MODELS ON THE RELATIONSHIPS BETWEEN SCIENCE & RELIGION

I. KEY THOUGHTS

1. Warfare is the Common Perception of the Relationship between Science & Religion
   59% of Americans believe science & religion are often in CONFLICT (Pew 2015)
   BUT science-religion scholarship has moved well beyond warfare

2. Foundation of Science-Religion Scholarship Reflects the Metaphysics-Physics Principle
   Two steps: 1st distinguish the fundamental differences between science & religion
   2nd look for points in common for a reciprocal exchange of information relationship

3. Science-Religion Scholarship is a Young Academic Discipline
   • emerged during the 1990s
   • still in the process of developing
   • two founding scholars: Ian Barbour & John Haught

II. SCIENCE & RELIGION MODEL OF JOHN F. HAUGHT

Haught’s MODEL of Science & Religion
   NB: a model includes as many relationships as possible, including those we do not accept
   Four Relationships between Science & Religion:
   1. Conflict
   2. Contrast
   3. Contact
   4. Confirmation

Haught’s POSITION on Science & Religion
   NB: a position is a personal & specific view of the relationship between Science & Religion
   Haught:
   • rejects Conflict
   • starts with Contrast
   • integrates Contact & Confirmation

1. “The ‘contrast’ approach, while perhaps a necessary first step away from both conflations and conflict, is also unsatisfying ... I think that the ‘contact’ approach, supplemented by that of ‘confirmation,’ provides the most fruitful and reasonable response to the unfortunate tension that has held so many scientists away from an appreciation of religion, and an even larger number of religious people from enjoying the discoveries of science.”

TIP: Select & Combine the relationships to develop YOUR position

1. CONFLICT RELATIONSHIP
   Common perception of the relationship between Science & Religion
   asserts it is impossible to be both religious & scientific
   especially if you are honest or not crazy!!!
   Science & Religion are completely irreconcilable
   therefore, they are in a constant & never-ending conflict
   Conflict fuelled by two groups:
   1. Scientific Skeptics
   2. Biblical Literalists

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SCIENTIFIC SKEPTICS

DEF: 2. People who “reject religion in the name of science” Haught, 11
   Religion ➔ oppressor & enemy of truth & enlightenment
   Science ➔ liberator & saviour

Criticisms against Religion S3
   Epistemological Problems
   religion is not testable & not objective
   3. “Religion tries to sneak by without providing any concrete evidence
      [ie, scientific evidence] of God’s existence.” Haught, 10
      BUT
      Do God & religion lend themselves to scientific methods & standards?

   Historical Problems
   church’s persecution of Galileo (17th century)
   church’s rejection of Darwin (19th century)
   BUT
   Is this good history? More Anon

   Hermeneutical Problems
   Bible is full of contradictions
   Ironically, scientific skeptics are LITERALISTS like Young Earth Creationists!!!
   BUT
   Is this good hermeneutics? More Anon

   Ethical Problems
   Why is there suffering & evil in the world?
   This is a serious challenge
   Why would an all-loving, all-powerful, and all-knowing God allow Holocaust?
   ◆ Yet religious people just keep on believing
   BUT
   Is the problem of suffering & evil that simple? More Anon

Conflict Relationship of Scientific Skeptics S7-8
   common perception of science & religion by those who reject religion

   RELIGION
   • based on mindless faith
   • a priori reasoning (Deduction)
     general rule to particular case
   • emotional & irrational
   SUBJECTIVE

   SCIENCE
   • based on hard facts & logic
   • a posteriori reasoning (Induction)
     particular case to general rule
   • dispassionate & rational
   OBJECTIVE

COMMENTS: S9
   trapped in simple dichotomies & conflations
   entrenched in black & white and either/or thinking
   Latin a priori: from something earlier (not based on observation/experience)
   a posteriori: from something later (based on observation/experience)
**BIBLICAL LITERALISTS**

DEF: 4. “People who think the words of the Bible are **literally true**” Haught, 11

- Modern Science → enemy of truth & God
- Religion → defender of REAL science

REAL science is Creation Science (Young Earth Creation)

**Conflict Relationship of Biblical Literalists**

*common* perception of science & religion by many who accept religion

<table>
<thead>
<tr>
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<tr>
<td>• offers True science</td>
<td>• offers False science</td>
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<tr>
<td>• based on hard facts</td>
<td>• misinterprets the facts</td>
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<tr>
<td>• Godly &amp; competent</td>
<td>• Satanic &amp; incompetent</td>
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**OBJECTIVE** | **SUBJECTIVE**

**COMMENTS:**

- trapped in simple dichotomies & conflations
- entrenched in black & white and either/or thinking

**CONCLUSION: Conflict Relationship**

1. Ironically, Scientific Skeptics & Biblical Literalists are quite similar

**BOTH:**

- appeal to the “hard facts”
- claim to be “purely objective”
- use *ad hominem* arguments *Latin:* against the person (ie, they disrespect people)
- steeped in simple dichotomies & conflations
- think in black & white and either/or categories
- have a literalist hermeneutic → assume scientific concordism is a feature of the Bible

2. Scientific Skeptics alienate religious people from modern science

**Biblical Literalists** alienate scientific people from religion

**2. CONTRAST RELATIONSHIP**

NO conflict between Science & Religion

- Each deals with RADICALLY different issues & questions
- Problem with the common perception of Science & Religion: **CONFLATION**

DEF: 5. “**Conflation** ... simply means the collapsing of distinct items in such a way that their differences are apparently lost ... [Conflation blends] science and belief into an undifferentiated smudge ... a careless commingling of science with belief ... a tangled muddle.” Haught, 13-14

**COMMENTS:**

- Note the word “belief”
  - ultimate belief → metaphysic → religion
  - **WIDE** definition of religion

**Types of Conflation:**

- Science conflated with: 1. Religious Belief (Concordism)
  - 2. Secular Belief (Scientism)
SCIENCE CONFLATED WITH RELIGIOUS BELIEF

Concordism

DEF: 6. “Concordism forces the biblical text to correspond, at least in a loose way, with the contours of modern cosmology (ie science). In order to salvage the literal truth of the biblical book of Genesis, for example, some religious scientists match the six days of creation with what they consider to be six corresponding epochs in the scientific account of cosmic evolution.”

