Prayers for Healing
Does God change His “Mind”?  

Paul Lange, MD, FACS
Pritt Chair in Urology Research
Professor and Chairman Emeritus: Department of Urology
Director: Institute for Prostate Cancer Research
University of Washington, FHCRC
The Christian physician’s dilemma

- From Monday through Saturday we treat the human body as a “machine” and on Sundays many of us squirm in our pews while the congregation prays for healing.

- Some questions:
  - What is purpose of prayers for healing (PFH)?
  - How should physicians ‘reaction’ to patients who “rely” totally or partially on PFH?
  - Should physicians (ask to) pray with their patients?
  - What should physicians think about the efficacy of PFH?
    - Current research on intercessory PFH
    - What is the hoped for efficacy
      - “psychosomatic”
      - Change the laws of the biology/the universe
      - Something else?
Outline

- Background (how I got here)
- A beside encounter and “essay”
- My current activity on PFH with physicians and/or medical scientists
- Will NOT discuss:
  - Placebo effect
    - Medical/scientific benefits of optimism, stress reduction, etc
  - Research into prayer
  - Recommended activity of physicians at bedside
“Genetic Lutheran”

“God is an opiate!”
Table of Contents

Foreword vii

Christianity and the Reproductive/Genetic Revolution
Paul H. Lange 1

Designing Our Descendants
Gilbert Meilaender 21

Forming Life Without Genetic Discrimination
Ted Peters 31

Nurturing the Moral and Spiritual Lives of Children: Resources from the Christian Tradition
Marcia J. Bunge 45

If I Had It to Do Over Again
Robert Benne 63

Forming Life, Forming Youth
Roland Martinson 73

Notes on Contributors 85
UW Program to Increase Interdisciplinary Dialogue Between Medical Science & Faith/Value Traditions (2004-5)

Paul Lange, MD & Denise Dudzinski, PhD, MTS
University of Washington (UW)
Department of Urology & Biomedical Ethics
UW/Seattle wide lecture by science/religion expert

The Department of Medical History & Ethics and Department of Urology at the University of Washington, are pleased to present a public lecture supported by the Center for Theology & the Natural Sciences:

Ted Peters, PhD

“The Evolution Controversy: From Creation to New Creation”

Tuesday, March 2, 2004 at 7:00 p.m.
Room 130, Kane Hall
University of Washington Campus

Author and theologian Ted Peters, PhD, will lecture on his recent book (co-written with Martínez Hewlett) entitled Evolution: From Creation to New Creation (Abingdon 2003). Dr. Peters is an academic theologian and ordained pastor and currently serves as Interim President of Pacific Lutheran Theological Seminary. He teaches at the Graduate Theological Union (GTU) in Berkeley, California, and is a research scholar affiliated with the Center for Theology and the Natural Sciences (CTNS).

Dr. Peters is the editor of Dialog, A Journal of Theology and co-editor of Theology and Science. He has authored many books, including Science, Theology, and Ethics; Playing God? Genetic Determinism and Human Freedom and God, Life, and the Cosmos: Christian and Islamic Perspectives.

For further information, contact sboris@u.washington.edu or call (206) 221-5648. The University of Washington is committed to providing access, equal opportunity, and reasonable accommodation in its services, programs, activities, education, and employment for individuals with disabilities. To request disability accommodations, contact the Disability Services Office at least ten days in advance of the event. (206) 543-6480 (voice); (206) 543-6335 (TTY); (206) 543-3885 (FAX); sboris@u.washington.edu (e-mail).
A Scientist Presents Evidence for Belief

The Language of God

Francis S. Collins

2006

Francis S. Collins, M.D., Ph.D.
NIH Director
The BioLogos Foundation’s *Theology of Celebration II* Workshop

November, 2010
Lectures on the Big Questions of life*

1. Where did we come from?
2. Who are we?
3. What should we do while we are here?
4. Where are we going after we die?
5. Can (should) we ask these questions?

