

MODELS ON THE RELATIONSHIPS BETWEEN SCIENCE & RELIGION

S2

I. KEY THOUGHTS

S3

1. Warfare is the Common Perception of the Relationship between Science & Religion

S4

59% of Americans believe science & religion are often in CONFLICT (Pew 2015)

Notes 30

BUT science-religion scholarship has moved well beyond warfare

2. Foundation of Science-Religion Scholarship Reflects the Metaphysics-Physics Principle

S5

Two steps: 1st distinguish the fundamental differences between science & religion

S6 H5

2nd look for points in common for a reciprocal exchange of information → relationship S7

3. Science-Religion Scholarship is a Young Academic Discipline

S8

- 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

S9

Science and Religion: From Conflict to Conversation (NY: Paulist Press, 1995)

S10

Roman Catholic theologian

Haught's MODEL of Science & Religion

S11

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

S12

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 conflation 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."

Haught, 4

TIP: Select & Combine the relationships to develop YOUR position

1. CONFLICT RELATIONSHIP

S14

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

SCIENTIFIC SKEPTICS

S2

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

S4

church’s persecution of Galileo (17th century)

church’s rejection of Darwin (19th century)

BUT

Is this good history? More Anon

Hermeneutical Problems

S5

Bible is full of contradictions

Ironically, scientific skeptics are LITERALISTS like Young Earth Creationists!!!

BUT

Is this good hermeneutics? More Anon

Ethical Problems

S6

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

OBJECTIVECOMMENTS:

S9

trapped in simple dichotomies & conflation

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

S2

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

S3-4

common perception of science & religion by many who accept religion

RELIGION

- offers **True** science
- based on hard facts
- Godly & competent

OBJECTIVE**MODERN SCIENCE**

- offers **False** science
- misinterprets the facts
- Satanic & incompetent

SUBJECTIVECOMMENTS:

S5

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

CONCLUSION: Conflict Relationship

S6

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 & confections

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

S7

Biblical Literalists alienate scientific people from religion

2. CONTRAST RELATIONSHIP

S8

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

S9

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:

S10

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

S2

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:

S3

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

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

BUT some serious problems:

S4

- 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

S5

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

S6

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:

S7

excellent pastoral insight

IF you conflate science & your religion,

AND new discoveries overturn your science,

THEN do you also toss away your religion?

EXAMPLES

S8 H13

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:

S9 H24

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

Heliocentricity Greek ηλιος (hēlios): sun

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

Operations in the Universe

S2

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

S3

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:

S4

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 they realized that God did not actually intervene to cause planets to move backward?

EXCURSUS: God-of-the-Gaps

S5

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

S7

- Term carries a negative nuance

BUT logically feasible:

God can intervene in nature at any time he wants to

- Prediction

S8

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

S9

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

S10

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

S11

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

THEN does this lead to a loss of belief in God?

SCIENCE CONFLATED WITH SECULAR BELIEF

S2

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

S4

• 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

Notes 59

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

S6

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**

S7-8

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

SCIENCE**RELIGION**

HOW questions of nature

WHY questions of belief

- patterns & processes
- natural causes
- works of nature

- meaning & mystery
- ultimate causes
- Foundation of Nature

COMMENTS:

NO conflict is possible: Science → Physical

Religion → Metaphysical

CONCLUSION: Contrast Relationship

S2

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 S3

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 S4

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

S5

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

Two-Way Relationship:

S6

- 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

S7

- 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

S8-10 H5

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

THEOLOGY’S HERMENEUTICAL BLIND SPOT

S11

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! S12
☛ BLIND to the fact they use modern science

NOTE: IF religious people are going to talk about the creation, S13
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:

S2

- 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 S3
 - EG Who has a greater & more magnificent picture of God's grandeur in nature? S4
 - Biblical writers (3-Tier Universe) & Luther (Geocentricity)?
 - OR
 - Our generation with the Hubble Telescope? S5

Rejects the Proof/Argument from Design

S6

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**.”