Haught, 13

COMMENTS:

Haught uses classic definition → Day-Age Theory (Progressive Creation)

Days of Genesis 1 = Cosmological/Geological Periods (millions of yrs)

BUT some serious problems:

• light created on Creation Day 1, but the sun created on Day 4
  light before the sun?

• plants created on Day 3, but the sun on Day 4
  frozen plants through a geological age?  More Anon

BE AWARE OF MY DEFINITION & QUALIFICATION  Lamoureux

Scientific Concordism

DEF: common belief held by both religious individuals & religious skeptics that the Bible corresponds, or is supposed to correspond with modern science

☞ I have a WIDER definition

I also include young earth creation

Pastoral Concern regarding Concordism

7. “The contrast [relationship] wisely points out how dangerous it is for religion to seek support for its teachings in any particular scientific theories, since currently accepted scientific theories may easily be discarded by the next generation of explorers.”

Haught, 22

COMMENTS:

excellent pastoral insight

IF you conflate science & your religion,
AND new discoveries overturn your science,
THEN do you also toss away your religion?

EXAMPLES

Structure of the Universe

Martin Luther’s geocentric universe in his 1534 Bible

Geocentricity  Greek γη (gē): earth

DEF: the earth is at the centre of the entire universe

PASTORAL QUESTION:

Did the readers of Luther’s Bible lose their faith with the discovery of heliocentrism by Copernicus in 1543?

Heliocentricity  Greek ἡλίος (hēlios): sun

DEF: the sun is at the centre of the entire universe
Retrograde Motion of Planets Latin *retro*: backward

DEF: a short backward loop (east-to-west) by a planet from its normal west-to-east “motion” across the sky.

- entirely a VISUAL effect

**BUT** for Luther ➔ REAL

he believed that planets literally looped back east-to-west

8. “The retrograde motion of the planets also is a work of God, created through his word. This work belongs to God himself and is too great to be assigned to the angels.”

M. Luther, *Lectures on Genesis* 1-5, J. Pelikan, ed (St. Louis: Concordia, 1958), 30

PASTORAL QUESTIONS:

Did the readers of Luther’s *Lectures on Genesis* lose their faith once Copernicus discovered heliocentricity and that retrograde motion was merely a visual effect?

Did they lose their faith in God once there realized that God did not actually intervene to cause planets to move backward?

**EXCURSUS: God-of-the-Gaps**

DEF: belief that God intervenes at different times in:

- **(1) origins** of the cosmos and/or both
- **(2) operations** of the cosmos (eg Luther above)

NOTE: term not used in a Personal Context only used in a Cosmological Context

FEATURES

- Term carries a negative nuance
- BUT logically feasible:
  - God can intervene in nature at any time he wants to
- Prediction
  - IF gaps in nature are real,
  - THEN gaps should WIDEN with scientific research
  - No natural explanations or mechanisms will be found
  - Therefore a point in nature where God intervenes
- History of Science
  - ALL proposed gaps have CLOSED
  - natural explanations or mechanisms have been found
  - gaps are Gaps in Knowledge, NOT Gaps in Nature

EG Isaac Newton’s Rewinding of the Universe Theory

saw wobbles in the orbits of Saturn & Mercury

believed God intervened to fix wobbles & stop the collapse of the universe

BUT a Gap in Knowledge

wobbles are self-correcting & explained by:

1. gravitational pull of Uranus on Saturn
   - telescopes in Newton’s day were too weak to see Uranus
2. Theory of Relativity for Mercury
   - only discovered in 20th century

- Pastoral Concern

IF new scientific knowledge closes gaps in nature (which religious people claim to exist),

THEN does this lead to a lost of belief in God?
SCIENCE CONFLATED WITH SECULAR BELIEF

Scientism

DEF: 9. “Scientism may be defined as ‘the belief that science is the only reliable guide to truth.’ Scientism, it must be emphasized, is by no means the same thing as science. For while science is a modest, reliable, and fruitful method of learning some important things about the universe, scientism is the assumption that science is the only appropriate way to arrive at the totality of truth. Scientism is a philosophical belief (strictly speaking an 'epistemological' one) that enshrines science as the only completely trustworthy method of putting the human mind in touch with ‘objective’ reality.”

Haught, 16

COMMENTS: S3
Note the word “belief”
Scientism is NOT science!

Haught’s Criticism of Scientism

• Metaphysically Blind

10. “Without usually being aware of it, scientific skeptics have uncritically fused [conflated] the scientific method with scientism, a belief system that assumes, without any scientific demonstration, that science is the only appropriate way to look at things.”

Haught, 17

COMMENTS: S5
Scientism’s Metaphysical Blind Spot
conflation of: methodological naturalism & metaphysical naturalism
NB: there is no scientific experiment to prove that science is the best & only way to understand the world

• Religious in Character

11. Scientism “is a kind of faith-commitment not entirely unlike the kind we find in religion. Devotees of scientism place their trust in the scientific method itself, but no more than religious believers can they scientifically demonstrate the truth of this faith ... Skeptics trust in science almost as though, like the gods of religion, it were our savior from the original sin of prescientific ignorance.”