* P.H. Lange: 5 lecture series (churches)
# Revealing the sci/religion sophistication: showing books and reciting quotes from them
University Presbyterian Church Sci/Rel series(2011)

1. April 3: “Life’s big questions: An introduction to the field of Science and Religion”—Lange,
3. May 8: “Who are we? Imago Dei, the soul, mind, brain, and neuroscience”—Lange
4. May 29: “What do we do while we are here? The origin of morality and the problem of evil”—Lange,
5. Sept 11: “What do we do while we are here? Prayer and miracles: Does God change His mind?”—Lange
6. Sept 18: "So You're Dead. What's Next?: Theological and Psychological Notes on Life After Death"-- Tim Weber PhD, MDiv; Lutheran pastor, practicing clinical psychologist and Prof Psychology Saybrook U.
7. Oct 2: "Life Beyond Death: What Can Christians Expect?” Ted Peters PhD, MDiv; Lutheran pastor, Prof Systematic Theology Pacific Lutheran Theological Seminary & Graduate Theological Union in Berkeley, California
8. Oct 30: "The history of the universe and the origin of planets: where did we come from?”-- Thomas Quinn, PhD; Prof of Astronomy, UW
   Nov 13: “Some evidence: What the fossils, archaeology and genes tell us about becoming human”--Cara Wall-Scheffler, PhD; Assist. Prof. Biology SPU
9. Nov 27: “Are life’s big questions worth asking? Truth in science, philosophy, and religion”-- (Patrick McDonald, PhD; Assist Prof of Philosophy, SPU;
10. Dec 1: “Who are we: View from a Christian neuroscientist”-- John Medina, PhD; affiliate Prof Bioengineering UW & director of the Brain Center for Applied Learning Research SPU
11. Dec 18: “What do we do while we are here? Faith, tribalism, pluralism and interfaith”--Don MacKenzie, PhD, MDiv; former sr. pastor University Congregational, now founder “Interfaith Amigos”
Seminal experience that started PFH series for inquiring residents/medical students/researchers

- ‘teaching rounds” at post operative bedside of prostate cancer patient “Mr. Jones”
  - An ‘essay” on PFH written in 2 hours (2002)
    - This will take 8 minutes to read!
PFH series for inquiring residents/medical students/researchers

• 2-3 one-hour sessions
  – churches, department library
  – adherents of all faith pathways welcome
    • emphasis Christian

• This is 15 minutes, so hang on!!!
My purpose (and approach)

• Purpose:
  – Demonstrate the sophistication of the field
  – Stimulate a similar personal “journey”
  – Not to persuade or cajole

• Approach:
  – Show important books and read quotes from them
Cognitive Dissidence

The uncomfortable feeling caused by holding conflicting ideas simultaneously
There Ralph, do you understand it now?

No, but I’m now confused on a much higher plane!

For now we see through a glass darkly, but then face to face: now I know in part; but then shall I know even as also I am known. 1 Corith. 13:12
**Templeton Prize (100K > Nobel prize)**

Honors living person who’s made sig. contributions to affirming life’s spiritual dimension

- Michael Heller (2008)
- Charles Taylor (2007)
- John D. Barrow (2006)
- Charles H. Townes (2005)
- George F. R. Ellis (2004)
- Arthur Peacocke (2001)
- Freeman J. Dyson (2000)
- Ian Graeme Barbour (1999)
- Sigmund Sternberg (1998)
- Pandurang Shastri Athavale (1997)
- William R. "Bill" Bright (1996)
- Paul Davies (1995)
• **Paul Davies (1995)** - theoretical physicist and cosmologist from Arizona State University.

• **Ian Barbour (1999)** - one of the world pioneers in the integration of science and religion. Physicist and theologian from Carleton College.

• **Arthur Peacocke (2001)** biochemist, Anglican priest and Dean of Clare College, Cambridge,

• **John C. Polkinghorne (2002)** mathematical physicist, Anglican priest and Dean Magellan College, Cambridge

• **George F. R. Ellis (2004)** - theoretical cosmologist and Professor Emeritus of Applied Mathematics at the University of Cape Town, South Africa.

• **Charles H. Townes (2005)** - Professor in the Graduate School at the University of California, Berkeley, 1964 Nobel Prize winner in Physics.

• **John D. Barrow (2006)** - Professor of Mathematical Sciences at Cambridge University and Gresham Professor of Geometry at Gresham College in London.
Other Luminaries in Sci/Rel Dialogue

