre Dame
- 4:45 pm** **Keynote Address**
“Darwin’s Revolution: From Natural
Theology to Natural Selection”
Francisco Ayala, University of California, Irvine
- 6:15–7:45 pm** **Dinner**
McKenna Hall, Center Dining Area
(advance registration required)
- 8 pm** **Public Lecture**
“Darwin, God, and Design: Evolution
and the Battle for America’s Soul”
Kenneth Miller, Brown University
- 9:30 pm** **Reception**

MONDAY, NOVEMBER 2

- 8:15 am** **Welcoming Remarks**
Gregory Crawford, Dean of the College
of Science, University of Notre Dame
- 8:30–10:45 am** **Current Issues in Evolutionary Theory**
Chair: Hope Hollocher,
University of Notre Dame
- “Evolution by Nonadaptive Mechanisms”
Michael Lynch, Indiana University
- “The Evolvability of Organic Forms:
Possible, Likely and Unlikely Change
From the Perspective of Evolutionary
Developmental Biology”
Alessandro Minelli, University of Padua

“Nine Evolutionary Myths:
The Closing of the Darwinian Mind”
Simon Conway Morris,
University of Cambridge

- 11 am–12:30 pm** **Evolution and the Human Sciences**
Chair: Agustin Fuentes,
University of Notre Dame
- “**The Origin(s) of Modern Humans**”
Bernard Wood
George Washington University
- “**All That Is Most Beautiful: Darwin’s Theory
of Morality and its Normative Validity**”
Robert Richards, University of Chicago
- 12:45–2 pm** **Lunch**
McKenna Hall, Center Dining Area
(advance registration required)
- 2–3:30 pm** **Concurrent Contributed Paper Sessions**
(see listing of room numbers and
descriptions on pages 6, 8–10)
- 3:45–6 pm** **Philosophical Issues in Evolution**
Chair: Kristin Shrader-Frechette,
University of Notre Dame
- “**Evolution and the Mechanisms
of Complexity**”
Sandra Mitchell, University of Pittsburgh
- “**Teleonomic and Teleologic Causation
in Phylogeny and Ontogeny**”
Gennaro Auletta, Pontifical Gregorian
University, Rome
- “**Are Evolutionary Explanations of
Religion Debunking Explanations?**”
Paul Griffiths, University of Sydney
- 6:15–7:45 pm** **Dinner**
Morris Inn, Private Dining Rooms
(advance registration required)
- 8 pm** **Public Lecture**
“**Evolutionary Theism and the Emergent
Universe**”
Archbishop Józef Życiński, Catholic
University of Lublin, Poland

9:30–10:30 pm Reception

TUESDAY, NOVEMBER 3

8:15 am Welcoming Remarks
John McGreevy, Dean of the College of Arts and Letters, University of Notre Dame

8:30–10:45 am Theological Perspectives on Evolution
Chair: Matthew Ashley, University of Notre Dame
“After Darwin, Aquinas: A Universe Created and Evolving”
William Carroll, University of Oxford
“Beyond Separation or Synthesis: Christ and Evolution as Theodrama”
Celia Deane-Drummond, University of Chester

11 am–12:30 pm Without or Beyond Darwinism?
Chair: Grant Ramsey, University of Notre Dame
“Evolution Beyond Darwinism”
Jean Gayon, University of Paris I
“Imagining a World Without Darwin”
Peter Bowler, Queen’s University, Belfast

12:30–2 pm Lunch
McKenna Hall, Center Dining Area
(advance registration required)

2–3:30 pm Concurrent Contributed Paper Sessions
(see listing of room numbers and descriptions on pages 7, 10–12)

4–5:30 pm Panel Discussion
“Darwinian Evolution: Are We Beyond the Conflict Between Science and Faith?”
Moderator: Kathleen Eggleston, University of Notre Dame
Matthew Ashley
Department of Theology,
University of Notre Dame

Francisco Ayala
Department of Ecology and Evolutionary Biology,
University of California, Irvine

Celia Deane-Drummond
Department of Theology and Religious Studies,
University of Chester