Haught, 16

Note religious language! WIDE Definition of Religion

Contrast Relationship of Science & Religion

separate science & religion from each other & recognize their fundamental differences

SCIENCE
HOW questions of nature
• patterns & processes
• natural causes
• works of nature

RELIGION
WHY questions of belief
• meaning & mystery
• ultimate causes
• Foundation of Nature

COMMENTS:
NO conflict is possible: Science ➔ Physical
Religion ➔ Metaphysical
CONCLUSION: Contrast Relationship

1. Conflation is the main problem in the common conflict perception of science & religion
2. Contrast is the 1st step toward a peaceful relationship between science & religion

12. “Perhaps it is even almost essential for us to pass through the discipline of contrast as we make our way out of the confusions of conflation and move toward a more nuanced discussion of science and religion.” Haught, 15-16

COMMENTS:
also called: “an important step toward clarity”
“helpful first approximation” Haught, 17
reflects the 1st Principle in this course ➔ Metaphysics-Physics Principle

3. Leaving science & religion in separate compartments is UNSATISFYING

13. “The urge to discover the coherence of all our ways of knowing is too powerful for us to suppress indefinitely.” Haught, 17

COMMENTS:
many students enter this course with science & religion compartmentalized
BUT we all want an INTEGRATED worldview

3. CONTACT RELATIONSHIP

Cautious (but not too intimate) move toward a relationship between science & religion
beginning of a more integrated picture of reality

Two-Way Relationship:
• science broadens religion’s horizon of the natural world
  offers physical facts
• religion deepens science’s understanding of the ultimate meaning of nature
  offers metaphysical beliefs

SCIENCE CONTACTS RELIGION

14. Theology “must pay attention to what is going on in the world of scientists. It must seek to express its ideas in the terms that take the best of science into account lest it [theology] become intellectually irrelevant.” Haught, 18

COMMENTS:
being intellectually relevant is loving God with our mind (Matt 22:37)
“best of science” ➔ a call to relate evolution & theology?

15. “Whether they are aware of it or not, theologians always bring at least implicit cosmological assumptions to their talk about God, and it is only honest that they acknowledge this fact.” Haught, 18

Implicit Cosmological Assumptions = Implicit Scientific Concepts (Herm Prin 7)

THEOLOGY’S HERMENEUTICAL BLIND SPOT

DEF: most religious people are not aware they use science in their theology
EG, dark watery earth in Gen 1:2 ➔ most think it’s a spherical earth!
➔ BLIND to the fact they use modern science

NOTE: IF religious people are going to talk about the creation,
THEN they can’t help but use the science of their generation

SUGGESTION: IF religious people use science,
THEN they should be reasonably competent
Contributions of Science to Theology:

- Improves Hermeneutics
  modern science: reveals there is an ancient science in the Bible
  assists religious people to focus on the Message of Faith
    formulation of the Message-Incident Principle

- Enriches & Magnifies the Doctrine of Creation
  EG Who has a greater & more magnificent picture of God’s grandeur in nature?
  Biblical writers (3-Tier Universe) & Luther (Geocentricity)?
  OR
  Our generation with the Hubble Telescope?

Rejects the Proof/Argument from Design

REMEMBER: Cautious (but not too intimate) move toward a science-religion relationship

16. The Contact Relationship “does not strive to prove God’s existence from science ...”

It does not seek to shore up religious doctrines by appealing to point directly to
a divine designer. The days in which scientific ideas could be used to seal
arguments for God’s existence are over.”

COMMENTS:

NOT Haught’s personal view, but that of Contact relationship
he accepts intelligent design
problem with the terms Proof or Argument ???

Lamoureux’s Position on Intelligent Design

Term “proof” is too strong, but term “argument” is more accurate
Arguments for the Argument from Design:
- Historical: common belief in philosophy & theology throughout history
- Biblical: Ps 19 & Rom 1
- Scientific: Anthropic Principle ➔ fine-tuning in laws of nature
- Experiential: Most people sense the world is designed

RELIGION CONTACTS SCIENCE

not as substantive as science contacting religion
religion does not impact/change/add to science

17. The Contact relationship “is content simply to interpret scientific discoveries
within the framework of religious meaning.”

COMMENTS:

religion brings “religious meaning” (metaphysics)
EG: God is the creator
cosmos is heading in an ordained direction

CONCLUSION: Contact Relationship

1. NOT recognizing Implicit Cosmological Assumptions is a problem with religious people
   EG an understanding of nature is needed BEFORE a doctrine of creation is formulated
   ➔ a physics is needed BEFORE a meta—(after)—physics

2. Science impacts Religion more than Religion impacts Science
   science: improves hermeneutics
   offers a greater & more magnificent picture of God
   religion only adds a metaphysic & has no real effect on scientific research
4. CONFIRMATION RELATIONSHIP

Intimate relationship between Science & Religion
religion: nourishes science at a “very deep level”
impacts science substantively

NB: Haught uses a WIDE definition of religion (metaphysics)
claims that religious elements are COMPONENTS of science!!!

Metaphysics-Physics Principle

downward movement of religious ideas into science!!!

ACKNOWLEDGES THE FIDUCIARY CHARACTER OF SCIENCE

Fiduciary Latin fides: faith
DEF: to have faith and belief

18. “Science, to be more specific, cannot even get off the ground without rooting itself in a kind of a priori ‘faith’ that the universe is a rationally ordered totality of things. Scientists always rely on a tacit faith (which they seldom reflect on in an explicitly conscious way) that there is a real world ‘out there,’ that this real world hangs together intelligibly, that the human mind has the capacity to comprehend at least some of the world’s intelligibility, and that no matter how far we probe there will still be further intelligibility to uncover. Without this kind of trust there would be no incentive to look for the order present in nature or to keep looking deeper into the specifics of this order.”

Haught, 23

COMMENTS:
scientists have: “a priori ‘faith’” assumed & not empirically proven
“tacit faith” silent
scientists: “seldom reflect on [this faith] in an explicitly conscious way”

THE RUSE “CONFESSION”

Michael Ruse
atheist & famed philosopher of biology

19. “I think philosophically that one should be sensitive to what I think history shows, namely, that ... evolution, akin to religion, involves making certain a priori or metaphysical assumptions, which at some level cannot be proven empirically. I guess we all knew that, but I think that we’re all much more sensitive to these facts now. Well, I’ve been very short, but that was my message, and I think it’s an important one.”

Moderator: “Any questions?” [There is a momentary silence]
Ruse: “State of shock?!?”