• **Francisco Ayala**: Geneticist, Prof. UC Irvine; member of the U.S. President’s Committee of Advisor on Science and Technology
• **Philip Clayton**: Philosopher, author of *God and Contemporary Physics*, and Director of the Science and the Spiritual Quest Project
• **Ronald Cole-Turner**: Theologian and author of *The New Genesis: Theology and the Genetic Revolution*
• **Francis Collins**: Physician-Geneticist, director of the National Human Genome Research Institute
• **George V. Coyne**, S.I.: Astronomer, director of the Vatican Observatory
• **Antonio R. Damasio**: Neuroscientist, author of *Descartes’ Error*
• **Ursula Goodenough**: Biologist, author of *The Sacred Depths of Nature*
• **John E. Haught**: Theologian, author of *God After Darwin*
• **Kenneth R. Miller**: Biologist, author of *Finding Darwin’s God*
• **Nancy Murphy**: Philosopher, author of *Whatever Happened to the Soul?*
• **Ronald Numbers**: Historian, author of *The Creationists*
• **Wolfhart Pannenberg**: Theologian, student of Karl Barth, editor of *God and Nature*
• **Joel Primack**: Physicist, co-developer of ‘cold dark matter theory’
• **Steven P. Rose**: Neurobiologist, editor of *From Brains to Consciousness: Essays on the New Sciences of the Mind*
• **Michael Ruse**: Philosopher, author of *Can a Darwinian be a Christian?*
• **Philip Hefner**: Philosopher/theologian, editor of *Zygon*
• **Robert John Russell**: Physicist, Theologian, and founding Director of the Center for Theology and the Natural Sciences (CTNS)
• **Ted Peters**: Theologian, co-director CTNS
Head: Laboratory for Exoplanets and Stellar Astrophysics-NASA
Director, Dialogue on Science, Ethics, and Religion –AAAS
President-elect : ASA, Christian
Welcome

Welcome to the Counterbalance Interactive Library, offering new views on complex issues from science, ethics, philosophy, and religion. Here you'll find extensive resources on the evolution/creation controversy, biomedical ethical challenges, and much more. Please choose from the starting points below, or from the short-cuts on the right.

Featured Topics: Space Exploration and Positive Stewardship, Unscientific America: How science illiteracy threatens our future, and The Expelled Controversy: Overcoming or Raising Walls of Division?

Subjects: Genetics | Evolution | Physics & Cosmology | History | Ethics | Psychology & Neuroscience | Computing | Philosophy | Environment | Religion

Themes: The Relation of Science & Religion | Purpose & Design | Hope | Origins | Controversy | The Future | Global Perspectives | Faith | Aging | Health | Pain and Suffering


Counterbalance Foundation | Privacy Policy | Feedback | eUpdataes
The ADVENT of Evolutionary Christianity

Conversations at the Leading Edge of Faith
Introductory Books on Sci/Religion
Essential philosophical terms

Metaphysics - that branch of philosophy that deals with first principles and seeks to explain the nature of being or reality (ontology), and with the theories of knowledge: their origin, nature, methods and limits (epistemology).
The Scientific Method toward Truth

Models (from "senses")

Confirmation &/or testing (inside and out)
- > verified

Truth
- tentative
- how and what

Metaphysical "leap": scientism/reductionism/materialism:
-only science can discover Truth
Scientific method has limits when seeking “truth”

- can only discover things that can be “falsified”
- requires metaphysical “assumptions”
- subject to cultural prejudices
The Religious Method toward Truth

Models (from historical revelation, ritual, tradition, “feeling”)

Confirmation &/or testing (inside and out)

Predictions

Truth
- tentative-???
- why and who

One metaphysical “leap”: Inerrancy, literalism:
- religious “truths” trump all
Relationships between Science and Religion: Methodological Types (I. Balbour’s classification)*

- **Conflict**: Scientific materialism vs Biblical literalism
- **Independence**:
  - Science = reason, facts; Religion = faith, values
- **Dialogue**: parallel paths using reason and values
- **Integration**: combining insights using common metaphysical systems
  - Science restricts, embellishes, clarifies, expands religion
  - Religion initiates, inspires, focuses science

* T. Peters & G. Bennett: Bridging Science and Religion,
Almost all modern commentators on Science religion adopt:

- **Critical Realism**: A philosophical view of science and/or theology which asserts that our knowledge of the world refers to the-way-things-really-are, but in a partial fashion which will necessarily be revised as that knowledge develops.
“Science studies the relationship between events in the natural world. Scientists have to assume methodological naturalism; that is, they seek explanation in terms of natural causes, although they do not have to assume philosophical naturalism, the claim that nothing exists beyond the scope of science.”

Ian Barbour

“Science can purify religion from error and superstition; religion can purify science from idolatry and false absolutes. Each can draw the other into a wider field, a world in which both can flourish.”

Pope John Paul II

“Science is never the end of the story, because science cannot tell humans what they most need to know: the meaning of life and how to value it.” Science only gives us “know-how without knowing whether.”