Paul Griffiths
Department of Philosophy,
University of Sydney

Hope Hollocher
Department of Biological Sciences,
University of Notre Dame

Simon Conway Morris
Department of Earth Sciences,
University of Cambridge

John O’Callaghan
Department of Philosophy,
University of Notre Dame

Grant Ramsey
Department of Philosophy,
University of Notre Dame

Bernard Wood
Department of Anthropology,
George Washington University

8 pm

Public Lecture
(in 105 Jordan Hall of Science)
“Darwin’s Compass: How Evolution Discovers the Song of Creation”
Simon Conway Morris,
University of Cambridge

Sponsored by GLOBES, the University of Notre Dame’s program on Global Linkages of Biology, the Environment, and Society

9:30

Reception
lecture and reception sponsored by GLOBES

Abstracts of talks by featured speakers are available online at www.nd.edu/~reilly/darwinconference.html.

CONTRIBUTED PAPERS: OVERVIEW

Monday, November 2 McKenna Hall					
	Location	Room 100	Room 104	Room 112	Room 114
	Chair	Thomas Stapleford	Felicita Munzel	Kenneth Filchak	Don Howard
2 pm	Author(s)	Helen De Cruz and Johan De Smedt	Adam Cureton	Phillip Thompson	Scott Lidgard
	Title	<i>Theistic Evolution and the Problem of Natural Evil</i>	<i>A Kantian Perspective on Evolutionary Ethics</i>	<i>The Implications of Evolutionary Development of Our Brains for Neurotheology</i>	<i>Logic and Legacy of Darwin's Living Fossils</i>
2:30 pm	Author(s)	Eric Martin	Jared Kinggard	John Teehan	Ivan Colage and Paolo D'Ambrosio
	Title	<i>Toy Store God</i>	<i>Darwin's General Good</i>	<i>Religion After Darwin: The Challenges of Evolutionary Psychology</i>	<i>Evolvability in Living Systems: Methodology and Ontology</i>
3 pm	Author	Adam Shapiro	Jame Schaefer	Gonzalo Munevar	Chris Haufe
	Title	<i>Darwin, and the Inheritance and Variation of Paley's Natural Theology</i>	<i>Thinking and Acting as Companions of Other Species</i>	<i>Darwinism and Homosexuality</i>	<i>Darwin's 'Laws'</i>

CONTRIBUTED PAPERS: OVERVIEW

Tuesday, November 3 McKenna Hall				
	Location	Room 100	Room 104	Room 112
	Chair	Edward Manier	Kevin Mongrain	John Sitter
2 pm	Author	John Wilkins	James Salmon, S.J.	Ammon Allred
	Title	<i>Religion as an Adaptation</i>	<i>Anthropogenesis in M. Polanyi and P. Teilhard de Chardin</i>	<i>Platonism After Darwin</i>
2:30 pm	Author(s)	Jason Marsh and John Marsh	Everett Hamner	Catherine Day
	Title	<i>Possible Persons and the Value of Life: Meaning After Darwin</i>	<i>Post-secular Evolution: From Levine and Dowd to Ayala, Giberson, and Miller</i>	<i>The Humanism of the Origin of Species</i>
3 pm	Author	Kenneth Kemp	Peter Hess	Paolo Costa
	Title	<i>Darwinism in Catholic Encyclopedias, 1859-1950</i>	<i>Theology as Evolutionary Hermeneutics</i>	<i>Deep Time: Darwin as a Nature Storyteller</i>

CONTRIBUTED PAPERS: DESCRIPTIONS

MONDAY, NOVEMBER 2

2 PM

Helen De Cruz, Catholic University of Leuven
Johan De Smedt, Ghent University

“Theistic Evolution and the Problem of Natural Evil”
Room 100

Theistic evolution can provide a fresh perspective on the problem of natural evil: whereas evolution by natural selection is directly responsible for many forms of natural evil (birth defects, animal and human suffering), it is possible that no other process would be as successful in creating self-conscious moral agents with free will. We suggest that theistic evolution can best deal with the problem of natural evil if it is closely modeled on scientific evolutionary theory.