M Ruse, “The New Anti-Evolutionism”
1993 AAAS Meeting trans P. Nelson

COMMENTS:
scientists have “a priori or metaphysical [religious] assumptions” also recognized by skeptics of religion like Ruse

Therefore → not special pleading by religious people
IDENTIFIES METAPHYSICAL (RELIGIOUS) FOUNDATIONS IN SCIENCE

First two features of Critical Realism

Realism
BELIEF “there is a real world ‘out there’”
refers to “real world” 2X

Intelligibility of Nature
BELIEF “universe is a rationally ordered totality of things”
refers to world’s intelligibility 3X and orderliness 3X → Intelligent Design

Human Intelligence
BELIEF “human mind has the capacity to comprehend” & truly can know nature
NO 4Fs mind problem here!

Metaphysics-Physics Principle
downward movement of metaphysical/religious ideas into science

PROPOSES A METAPHYSICAL (RELIGIOUS) ROOT FOR SCIENCE

20. “Science has nothing to lose and everything to gain by rooting itself in religion’s fundamental vision of reality as an intelligible whole grounded in the ultimately trustworthy Being that followers of Moses, Jesus, and Muhammad call by the name ‘God.’”

Haught, 22

QUESTION
In who or what do we root:

(1) a dysteleological universe & 4 Fs brain?
OR
(2) the Foundation of a teleological universe (eg God) & a brain that was intended to know the world through science?

CONCLUSION: Confirmation Relationship
1. Don’t overstate impact of Religion on Science
EG some Christian historians say science in 16th century rose because of Christianity
BUT science was being practised well-before Christianity (eg ancient Greeks)

2. Religion can be in a peaceful relationship with modern science
• Confirmation appreciates fiduciary aspects of the human epistemological condition
DO NOT be embarrassed to say that we are creatures of FAITH
• Confirmation asserts that science has a priori metaphysical (religious) foundations
Christianity offers science a metaphysic → rooted in God

CONCLUSION: Science & Religion Model of John Haught
1. Haught’s Personal Position on Science & Religion
(Quote 1)
rejects Conflict
begins with Contrast as a “necessary 1st step away from conflation & conflict”
accepts Contact supplemented by Confirmation
Therefore → Select & Combine various categories & relationships

2. The Problem of Conflation
fuels the common perception that Science & Religion are in a never-ending conflict
always lurking in the background
Lamoureux fights it all the time!
III. **SCIENCE & RELIGION MODEL OF IAN G. BARBOUR**

“The Dean” of the science-religion dialogue  
PhD physics & Master of Divinity  
Protestant Christian

**Barbour’s MODEL of Science & Religion**

<table>
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<th>Four Relationships between Science &amp; Religion:</th>
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<td>1. Conflict</td>
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<tr>
<td>2. Independence</td>
</tr>
<tr>
<td>3. Dialogue</td>
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<td>4. Integration</td>
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**Barbour’s POSITION on Science & Religion**

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<tr>
<td>• rejects Conflict</td>
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<tr>
<td>• starts with Independence</td>
</tr>
<tr>
<td>• integrates Dialogue &amp; aspects of Integration</td>
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21. “I will argue that none of the options considered above [Conflict & Independence] is adequate to the task ... I will suggest reasons for supporting Dialogue, and with some qualifications, certain versions of Integration.”  
Barbour, 3 & 16

**The Challenge to Religion**

The Success of Science

22. “The first major challenge to religion in an age of science is the success of the methods of science.”  
Barbour, 3

**COMMENTS:**

aligns with Polkinghorne’s “Psychological Effect” Argument  
Notes 62

**The Problem**

Epistemological: science appears to be the only way to find Truth (capital “T”)  

23. “Science seems to provide the only reliable path to knowledge. Many people view [1] science as objective, universal, rational and based on solid evidence. [2] Religion, by contrast, seems to be subjective, parochial, emotional, and based on traditions or authorities that disagree with each other.”  
Barbour, 3

**COMMENTS:**

• common perception of the relationship between science & religion:

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<td>Based on:</td>
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<tr>
<td>solid evidence</td>
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• trapped in simple dichotomies & conflations  
entrenched in black & white and either/or thinking
1. CONFLICT RELATIONSHIP

Never-ending conflict between science & religion
Fuelled by two groups: 1. Scientific Materialists
2. Biblical Literalists

SCIENTIFIC MATERIALISTS

**Foundational Principle**

- reality is “nothing but” energy & matter → there is no spiritual reality

**Foundational Method**

**Reductionism**

- everything is explainable by reduction into physical laws
  - EG love & religion are “nothing but” energy & matter

**EXAMPLES**

**Carl Sagan**

- astronomer & hosted the most popular science TV series in 1980s
- HUGE impact promoting the conflict relationship & the idea Science = Atheism

24. “THE COSMOS IS ALL THAT IS OR EVER WAS OR EVER WILL BE.”


**QUESTIONS:**

- is this a scientific or religious statement?
- is it not the same as:

25. Jesus: “I am the Alpha and Omega, the First and the Last, the Beginning and the End.”

  *Rev 22:13*

- did Sagan alienate the 90% of teleologists in Canada & US?
- did he do a disservice to science by discouraging them to be scientists?

**Jacques Monod**

- Nobel Prize winning molecular biologist

26. “Man knows at the last that he is alone in the universe’s unfeeling immensity, out of which he emerged **only by chance.**”


**QUESTION:**

- is this not an overstatement: “Man knows...”
  - 90% of Canadians & Americans are teleologists & would disagree

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Excursus: God, Chance & Christians

Christians demonize: chance, randomness, indeterminancy

**RESULT**

- another false dichotomy → between God & chance

**BUT**

- could chance, randomness, indeterminancy be a part of God’s good creation?
- could there be some freedom & flexibility in nature?