Haught, 18

COMMENTS:

S7

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

S8

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 S9
- Experiential: Most people sense the world is designed More Anon

RELIGION CONTACTS SCIENCE

S10

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.”**

Haught, 18

COMMENTS:

S11 H5

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

CONCLUSION: Contact Relationship

S12

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 S13
 - 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

S2

Intimate relationship between Science & Religion

religion: nourishes science at a “very deep level”

S3

impacts science substantively

NB: Haught uses a **WIDE** definition of religion (metaphysics)

claims that religious elements are COMPONENTS of science!!!

☛ **Metaphysics-Physics Principle**

S4 H5

downward movement of religious ideas into science!!!

ACKNOWLEDGES THE FIDUCIARY CHARACTER OF SCIENCE

S5

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

S6

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 explicitlyconscious way) that there is a **real world** ‘out there,’ that this **real world** hangstogether **intelligibly**, that the human mind has the capacity to comprehend at leastsome of the world’s **intelligibility**, and that no matter how far we probe there willstill be further **intelligibility** to uncover. Without this kind of **trust** there would beno incentive to look for the **order** present in nature or to keep looking deeper intothe specifics of this **order**.”

Haught, 23

COMMENTS:

S7

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”

S8

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**, involvesmaking certain ***a priori*** or **metaphysical assumptions**, which atsome 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:

S9

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

S2

Quote 18 → first two features of Critical Realism

Notes 64

RealismBELIEF “there is a real world ‘out there’”

refers to “real world” 2X

Intelligibility of Nature

S3

BELIEF “universe is a rationally ordered totality of things”

refers to world’s intelligibility 3X and orderliness 3X → Intelligent Design

Human IntelligenceBELIEF “human mind has the capacity to comprehend” & truly can know nature

NO 4Fs mind problem here!

☛ Metaphysics-Physics Principle

S4 H5

downward movement of metaphysical/religious ideas into science

PROPOSES A METAPHYSICAL (RELIGIOUS) ROOT FOR SCIENCE

S5

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

S6

In who or what do we root:

Notes 14

tacit faith of scientists, reality, intelligibility of nature & human intelligence

(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?

S7

CONCLUSION: Confirmation Relationship

S8

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

S9

- 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

S10

1. Haught’s Personal Position on Science & Religion

(Quote 1) S11

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

S12

2. The Problem of Conflation

S13

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

S2

Religion in an Age of Science (San Francisco: Harper, 1990)

S3

“The Dean” of the science-religion dialogue

PhD physics & Master of Divinity

Protestant Christian

Barbour’s MODEL of Science & Religion

S4

NB: a model includes as many relationships as possible, including those we do not accept

Four Relationships between Science & Religion:

1. Conflict
2. Independence
3. Dialogue
4. Integration

Barbour’s POSITION on Science & Religion

S5

NB: a position is a personal & specific view of the relationship between Science & Religion

Barbour:

- rejects Conflict
- starts with Independence
- integrates Dialogue & aspects of Integration

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

TIP: Select & Combine the relationships to develop YOUR position

The Challenge to Religion

S7

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

S8

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:

S9-10

- common perception of the relationship between science & religion:

SCIENCE

objective

universal

rational

Based on:

solid evidence

RELIGION

subjective

parochial

emotional

Based on:

disagreeing traditions

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

1. CONFLICT RELATIONSHIP

S2

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

SCIENTIFIC MATERIALISTS

S3

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**

S4

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.”

C Sagan, *Cosmos* (NY: Random House, 1980), 4. Capitals original

QUESTIONS:

- is this a scientific or religious statement?

is it not the same as:

S5

**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? S6
- did he do a disservice to science by discouraging them to be scientists?

Jacques Monod

S7

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.**”**

J Monod, *Chance and Necessity* (NY: Vintage Books, 1972), 180

QUESTION:

- is this not an overstatement: “Man knows . . .”

90% of Canadians & Americans are teleologists & would disagree

Excursus: God, Chance & Christians

S8

Christians demonize: chance, randomness, indeterminacy

RESULT

another false dichotomy → between God & chance

BUT

could chance, randomness, indeterminacy be a *part* of God’s good creation?

could there be some freedom & flexibility in nature?

EG

S9

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

S10

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

S2

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

S3

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 S4

biological origin? Are they the products of evolution? So stated, the

meaning of spiritual authority breaks into **TWO** competing possibilities,

TWO competing hypotheses that now appear susceptible to empirical testing.