Adam Cureton

University of North Carolina

“A Kantian Perspective on Evolutionary Ethics”
Room 104

Darwin favored a sentimentalist account of morals, and evolutionary ethicists have tended to follow his lead, usually regarding Kant’s ethical theory as incompatible with evolutionary theory. For those of us who take the basic tenets of neo-Darwinism as fixed, however, I give some reasons why Kantian ethics may deserve a second look.

Philip Thompson

Emory University

“The Implications of the Evolutionary Development of Our Brains for Neurotheology”
Room 112

The presentation examines whether an evolutionary account of the development of the mind precludes or allows for a form of consciousness that permits a real contact with the divine that is compatible with Christianity.

Scott Lidgard

Field Museum of Natural History

“Logic and Legacy of Darwin’s Living Fossils”
Room 114

The name of Darwin’s invention, “living fossil,” is being applied—often with no thought as to its logical elements—to such unexpected entities as mitochondria, viruses, proteins, and gene regulatory networks. I attempt to tease apart these elements in Darwin’s own examples, show how they may be amenable to comparative analyses, and argue that analyses at multiple levels of evolution should consider entities as historically conditioned kinds that are maintained by homeostatic mechanisms.

MONDAY, NOVEMBER 2

2:30 PM

Eric Martin

University of California, San Diego

“Toy Store God”
Room 100

I historicize a few of the ways in which God’s creative practices have been associated with order, efficiency, and standardization, while nature has been associated with contrasting qualities of plurality, diversity, and abundance. Recent insights from work in the history and philosophy of science emphasize the rich variety of entities, activities, and causal relations in our rather disordered and “dappled” world, providing fresh opportunity to evaluate the attributes of the creator of such a world.

Jared Kinggard

University of South Florida

“Darwin’s General Good”
Room 104

This paper investigates the target of the “general good” as defined by Darwin, and examines the practicability of using the same definition of the “general good” for both the human animal and nonhuman animal.

John Teehan

Hofstra University

“Religion After Darwin: The Challenge of Evolutionary Psychology”
Room 112

That God works through evolution is a popular response to the supposed evolution/religion conflict. However, that position is powerfully challenged by a paradigm that grounds the notion of supernatural agency in cognitive tools evolved to serve survival and reproductive needs. This paper presents an evolutionary psychological model for God-beliefs and discuss its implications.

Ivan Colage, Pontifical Gregorian University, Rome

Paolo D’Ambrosio, Pontifical Gregorian University, Rome

“Evolvability in Living Systems: Methodology and Ontology”
Room 114

First, we briefly discuss methodological reductionism in a context of systems theory. Then, we focus on some of the minimal molecular pathways allowing evolvability, involving a genuine chance component. Successively, we hint at the relevance of those pathways for phylogenetic evolution. Finally, we consider evolvability as a key ontological feature of living systems.

MONDAY, NOVEMBER 2

3 PM

Adam Shapiro

The Huntington Library

“Darwin, and the Inheritance and Variation of Paley’s Natural Theology”

Room 100

This paper consider issues of transmission and reception in Darwin’s reading of Paley’s *Natural Theology* and its successors. It examines apparent contradiction between Paley’s work and Darwin’s perception of theological arguments for design.

Jame Schaefer

Marquette University

“Thinking and Acting Companionably Toward Other Species”

Room 104

Theological discourse becomes cogent, relevant, and helpful when informed by evolutionary, molecular, and ecological scientific findings that affirm the human relationship and interdependence with other species.

Gonzalo Munevar

Lawrence Technological University

“Darwinism and Homosexuality”

Room 112

How does homosexuality persist in nature, given that it reduces the individual’s ability to reproduce? The answer should be sought not in natural selection but in Darwin’s principle of variation.

Chris Haufe

University of Chicago

“Darwin’s ‘Laws’”

Room 114

Darwin made not infrequent references to “designed laws.” He also freely described some laws as having exceptions. This paper provides a philosophical analysis of the notion of scientific laws that was dominant in Darwin’s time, and in all probability the one which he inherited. The analysis of laws is then used to show how it could have been natural for Darwin to believe in designed laws that had exceptions, and to highlight the continuity between the metaphysics of pre-Darwinian, Darwinian, and contemporary biological science.