**EG**

**Video Gambling Machines**

- computer program in these machines are set up for them to win over time
- a randomness generating chip is ultimately directed by the overriding computer program
  - randomness is used by the machine for the purpose of winning

**Chance & Creation**

- God sets up the laws of nature to create the world over time
- chance processes in nature are ultimately directed by the overriding laws of nature
  - chance is used by God to create the world
Purpose of Chance in the Creation  
offers an element of Divine Hiddenness  
termed “Deus Absconditus” Latin: God who hides  
offers a non-coercive environment for free-will & the development of faith

E. (Edward) O. Wilson  
Harvard professor & Father of Sociobiology (Evolutionary Psychology)  
religion is “nothing but” a survival behavior of human species  
religion chosen by natural selection & tribes with religious behavior were the fittest  
👉 the brain was “hardwired for God”  
God “exists” only in the brain

27. **The ultimate question**: Do religion and moral reasoning also have a biological origin? Are they the products of evolution? So stated, the meaning of spiritual authority breaks into **TWO** competing possibilities, **EITHER** [1] humanity is guided by moral principles that were formulated outside human existence, in other words by divine will or natural law, **OR** else [2] humanity has evolved these principles on its own during its long genetic and cultural history ... The [metaphysical] **naturalistic hypothesis** arising from scientific knowledge holds that the powerful emotions of religious experience are **entirely neurobiological**, that they evolved as part of the programmed activity of the brain favoring survival of the tribe and individual.”  
E. Wilson, “Hardwired for God” *Forbes ASAP*  
(4 Oct 99), 132, 134. Capitals added  

COMMENTS:  
• trapped in a deep ditch dichotomy!!!  
“two competing possibilities” “two competing hypotheses”  
“Either . . . or . . .”  
• an admission that everyone has a religious impulse  
confirmation ➔ 90% believe in teleology

Excursus: The 3rd Hypothesis—Evolutionary Psychology & Evolutionary Creation  
God created through evolution (teleological) a set of neurons that are sensitive to him and spiritual realities like moral revelation in our conscience & Intelligent Design in nature

Analogy I  
God created through evolution optic neurons for seeing the physical world  
God created through evolution *God neurons* for seeing the spiritual world  
👉 **GOD’S EVOLUTIONARY HARDWIRING** is behind: Natural Revelation (ID)  
Moral Revelation

Analogy II  
we have the freedom:  
• to close our physical eyes & not see the physical world  
• to close our spiritual eyes & not see the spiritual world

QUESTIONS on Intelligent Design  
• has your evolved brain been built to see the beauty, complexity, and functionality in nature as reflections of the design of an Intelligent Designer?  
• have you been hardwired BY God through evolution so that you can find him?
**Comments on Scientific Materialism**

For the skeptics of religion:
- **Historical Trend:** science explains more & more aspects of nature and life
  - science eliminates a God-in-the-gaps

**QUESTIONS:**
- will science eventually explain away God & religion?
- can we extrapolate this trend and **PROVE** there is no God?
  - NO. Categorically not possible
    - Metaphysics-Physics Principle stops extrapolation of physics to metaphysics
  - **BUT**
    - you can take a Step of Faith and come to the **BELIEF** there is no God

**BIBLICAL LITERALISTS**

**Foundational Principle**
- Bible reveals **True** science
  - Therefore, biological evolution is false

**Foundational Method**
- Scientific Concordism
  - align the scientific evidence with the literal statements about nature in the Bible

**EXAMPLE**
- **Institute for Creation Research**
  - most important Young Earth Creationist organization in the world
  - founded by Henry Morris in 1972

**28. LITERAL JESUS & LITERAL RESURRECTION:**

“The entire **HOPE** of the Christian rests on the existence of a

- (1) **literal** Jesus Christ, described by Scripture as the Second Adam, who
  - (2) **literally** offered up His body as a sacrifice for sinners loved by God,
    - and who paid the price for their sins on a
  - (3) **literal** cross—a Jesus Christ who
  - (4) **literally** was the Son of God. It was this God-man who
  - (5) **literally** died and was
  - (6) **literally** resurrected on the
  - (7) **literal** third, 24-hour day after His crucifixion.”

**LITERAL GENESIS & LITERAL CREATION IN SIX DAYS**

“This was necessary **BECAUSE** the

- (8) **literal** first man, named Adam, who was created on the
- (9) **literal** sixth 24-hour day of creation with all of creation in a state of
- (10) **literal** deathless perfection, and was
- (11) **literally** declared by God to be
- (12) **literally** perfect. Adam lived in a
- (13) **literal** garden called Eden, and broke a
- (14) **literal** commandment which was
literally spoken to him by God Almighty, a commandment which instructed him not to eat of a literal tree of knowledge of good and evil, thus causing literal death to fall on all men and animal life. Now all of creation is literally dying, the subject of entropic forces of decay, and creation is waiting for the final redemption in which the earth will literally be restored to its original glory—the same literal sinless/deathless perfection of the literal first creation as described in Genesis 1.”

SUMMARY

“Remove any one of these foundation blocks and the entire structure collapses, leaving the believer with NO HOPE ... If Genesis did not happen exactly as the Creator said it did, then our view of God, of man, of sin, and of the world collapses.” D Phillips “An Urgent Appeal to Pastors” Back to Genesis (119) Acts & Facts (Nov 98) Italics & numbers original

COMMENTS:

• on the surface, a very reasonable argument held by many conservative Christians ➔ I use to believed it
• BUT conflates 6-day creation & the resurrection of Jesus

QUESTIONS:

• do you see the importance of hermeneutics? especially the hermeneutics of Gen 1-11?
• do you see the potential PASTORAL disaster? IF you reject a literal Genesis THEN do you need to reject Jesus?

THE REALLY BIG QUESTION:
Does the reality of sin need a real Adam?