John Polkinghorne

“Religion was forged millenniums ago. To make it relevant in an age of atoms and DNA, religion must incorporate knowledge gained from natural science into the formation of doctrinal beliefs, or it will be viewed by most people as anachronism.”

Ted Peters
The “Militant Atheists”
Only true faith is Scientism, Religion evil, believers stupid or mislead!!

- Sam Harris-Letter to a Christian Nation (2006)
- Christopher Hitchens- God is Not Great (2007)
Dawkin’s “friends” don’t agree

- "Dawkins considers that all faith is blind faith, and that Christian and Muslim children are brought up to believe unquestionably. Not even the dim-witted clerics who knocked me about at grammar school thought that. For mainstream Christianity, reason, argument and honest doubt have always played an integral role in belief…Reason, to be sure, doesn’t go all the way down for believers, but it doesn’t for most sensitive, civilized non-religious types either. Even Richard Dawkins lives more by faith than by reason. We hold many beliefs that have no unimpeachably rational justification, but are nonetheless reasonable to entertain…**

* Terry Eagelton: Marxist Scholar
“Big Bang” ➔ rapid expansion energy ➔ gases – nebulae ➔ stars (hydrogen ➔ helium ➔ heavy elements esp. carbon ➔ life!) ➔ galaxies
The Cosmos is Awesome AND Weird!

- **Cosmology:**
  - Dark energy & matter: 96% universe and can’t see or measure
  - Black holes: law of physics break down, time stops

- **Mathematics (Godel and Turing):** some propositions that must be true (by insight) cannot be proven mathematically (ie “bottoms up” reasoning doesn’t always work)

- **Quantum mechanics:**
  - Uncertainty/Complimentarity:
    - cannot know everything (e.g. position and speed, wave or particle))
    - things are both there and not there and become either only when observed
    - “things” can be both true and untrue
  - Entanglement:
    - information travels faster than the speed of light
    - information (not matter or energy) is the basic element of the universe…. (John 1:1)
CHRISTIANS AND EVOLUTION

• **YOUNG EARTH “SCIENTIFIC” CREATIONISTS:**
  – Biblical ‘literalists’; 6 regular days’ God did it ‘supranaturally; the bible is scientifically accurate and mainline science is wrong and/or God is “testing” us.

• **OLD EARTH “SCIENTIFIC” CREATIONISTS:**
  – Biblical ‘literalists”; earth/universe billions of years old (‘days long periods); God did it outside “natural” order.

• **THEISTIC EVOLUTIONISTS:**
  – Scientific cosmology and evolution are true; God created through the laws of nature and yet God participates continually in the world (i.e. Divine Action).
The Anthropic Principle

Life would not be possible if any of almost two dozen fundamental laws and properties of the universe had been even infinitesimally different.* (The Goldilocks Enigma)

“The probability of life arising on earth (by purely random change) is less than the probability that a flight-worthy Boeing 747 should be assembled by a hurricane roaring through a junkyard.”

Fred Hoyle-astronomer (1982)
God of the Gaps

Of course there’s a God, who do you think changes the water?
• **The ontological non-gap:** Why is there something rather than nothing?

• **The epistemological non-gap:** Why is the world comprehensible?

• **The axiological non-gap:** Why is there meaning and value of everything that exists.
The Essential Question!!!

• Is the existence of the cosmos, ourselves, and all that is around us purposeful or an accident/ (meaningless) ???
  – “militant atheists”- not purposeful!!..and you’re cowardly or stupid to believe so.
  – Many others:
    • ‘agnostics’, etc: it might be purposeful
    • ‘believers’: we knew it all along!
    • both: “how can the universe be both rational and absurd”
Another essential question in all scientific inquiries

- How did (does) it happen if there is no God
  OR
- How did God do it (b/c its understandable!)
The great wager (or leap)

“...If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation, that He exists.”

Blaise Pascal
in Pensees (1670)
“At this moment it seems as though science will never be able to raise the curtain on the mystery of creation. For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries.”  

Robert Jastrow*

*American physicist, cosmologist, founding director of NASA’s Goddard Institute for Space Studies, agnostic.

“There are only two ways to live your life. One is as though nothing is a miracle. The other is as though everything is a miracle”.  

Albert Einstein
Natural Theodicy

OH ADAM! THIS IS SUCH A PERFECT WORLD!!