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:

S5

- 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

S6

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

S7

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) S8 H2
Moral Revelation

Analogy II

S9

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

S10

- 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

S2

For the skeptics of religion:

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

QUESTIONS:

S3

- 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

S4

Foundational Principle

Bible reveals True science

Therefore, biological evolution is false

Foundational MethodScientific Concordism

align the scientific evidence with the literal statements about nature in the Bible

EXAMPLE

S5

Institute for Creation Research

most important Young Earth Creationist organization in the world
founded by Henry Morris in 1972

28. LITERAL JESUS & LITERAL RESURRECTION:

S6

“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

S7

“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

- (15) *literally* spoken to him by God Almighty, a commandment which instructed him not to eat of a
- (16) *literal* tree of knowledge of good and evil, thus causing
- (17) *literal* death to fall on all men and animal life. Now all of creation is
- (18) *literally* dying, the subject of entropic forces of decay, and creation is waiting for the final redemption in which the earth will
- (19) *literally* be restored to its original glory—the same
- (20) *literal* sinless/deathless perfection of the
- (21) *literal* first creation as described in Genesis 1.”

SUMMARY

S3

“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:

S4

- 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:

S5

- 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:

S6

Does the reality of sin need a real Adam?

CONCLUSION: Conflict Relationship

S7

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:

S8

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

2. Misappropriation of Academic Authority

S9

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 [μετα]** strictly scientific work.”

Barbour, 14

COMMENTS:

S10

echoes the Metaphysics-Physics Principle
also happens with religious experts speculating about science

2. INDEPENDENCE RELATIONSHIP

S2

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

S3-4

	SCIENCE	RELIGION
Questions	Physical HOW?	Metaphysical WHY?
Domain	Public	Personal
Authority	Objective Repeatable Data	Good, Evil, Meaning
	Nature	God
Language	Logic & Experiment	Revelation & Spiritual Experience
	Quantitative	Symbolic & Analogical

☛ it's impossible for Science & Religion to conflict

Karl Barth

S5

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

S6

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

S7

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

S8

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

S2

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

S3

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:

S4

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

S5

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

S6

QUESTIONS:

what happens before the Big Bang?

physics can go back to 10^{-43} sec after the Big Bang (called Planck Time) S7 H14

why are the laws & initial conditions of the Big Bang so finely-tuned? S8 H14

EG explosive & gravitational forces balanced to 1 part in 10^{60}

☛ Is there a Fine Tuner?

Ethics

S9

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**

S10

leading evolutionary biologist at Harvard University

contributor to Science-Religion dialogue

33. “No such **conflict** should exist [between science & religion] because each S11

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 clichés, we [scientists] get the **age of the rocks**, and religion S2
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: S3

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: S4

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: S5

35. “The belief that religion and science occupy separate
magisteria is **dishonest**.” [!!!] See Q 8 N4
Richard Dawkins, “Snake Oil & Holy Water”
Forbes ASAP (4 Oct 1999), 237

CONCLUSION: Dialogue Relationship S6

1. Boundary questions between Science & Religion are quite valuable
especially in cosmology & ethics
2. Dialogue between Science & Religion only informs the other party S7
exchanges of information do not support or change either of them

4. INTEGRATION RELATIONSHIP S8

- an integration between the content of Science & the content of Religion in areas that overlap
- Science supports and even changes Religion

Types of Integration: S9

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 S10

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 S11 H2

Moral Revelation

Natural Revelation

Integration Relationship uses science to argue for Intelligent Design/er

EXAMPLES OF NATURAL THEOLOGY (INTELLIGENT DESIGN ARGUMENTS)

William Paley

S2

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

S3

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

S4

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 ανθρωπος (*anthrōpos*): man, human

S5

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

S6

- 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

S7

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

S8

fine-tuning is nothing but an accident

held by those who do NOT BELIEVE in intelligent design & God

Multiple Worlds Hypothesis (2 variations)

S9

1. Sequential: many Big Bangs in a **sequence** over time

S10

our universe is the successful Big Bang → produced humans

2. Parallel: many universes exist **parallel** to our universe at the same time

S11

our universe is successful → produced humans

COMMENTS:

S12

- 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 S2
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 S3

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.”