CONCLUSION: Conflict Relationship

1. Fuels the common perception that there are only two choices—either Science or Religion

29. “Both sides [scientific materialists & biblical literalists] err in assuming that evolutionary theory is inherently atheistic, and they thereby perpetuate the false dilemma of having to choose between science and religion.” Barbour, 10

COMMENTS:

common assumption: evolution “inherently atheistic” = dysteleological “false dilemma” = false dichotomy

2. Misappropriation of Academic Authority

DEF: an expert in one academic discipline acts like an expert in another

30. “Scientists are no wiser than anyone else when they step out of their laboratories and speculate beyond [μετά] strictly scientific work.” Barbour, 14

COMMENTS:

echoes the Metaphysics-Physics Principle also happens with religious experts speculating about science
2. INDEPENDENCE RELATIONSHIP
Science & Religion are totally independent & autonomous
  each asks different questions
  each uses different methods
  each is limited
THEME
   → it’s impossible for Science & Religion to conflict

EXAMPLES
  Langdon Gilkey

<table>
<thead>
<tr>
<th>Questions Domain</th>
<th>SCIENCE</th>
<th>RELIGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain</td>
<td>Physical HOW?</td>
<td>Physical HOW?</td>
</tr>
<tr>
<td>Public</td>
<td>Objective Repeatable Data</td>
<td>Public</td>
</tr>
<tr>
<td>Objective Repeatable Data</td>
<td>Nature</td>
<td>Good, Evil, Meaning</td>
</tr>
<tr>
<td>Authority</td>
<td>Logic &amp; Experiment</td>
<td>God</td>
</tr>
<tr>
<td>Logic &amp; Experiment</td>
<td>Quantitative</td>
<td>Revelation &amp; Spiritual Experience</td>
</tr>
<tr>
<td>Language</td>
<td>Quantitative</td>
<td>Symbolic &amp; Analogical</td>
</tr>
</tbody>
</table>

   → it’s impossible for Science & Religion to conflict

Karl Barth
  Neo-Orthodox Christian
  Religion is based on the Bible ONLY
  REJECTS Natural Revelation
   Intelligent Design arguments based on sinful human reason → even idolatrous!!!
   Science has NO VALUE for Religion
   → it’s impossible for Science & Religion to conflict

Rudolf Bultmann
  Father of 20th century Liberal Christianity
  REJECTS Divine Action
   Demythologization of Bible
   “competent” biblical interpretation rejects ALL the accounts of miracles
   focus on personal/existential lessons in Scripture
   → it’s impossible for Science & Religion to conflict

CONCLUSION: Independence Relationship
1. A first step in moving beyond the conflict relationship
   31. “The independence of science and religion represents a good starting point
       or first approximation.”
       Barbour, 5
       COMMENTS:
       similar to: Haught’s Contrast Relationship
       1st move in this course (Metaphysics-Physics Principle)

2. BUT incomplete & unsatisfying
   32. “We do not experience life as neatly divided into separate compartments; we
       experience it in wholeness and interconnectedness. . . There are also biblical
       grounds for the conviction that God is the Lord of our total lives and of nature,
       rather than of a separate ‘religious’ sphere.”
       Barbour, 16
       COMMENTS:
       similar to: Haught’s criticism of his Contrast Relationship
       many students entering this course
3. DIALOGUE RELATIONSHIP
The beginning of a discussion between Science & Religion
Deals with indirect interactions & leads to questions at the boundary between Science & Religion

History & the Origins of Science

QUESTION:
why did modern science arise in the Jewish-Christian-Muslim West?
many leading scientists were Christians
EG astronomer Johannes Kepler:
  science was “thinking God’s thoughts after him”
Royal Society (1st scientific society) ➔ 70% Puritans (conservative Christians)

ANSWER:
impact of Doctrine of Creation ➔ at a TACIT (silent) level
  • realism—God created a real world
  • intelligibility & order in nature—natural revelation & intelligent design
  • de-sacralization of nature—nature is not a god
  • consistent & trustworthy laws of nature—faithfulness of God

COMMENT
some historians overstate this argument
all four categories above can be dissected from Christianity
However, Christianity & the Doctrine of Creation are certainly compatible with science

Cosmology

QUESTIONS:
what happens before the Big Bang?
physics can go back to 10^{-43} sec after the Big Bang (called Planck Time)
why are the laws & initial conditions of the Big Bang so finely-tuned?
EG explosive & gravitational forces balanced to 1 part in 10^{60}
  ➔ Is there a Fine Tuner?

Ethics

QUESTIONS:
when does life begin?
implications for the abortion debate
when does life end?
implications for the physician-assisted death debate

EXAMPLE
Stephen Jay Gould
leading evolutionary biologist at Harvard University
contributor to Science-Religion dialogue
33. “No such conflict should exist [between science & religion] because each subject has a legitimate magisterium, or domain of teaching authority—and these magisteria do not overlap (the principle that I would like to designate as NOMA, or ‘non-overlapping magisteria’). The net of science covers the empirical universe: what is it made of (fact) and why does it work this way (theory). The net of religion extends over questions of moral meaning and value. These two magisteria do not overlap, nor do they encompass all inquiry (consider, for starters, the magisterium of art and the meaning of beauty).
“To cite the arch cliches, we [scientists] get the **age of the rocks**, and religion retains the **Rock of Ages** [God]; we study **how the heavens go**, and they [theologians] determine how to go to heaven [aphorism from Galileo]. This resolution might remain all neat and clean if the nonoverlapping magisteria (NOMA) were separated by a no man’s land. But, in fact, the two magisteria **bump right up against each other, inter-digitating** in wondrously complex ways along their **joint border**. Many of our **deepest questions** call upon aspects of both for different parts of a **full answer.**”

Stephen Jay Gould, “Non-overlapping Magisteria”

*Natural History* 106 (1997), 19-20

**COMMENTS:**

NOT an independence relationship because Science & Religion: “bump right up against each other” share a “joint border”

NOT all sci-rel contributors are RELIGIOUS
gould was an agnostic

NOMA allows Gould to state:

34. “Evolution [is] both **true** and **entirely compatible** with Christian belief—a position I hold **sincerely**.” Gould, 16

BUT not everyone is happy with Gould:

35. “The belief that religion and science occupy separate magisteria is **dishonest**.” [!!!] Richard Dawkins, “Snake Oil & Holy Water”

*Forbes ASAP* (4 Oct 1999), 237

**CONCLUSION:** **Dialogue Relationship**

1. Boundary questions between Science & Religion are quite valuable especially in cosmology & ethics

2. Dialogue between Science & Religion only informs the other party exchanges of information do not support or change either of them

**4. INTEGRATION RELATIONSHIP**

• an integration between the content of Science & the content of Religion in areas that overlap

• Science supports and even changes Religion

**Types of Integration:**

1. Natural Theology: part of traditional Conservative Christianity throughout history

2. Theology of Nature: a new approach originating from modern 20th century Liberal Christianity

**NATURAL THEOLOGY**

tends to be a confusing term because it is used in a variety of ways:

wide definition: General Revelation

narrow definition: Natural Revelation ➔ definition used by Barbour

**General Revelation**

**Moral Revelation**

**Natural Revelation**

Integration Relationship uses science to argue for Intelligent Design/er
EXAMPLES OF NATURAL THEOLOGY (INTELLIGENT DESIGN ARGUMENTS)

William Paley

famed book *Natural Theology: Or Evidences of the Existence and Attributes of Deity, Collected from the Appearances of Nature* (1802)

science-of-the-day in early 19th century

Watch Maker Argument

IF you find a watch in a field,  
THEN it is reasonable to believe in a watchmaker

IF you find design in nature,  
THEN it is reasonable to believe in a Designer

Perfect Adaptation

belief that each & every detail in nature is perfectly adapted & fitted  
Therefore → a STATIC world  
won’t work in a DYNAMIC (evolutionary) world

Darwin was educated in Paley’s categories  
perfect adaptation later conflicted with his evolutionary science  
More anon

Anthropic Principle  
Greek ἀνθρωπός (*anthrôpos*): man, human

DEF: observation that the physical laws of the universe are finely-tuned and that minor changes to them would not allow the evolution of human life

Big Bang Physics

• the math reveals:  
  “mysterious numerical coincidences” “delicate fine-tuning”  
• raises the questions:  
  are the coincidences a reflection of intelligence?  
  is Someone/s or Something/s behind the universe?  
• no one questions the amazing fine-tuning  
  debate is over whether it reflects intelligent design → Intelligent Designer

Types of Anthropic Principles

1. Strong Anthropic Principle  
   fine-tuning is intentional & points to a Fine Tuner  
   held by those who BELIEVE in intelligent design & God

2. Weak Anthropic Principle  
   fine-tuning is nothing but an accident  
   held by those who do NOT BELIEVE in intelligent design & God

Multiple Worlds Hypothesis (2 variations)

1. Sequential: many Big Bangs in a sequence over time  
   our universe is the successful Big Bang → produced humans

2. Parallel: many universes exist parallel to our universe at the same time  
   our universe is successful → produced humans

COMMENTS:  
• proposing a high number of universes reduces statistical improbability  
  EG assume that the universe is fine-tuned to 1 part in $10^{100}$  
  IF there are $10^{100}$ universes,  
  THEN one is bound to be like ours
• NO scientific evidence for sequential or parallel universes

Therefore, Multiple Worlds Hypothesis is NOT scientific

⇒ it is an “out-of-this-world” argument just like RELIGION

• John Haught’s Lack of Gratitude Theory

36. “In brief, the multiple-worlds hypothesis provides skeptics with a convenient way to avoid an interpretation of the universe that would call forth the religious response of gratitude for its truly gracious existence ... So in order to avoid the obligation of responding to our existence with the gratitude appropriate to such an improbable gift, skeptics must find a way to show that in the final analysis there is nothing ‘remarkable’ or improbable about our being here at all.”


EXAMPLES OF THE STRONG ANTHROPIC PRINCIPLE  SEE SQ 4-9

Note Terminology: “coincidences,” “fine-tuning,” “delicately balanced,” “uniquely fit,” “precisely organized,” “just right,” “chain of coincidences”

Note Publishers: Oxford & Cambridge University Presses

**Paul Davies**  SQ4

physicist & leading Science & Religion scholar

Big Bang ⇒ explosive force & force of gravity ⇒ 1 part in $10^{60}$

**Sir Roger Penrose**  SQ 5

Oxford University mathematical physicist

amount of precise order in the Big Bang ⇒ 1 part in $10^{123}$

estimated number of atoms in the entire universe ⇒ $10^{80}$

**Hugh Ross**  S7-8 H15-16

astronomer & leading progressive creationist

fine-tuning evidence that is accessible to popular audiences

**Michael Denton**  SQ 8

geneticist & defender of teleological evolution


**Simon Conway Morris**  SQ9

Cambridge University paleontologist

believes “the emergence of human intelligence is a near-inevitability”

⇒ evolution is setup or loaded for humans to evolve

evidence: pattern of convergence in the fossil record points to a teleological evolution

**Convergent Evolution**  S11 H17

DEF: appearance of the same basic structures on unrelated evolutionary branches

EG eye evolved 40 X

camera-like eye 6 X (eg humans & octopus)

**CHALLENGES**  S12

Stephen Jay Gould’s “Re-Play the Video Tape of Evolution” Analogy

Gould: rewind the tape of evolution & played it again

DIFFERENT living organisms, or maybe NONE at all

BUT Conway Morris:

SIMILAR living organisms would evolve
Excursus: Intelligent Design Theory

American evangelical anti-evolutionary movement that emerged in the 1990s
created a FALSE DICHOTOMY between biological evolution & intelligent design

why can’t evolution reflect design?