YES EVE! IT'S "VERY GOOD" JUST LIKE GOD SAID!
Religion As Evil
When the Centralia High School Band Plays Beethoven’s Ninth, it's not Beethoven’s fault
When the Centralia High School Band Plays Beethoven’s Ninth, it’s not Beethoven’s fault

But it’s miraculous that they can try!
Kenosis (emptying-one'self), Process Theology

“Of course if God is the ground of all there is one has to ask about evil and suffering. That perennial question – why does God allow evil and suffering? is the most difficult question in religion. I believe God is a God of love and, if that’s correct, then God is not a cosmic tyrant who makes everything happen in creation. God gives independence to the creatures of the earth, allows them to be themselves. God allows the act of murder because God has given moral freedom to human beings. God interacts with the world and shares the suffering of the world but doesn’t run everything”*

“We tend to think if we were in charge of creation we’d keep all the good and throw away the bad. But the world cannot be divided that way. Consider genetic mutation, which has driven the amazingly fruitful history of life on Earth, eventually turning bacteria into human beings. Genetic mutation is a great good, but the same process allows some cells to become malignant. So you can’t have the fruitfulness of evolution without cancer…”**

Polkenhorne- in *Faith of a Physicist, and in **The Work of Love: Creation and Kenosis
Divine action

- General Divine Action:
  - Creative action in nature
- Special Divine Action:
  - Miracles
  - Incarnation
  - Resurrection
  - Answering prayer
    - Prayers for healing
Reasons for Prayer

• Engagement (participation, fight, etc.)
• Trust (letting go, abandonment)
  - Nevertheless, not my will, but thine, be done (Luke 22:36)
• Move closer to God (companionship)
• Altruism, concern for others (intercessory prayer)
• Special needs (reversal of fortune, healing)
“Modern-day miracles don't happen, and, when it appears they do, it is because they are "soft" miracles based on the power of suggestion rather than (necessarily) a supernatural act of God.”

Medical disease

- Functional - controlled by autonomic nervous system
  - pain,
- Mind induced or psychosomatic
  - depression, stress related
- Organic;
  - self limited-cold
  - cyclical-MS
  - Progressive-cancer
  - WHAT ABOUT “FREAK RATE”
  - e.g “psychoneuroimmunology”

Am Cancer Society:
“Available scientific evidence does not support claims that faith healing can cure cancer or any other disease. Even the ‘miraculous’ cures of the French shrine of Lourdes, after careful study by the Catholic Church, do not outnumber the historical percentage of spontaneous remissions seen among people with cancer. However, faith healing may promote peace of mind, reduce stress, relieve pain and anxiety, and strengthen the will to live.”
supranatural (prenatural)  evidential progress > natural

• Force at a distance
• Living same chemistry/laws as non-living
• Evolving life forms (e.g. natural selection)

Divine Action  Scientific Possibilities > Natural action

God could “break” the “laws” He instituted
But does/did He…or are we just ignorant of them
Supranatural (prenatural)

- Force at a distance
- Living same chemistry/laws as non-living
- Evolving life forms (e.g. natural selection)

Divine Action

scientific possibilities

God could “break” the “laws” He instituted
But does/did He…or are we just ignorant of them

Evidential progress

Natural

“gaps”

Supranatural or gaps

Natural Action
Supranatural (prenatural)  

- Force at a distance
- Living same chemistry/laws as non-living
- Evolving life forms (e.g. natural selection)

God could “break” the “laws” He instituted  
But does/did He…or are we just ignorant of them  
(This is methodological naturalism NOT philosophical naturalism)

• Neuroscience and the Person: Scientific Perspectives .....(1999)

• Quantum Mechanics: Scientific ...(2001)

Conferences and publications by:

Vatican Observatory
Vatican City State

Center for Theology and the Natural Sciences, UC Berkeley
Special Divine Action

- No intervention (no God)
- Deism: set it up but doesn’t interfere
  - ‘watchmaker’
- “Cessationism”- once intervened outside law, but not now (vs. “Continuationism”)
- Interventionalism (the future “open”)  
  - God involved without ‘breaking the Laws’
    - Without “gaps” (no “causal joint”)
    - With “gaps” (a “causal joint”)
Interventionalism without “Gaps”

• Neothomism; God behind the Laws (secondary causes)
  – Dennis Edwards, Austin Farrer
• “Body of God”:
• Panentheism: universe in God but God more than universe
  • Peakcocke
Interventionalism with “Gaps”
(a “causal joint”)