Haught, *Science & Religion* (NY: Paulist Press, 1995), 134

EXAMPLES OF THE STRONG ANTHROPIC PRINCIPLE SEE SQ 4-9 S4

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 S5

physicist & leading Science & Religion scholar

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

Sir Roger Penrose SQ 5 S6

Oxford University mathematical physicist

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

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 S9

geneticist & defender of teleological evolution

Nature’s Destiny: How the Laws of Biology Reveal Purpose in the Universe (1998)

Simon Conway Morris SQ9 S10

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 S2

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 S3

- BUT fails to understand that ID is a BELIEF

TRADITIONAL DEFINITION OF INTELLIGENT DESIGN S4

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): S5
 Intelligent Design Theory & Traditional Belief in Intelligent Design

Central Concept: Irreducible Complexity S6

- some biological structures are too complex to have arisen through evolution
 EG bacterial flagellum S7

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 S8
 performing other functions
 reuse of cellular parts to make new structures is a well-known evolutionary
 mechanism termed "Recruitment"

Lamoureux on the Flagellum & Design S9

flagellum SELF-ASSEMBLES → **evolutionary** intelligent design

EXAMPLE

Michael Behe SQ10 S10

biochemist who coined term "irreducible complexity"

claims 1st cell arose "in one fell swoop" → the One-Fell-Swooper is God

COMMENTS: S11

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 S12

DEF: science used to **reformulate** traditional theological doctrines

37. "Theology of Nature holds that some **traditional doctrines** need to be **reformulated** S13
 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: S14

the work of 20th century Liberal Christianity

Conservative Christians will be concerned [Lamoureux included]

EXAMPLES OF REFORMULATION

S2

(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)

S3

science reveals random & indeterministic natural processes

Therefore, God **does not** know the future of the universe

(3) God's Omnipotence (all-powerful)

S4

science reveals vicious & wasteful character of biological evolution

Therefore, God **does not** control the universeThe Attraction of Theology of Nature

S5

a solution for the problem of suffering & evil in the world

Theodicy Greek θεος (*theos*): God δίκη (*dikē*): 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:

S6

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**

S7

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:

S8

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

S9

1. Natural Theology (Natural Revelation & Intelligent Design)

the traditional position is alive and well today → Strong Anthropic Principle

2. Theology of Nature

S10

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

S2

1. Barbour's Personal Position on Science & Religion

(Quote 21) S3

rejects Conflict

begins with Independence as a 1st step

integrates Dialogue & parts from Integration

Therefore → **Select & Combine** various categories & relationships

S4

2. Natural Theology (Natural Revelation & Intelligent Design)

S5

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 S6 H18

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

S7

1. Warfare Relationship

S8 H18

• Scientism

• Fundamentalism

2. Compartment Relationship

S9 H18

Science & Religion in separate airtight containersNO contact whatsoever between them

EG: Science restricted only to physical reality

Religion restricted only to spiritual reality

3. Boundary Relationship

S10 H18

Science & Religion share a border & contact each other

One picks up where other stops

S11 H14

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

S12 H18

Science & Religion overlap on certain topics & have a two-way exchange of information

They enhance, enrich, and complete each another

Reflects the reciprocal relationship of the Metaphysics-Physics Principle

S13-14 H5

RELIGION UNDERGIRDS SCIENCE

UNDERGIRD: to support, reinforce from beneath

S15

Metaphysical (Religious) Beliefs in Science → **W I D E** definition of religion

EG: belief in realism & belief in the intelligibility of nature (Intelligent Design)

Fiduciary Character of Science

S16

EG: scientists have faith in the laws of nature & faith in their scientific paradigms

Ultimate Metaphysical (Religious) Foundation of Science

S17

EG: belief God ordained & sustains nature & belief science is a gift from God

SCIENCE BOLSTERS RELIGION

BOLSTER: to boost, fortify, empower

S18

Science Improves Hermeneutics

S19 H5-6

EG: identifies ancient science in the Bible → Message-Incident Principle

Science Magnifies the Doctrine of Creation

S20

EG: Hubble telescope gives us a great appreciation of God's marvellous creation

S21

Science Strengthens Belief in Intelligent Design

S22

EG: anthropic fine-tuning evidence & biological complexity (flagellum)

S23-24 H14

☛ the creation **SELF-ASSEMBLES** through evolution