Central Claim: ID is Detectable Scientifically

• BUT fails to understand that ID is a BELIEF

  TRADITIONAL DEFINITION OF INTELLIGENT DESIGN
  BELIEF that the beauty, complexity, and functionality in nature reflect rationality
  and the creative work of an Intelligent Designer
  BELIEF THAT nature reflects design, not HOW design arose in nature

• DO NOT Conflate (or confuse):
  Intelligent Design Theory & Traditional Belief in Intelligent Design

Central Concept: Irreducible Complexity

• some biological structures are too complex to have arisen through evolution
  EG bacterial flagellum

  Therefore, divine intervention is needed

  God-of-the-Gaps theory of origins
  should be called → INTERVENTIONISTIC Design Theory

• NB: most of the parts of the bacterial flagellum are already present in the cell membrane
  performing other functions
  reuse of cellular parts to make new structures is a well-known evolutionary
  mechanism termed “Recruitment”

Lamoureux on the Flagellum & Design

flagellum SELF-ASSEMBLES → evolutionary intelligent design

EXAMPLE

Michael Behe SQ10
  biochemist who coined term “irreducible complexity”
  claims 1st cell arose “in one fell swoop” ➔ the One-Fell-Swooper is God

COMMENTS:
  science of biochemical evolution is in its infancy
  many theories are being proposed, but none accepted throughout scientific community

QUESTION
  is this lack of agreement in science evidence of: (1) gap in nature? OR
  (2) gap in knowledge?

THEOLOGY OF NATURE

DEF: science used to reformulate traditional theological doctrines

37. “Theology of Nature holds that some traditional doctrines need to be reformulated
  in the light of current science. Here science and religion are considered to be relatively
  independent sources of ideas, but with some areas of overlap in their concerns.
  In particular, the doctrines of creation, providence, and human nature are affected by
  the findings of science.” Barbour, 26

COMMENTS:
  the work of 20th century Liberal Christianity
  Conservative Christians will be concerned [Lamoureux included]
EXAMPLES OF REFORMULATION

(1) God’s Interventionistic Action
science reveals only natural processes
Therefore, God does not intervene in the universe or in the lives of people

(2) God’s Omniscience (all-knowing)
science reveals random & indeterministic natural processes
Therefore, God does not know the future of the universe

(3) God’s Omnipotence (all-powerful)
science reveals vicious & wasteful character of biological evolution
Therefore, God does not control the universe

The Attraction of Theology of Nature
a solution for the problem of suffering & evil in the world

Theodicy Greek θεος (theos): God ἰσχύς (dike): justice
DEF: arguments justifying the existence of suffering & evil in a world created by an all-loving, all-powerful, and all-knowing theistic God

THEREFORE:
It is beyond God’s ability to:
(1) intervene in the world & deal with suffering & evil
(2) know that suffering & evil will arise
(3) control suffering & evil in the world

This is a god that is “becoming” just like us
NOT the eternal & unchanging God of traditional religions

Panentheism Greek παν (pan): all εν (en): in aka Process Theology
DEF: BELIEF that the world & God are inseparable realities, yet distinct realities therefore, not pantheism

38. “God is in the world, but the world is also in God, in the sense that God is more than the world ... the analogy of the world as God’s body, and God as the world’s mind or soul.” Barbour, 27

COMMENTS:
termed a “Dipolar God”
challenges traditional the Creator-creation distinction reformulation is a substantive change
not an incidental change changes the character of God
God is a GROVELLER through time just like us

CONCLUSION: Integration Relationship
1. Natural Theology (Natural Revelation & Intelligent Design)
the traditional position is alive and well today → Strong Anthropic Principle

2. Theology of Nature
NOT the God of traditional religions (eg Judaism, Christianity, Islam)
intellectually titillating for intellectuals irrelevant for the average person in the pews & rarely transforms lives
CONCLUSION: Science & Religion Model of Ian Barbour

1. Barbour’s Personal Position on Science & Religion
   - rejects Conflict
   - begins with Independence as a 1st step
   - integrates Dialogue & parts from Integration
   - Therefore $\Rightarrow$ Select & Combine various categories & relationships

2. Natural Theology (Natural Revelation & Intelligent Design)
   Barbour is positive. Why?
   - he once was a professional physicist & was impacted by the fine-tuning in the laws of nature

IV. TOWARD A WORKING MODEL OF SCIENCE & RELIGION

   Lamoureux

   My Position: reject Warfare, start with Compartment, and integrate Boundary & Complementary

1. Warfare Relationship
   • Scientism
   • Fundamentalism

2. Compartment Relationship
   Science & Religion in separate airtight containers
   NO contact whatsoever between them
   - EG: Science restricted only to physical reality
   - Religion restricted only to spiritual reality

3. Boundary Relationship
   Science & Religion share a border & contact each other
   One picks up where other stops
   - EG: Science takes us to the edge of physical reality & $10^{43}$ of a second after the Big Bang
   - Religion reveals that God is on the other side of this boundary & created the Big Bang

4. Complementary Relationship
   Science & Religion overlap on certain topics & have a two-way exchange of information
   They enhance, enrich, and complete each other
   Reflects the reciprocal relationship of the Metaphysics-Physics Principle

   RELIGION UNDERGRIDS SCIENCE
   UNDERGRIDS: to support, reinforce from beneath
   Metaphysical (Religious) Beliefs in Science $\Rightarrow$ WIDE definition of religion
   - EG: belief in realism & belief in the intelligibility of nature (Intelligent Design)
   Fiduciary Character of Science
   - EG: scientists have faith in the laws of nature & faith in their scientific paradigms
   Ultimate Metaphysical (Religious) Foundation of Science
   - EG: belief God ordained & sustains nature & belief science is a gift from God

   SCIENCE BOLSTERS RELIGION
   BOLSTER: to boost, fortify, empower
   Science Improves Hermeneutics
   - EG: identifies ancient science in the Bible $\Rightarrow$ Message-Incident Principle
   Science Magnifies the Doctrine of Creation
   - EG: Hubble telescope gives us a great appreciation of God’s marvellous creation
   Science Strengthens Belief in Intelligent Design
   - EG: anthropic fine-tuning evidence & biological complexity (flagellum)
   - the creation SELF-ASSEMBLES through evolution