• Non-linear systems:
  – Chaos, complex systems, emerging properties,
    • Non-reductive physicalism
      – Polkinghorne, Murphy

• Quantum mechanics:
  – indeterminancy, entanglement
    • Ellis, Russell

• Process models:
  – Universe continually evolving
    • reality is actually changing
    • de Chardin, Whitehead, Haught

God acts within ‘laws’ which we now know are “open ended”
Summing up

• Scientism not convincing
  – More to Reality then senses and/or falsification

• One Truth...but always tentative
  – Both science and religion (metaphysics) must continually adjust
  – Easier now with humbling revelations of physics/mol. biology and current gradual rejection of religious tribalism

• Religion susceptible to “human weakness”
  – But its something more than a “delusion” or evolutionary trick
  – Biggest challenges now are pluralism and critical analysis of scriptures

• Divine action is scientifically plausible and PFH useful in many ways and may alter reality in ways that could be "understandable".
Summing up

• The (your) Religion science debate must intensify and be communicated widely with these characteristics:
  – Intellectual rigor (of course) but also…..
  – Awe (wonder)
  – Humility
  – Curiosity
  – And………..
Charity (Love)
Charity

- For now we see through a glass darkly, but then face to face: now I know in part; but then shall I know even as also I am known.

And now abideth faith, hope, and charity, these three; but the greatest of these is charity*

*1Corinthians 13

**al-Ma’arri (Arab/Islamic poet) from his “Luzumiy Yat” (obligations)
~1010AD
How oft, when young, my friends I would defame
If our religious faiths were not the same;
But now my soul has traveled high and low;
Now all save Love, to me, is but a name
Thank you
“People mostly go to church for community and comfort NOT theology”

bumper sticker

God Said It, I Believe It, That settles it

“Some shouldn’t be confused”
As you travel life's path of rewards and setbacks, searching always for the deeper meaning of existence...
Some can’t/won’t be “confused”
Contemplation AND action

When you can see and hear a 2 inch tear in the IVC, you don’t want someone inclined to contemplate the ontology or epistemology of that event ..........You want someone who will move reflexively to sew the darn thing shut!
Three conditions raise the placebo effect to 70-90% effectiveness: (32)

• 1. Patient’s belief and expectancy

• 2. Caregiver’s belief and expectancy (professional clinician)

• 3. Belief and expectancies generated by the relationship between patient and caregiver.
Research on Intercessory Prayer

- Byrd & Harris (1988): cardiac-yes
- O’ Laoire (1997): depression-yes (both prayerer and prayeree)
- IVF-ET Korean study: fertility-yes-FRAUD
- MANDA Study (2005): cardiac-no
- STEP project (2006): cardiac-no

Poorly controlled

Well controlled
Quantum mechanics is commonly said to be a theory of microscopic things: molecules, atoms, and subatomic particles. Nearly all physicists, though, think it applies to everything, no matter what the size. The reason its distinctive features tend to be hidden is not a simple matter of scale. Over the past several years’ experimentalists have seen quantum effects in a growing number of macroscopic systems. The quintessential quantum effect, entanglement, can occur in large systems as well as warm ones—including living organisms.

Thus in the quantum world things don’t exist until they are observed by a consciousness and things cannot always be broken down into their component parts (entanglement). As such, even when entangled particles are far apart they still behave as a single entity. Einstein called this “spooky action at a distance”. He tried unsuccessfully to refute these facts.

Probably a deeper theory will supersede quantum mechanics in which space and time do not exist.

“The implications of macroscopic objects such as us being in quantum limbo is mind-blowing enough that we physicists are still in an entangled state of confusion and wonderment”
Self consciousness
Agency
Theory of mind
Language
Symbolic thinking
Reciprocal altruism
Non-reciprocal altruism
Agape
Inter subjectiveness
Person hood
Self awareness
Future projection
Moral action
Guilt
Symbolic thinking
Empathy
Compassion
Humility
Love
Gratitude
Human nature

Soul ? = Mind ? = Brain → Body/Action

Non-reductive physicalism
fMRI machine

Conscious open brain stimulation

Transcranial magnetic stimulation

fMRI scans
Soul, Mind, Brain/Body-Philosophy

• **Substantive Dualism**: Soul(mind) and brain(body)

• **Physicalism**: no soul; only brain(body)
  • **Reductive Physicalism**: only physics
  • **Non-reductive Physicalism**: physics and something more
• Secular existentialism
• Secular humanism
• Materialism
• Atheism