TUESDAY, NOVEMBER 3

2 PM

John Wilkins

University of Sydney

“Religion as Adaptation”

Room 100

Evolutionary explanations of religion turn on it being an adaptation or a side effect of adaptive faculties. In this talk, I argue that to explain religion it is important to distinguish between arguments based on adaptive analogy and phylogenetic homology.

James Salmon, S.J.

Loyola University, Maryland

“Anthropogenesis in M. Polanyi and P. Teilhard de Chardin”
Room 104

The purpose of the presentation is to show the similarity and dissimilarity of the views of anthropogenesis in the writings of Michael Polanyi and Pierre Teilhard de Chardin. Despite the similarity of their respective viewpoints about how anthropogenesis can and cannot be explained, the presentation will suggest that the dissimilarity of approach to the subject of anthropogenesis originated in the dissimilarity of their respective backgrounds in science, and as philosophers.

Ammon Allred

Villanova University

“Platonism After Darwin”

Room 112

By distinguishing between Darwin’s critique of teleology and his critique of the changeability of form, I examine the possibility of “re-describing” the insights that Plato and Aristotle tried to capture in their notion of the forms in a post-Darwinian world. Far from being an academic question, I argue, such a possibility speaks directly to the way in which Darwin has revolutionized what we non-scientists mean when we talk about the “meaning of life.”

TUESDAY, NOVEMBER 3

2:30 PM

Jason Marsh, University of Western Ontario

John Marsh, St. Louis University

“Possible Persons and the Value of Life: Meaning After Darwin”

Room 100

It was radically improbable that you (or your species) would have ever existed. But this very fact provides an important and unexplored contribution to the value of life—even if we live in a naturalistic world. Our task is thus to show that Darwinian contingency which has often been thought to pose a threat to value, may actually bolster it.

Everett Hamner

Western Illinois University

“Postsecular Evolution: From Levine and Dowd to Ayala, Giberson, and Miller”

Room 104

This paper examines four recent trade books about evolution (by George Levine, Michael Dowd, Francisco Ayala, Karl Giberson, and Kenneth Miller) for their constructions of the religious and the secular. Each text indicates considerable progress beyond binary representations of that relationship, but their adaptations hold varying reproductive potential and respond to different cultural ecosystems.

Catherine Day

University of Tennessee at Chattanooga

“The Humanism of *The Origin of Species*”

Room 112

This paper reads *The Origin of Species* in the context of other major mid-Victorian works published in the year 1859 that are realist or empiricist in their objects but humanistic in their aims, including John Stuart Mill's essay *On Liberty* and George Eliot's novel *Adam Bede*. It argues that the rhetoric of *The Origin* encourages capacities of mind required for a modern form of humanism suited to the historical and relative worldview of the mid-Victorian period.

TUESDAY, NOVEMBER 3

3 PM

Kenneth Kemp

University of St. Thomas (MN)

“Darwinism in Catholic Encyclopedias, 1859–1950”

Room 100

This paper looks at the articles on evolution in Catholic encyclopedias published between *The Origin of Species* and *Humani generis*, of which there were about a dozen in seven different countries. All reflect editorial judgment and most bear an imprimatur. They were designed to serve as a first resource for Catholic non-specialists. For these reasons, they provide a meaningful indication of Catholic thought about evolution in the period in question.

Peter Hess

National Center for Science Education

“Theology as Evolutionary Hermeneutics”

Room 104

My talk focuses on one dimension of a theology of creation— theological anthropology—that is intricately bound up with other aspects of doctrine: the “Fall,” sin, and moral consciousness; suffering and theodicy; and eschatology and the far future of the cosmos. Since the pre-Darwinian worldview is no longer scientifically serviceable, the paper will propose an “evolutionary hermeneutic” as the best framework within which to engage in theological discourse. Considering the evolutionary trajectory of *Homo sapiens*, how can we rethink the theology of the “soul” and of human personhood in a way that is both faithful to scriptural revelation and doctrine, and responsive to what science progressively reveals about the universe and our place in it?

Paolo Costa

Fondazione Bruno Kessler

“Deep Time: Darwin as a Nature Storyteller”

Room 112

Darwin can be legitimately portrayed as one of the most influential Nature Storytellers. But what does it really mean to tell a story against the background of the ‘Dark Abyss of Time’?

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