Patristics, Genomics, and Finding God in the Cell

Dr. Clay Carlson
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Palos Heights, IL
Greeting from Trinity Christian College
An Important Conversation

Vaccines for Children
20 years of protecting America's children

https://www.cdc.gov/vaccines/programs/vfc/20-year-infographic.html


An Important Conversation

Questions around Adam prevent a productive relationship between science and faith
An Important Conversation

• The Church is missing the message
  – God revelation through creation is more wonderful and mysterious than believed
  – We are called to steward this world as God’s image bearers

• The world is missing our input
  – Christians may avoid careers in science
  – Science deprived of the wisdom of the Christian tradition
So hard to contribute

Evolutionary Biology
Genomics
Archeology
History of Science
Philosophy of Science
Christian Philosophy
Theology
Church History
Biblical Studies
Speaking
Writing
Nonetheless…

• There is important work to be done

• The Lord be with us as we leave behind human wisdom and seek God’s wisdom
• I think claims of science regarding human origins are our best understanding of how we came to be

• I also believe that the claims of Genesis are true

• Reconciliation: Genesis tell us how the world is right now
What does scripture say?

The First Book of Moses, Called

Genesis.

Chapter 1.

1 Creation of the solar system. 20 Creation of animal life. 26 Creation of immortal man. 29 The appointment of food.

In the beginning God created the heaven and the earth.

2 And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

3 And God said, Let there be light: and there was light.

4 And God saw the light, that it was good.

lesser light to rule the stars also.

17 And God set them in the heaven to give light on the night, and to divide darkness: and God said:

18 And to rule over the night, and to divide darkness: and God said:

19 And the evening and the morning were the fourth day.

20 And God said, I will form abundantly the that hath life, and to the earth in the open ground.

21 And God created every living creature that is. The waters brought forth abundantly the kind, and every living creature...
What does scripture say?

**Creation by God’s Word**  
Gen 1:3  
“Then God said…”

**Humans from the earth**  
Gen 2:7  
“formed man from the dust of the ground”

**Humans bear the image**  
Gen 1:26  
“make humankind in our image”

Important truths, but different from science
What does the science say?

- Humans have a shared genetic ancestry with other life on Earth
  - Similarity
  - Synteny
  - Pseudogenes

- There have always been thousands of humans
  - Populations evolve, not individuals
  - Genetic diversity

**Genesis and the Genome**: Genomics Evidence for Human-Ape Common Ancestry and Ancestral Hominid Population Sizes
The science says shared genetic ancestry

- **Similarity**
  - Ephx2 (PDB:3l1Y)
  - bifunctional epoxide hydrolase 2
  - Epoxide + water = glycol
  - Many roles in
    - Metabolism
    - Physiology

- **Exists throughout life**
The science says shared genetic ancestry

- **Synteny** – the order of the genes along the chromosome

- **EPHX2**
- **CLU** – Clusterin
- **SCARA3** – Scavenger Receptor, class A, member 3
The science says shared genetic ancestry

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**Anthropoid primates**

### The Genetics of Vitamin C Loss in Vertebrates

Guy Drouin*, Jean-Rémi Godin and Benoît Pagé
The science says shared genetic ancestry

- **Similarity**
  - Ephx2

- **Synteny**
  - Ephx2 then Clu then Scara3

- **Pseudogenes**
  - Vitamin C biosynthesis

- **Would be expected in the case of shared genetic ancestry**
Populations evolve, not individuals.

“If humans evolved, then we did so as a population. Doesn’t everyone know that?”

*Adam and the Genome*
- Denis Venema
The science says large population

- Genetic diversity – From Darrel Falk

The science says large population

- 25 copies with 10 errors total
25 copies with 250 different errors

More error diversity because of larger scribe population through history
The science says large population

- Genetic diversity

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The science says large population

- Genetic diversity
  - Never fewer than \(~10,000\)
  - Smaller group left Africa

The impact of whole-genome sequencing on the reconstruction of human population history

*Krishna R. Veeramah\(^{1,2}\) and Michael F. Hammer\(^{1}\)*
Human Origins: do science and scripture conflict?

- **Scripture**
  - God’s spoken word
  - From the earth
  - In the image

- **Science**
  - Shared genetic ancestry
  - Large population

- It certainly seems like they conflict... **Now what?**
Help from the Church Fathers?

• Augustine

• Principle of the priority of demonstration
  – Trust demonstrably true science
    • Science is rarely so certain

• Principle of the priority of scripture
  – Assume scripture is true until proven otherwise
    • Who’s interpretation of scripture?

Saint Augustine, Antonio Rodriguez
Help from the Church Fathers?

• Origen

• Greek philosophical tradition and logic supported preexistent eternal universe
  – Not demonstrated sufficiently
  – Contradicts claims of created universe in scripture

• Building theology around a preexistent eternal universe was misguided

(184 – 254)
Help from the Church Fathers?

- Clement of Alexandria
  - Willing to embrace all truth about God’s world
  - From history
  - From Greek philosophy

- Christianity has always incorporated truth wherever it is found

(150 – 215)
Help from the Reformers?

First, by the creation, preservation, and government of the universe, since that universe is before our eyes like a beautiful book in which all creatures, great and small, are as letters to make us ponder the invisible things of God: God’s eternal power and divinity, as the apostle Paul says in Romans 1:20.

All these things are enough to convict humans and to leave them without excuse.

Second, God makes himself known to us more clearly by his holy and divine Word, as much as we need in this life, for God’s glory and for our salvation.
How to find harmony

• Evolutionary Creation

“BioLogos invites the church and the world to see the harmony between science and biblical faith as we present an evolutionary understanding of God’s creation.”

• But what kind of harmony?
How to find harmony: concordism

• Concordism
  – Common author of truth
  – All truth will agree

• If there is a disagreement
  – Science is likely incorrect
  – Scriptural interpretation could be incorrect

How do we decide which to change?
How to find harmony: concordism

- Is there scientific justification for changing our interpretation of the science?
  
  - Descent with modification is strongly supported – Peter Harrison

- Scientific possibility for an Adam and Eve?
  
  - Only two people at the head of humanity
  - Election of Adam and Eve
  - Genealogical Adam and Eve - Joshua Swamidass
How to find harmony: concordism

- Is there *scriptural* justification for changing our interpretation of scripture?

“If these things are looked at literally, not only will the understanding of those who see God be dim, but their concept of Him will also be inappropriate.”
How to find harmony: concordism

• Is there **scriptural** justification for changing our interpretation of **scripture**?
  – Talking snake
  – Representative names
  – Wives for the boys
  – Cain builds a city

• What would we misunderstand about God if we misapply these early chapters?
How to find harmony: NOMA

• Non Overlapping Magisteria
  – Different kinds of truth
  – Steven Jay Gould
  – Some Christian Philosophers

• If there is a disagreement
  – We are making science do something it should not
  – We are making scripture do something it should not
How to find harmony: NOMA

• If humans have shared ancestry with other life and always had a large population…
  – Would that mean God has not built the cosmos as his Temple?
    • Genesis 1
  – Would that mean that humanity does not bear God’s image and is not responsible for stewarding this world?
    • Genesis 2
  – Would that mean that the whole of the cosmos is not less than it should be? Would sin have no negative effect on the world?
    • Genesis 3

• These things are true no matter our genetic history
How to find harmony: NOMA

• Truths evident right now
  – Good creation
  – Humans from the dust
  – In the Image of God
  – Fallen creation
The goodness of God’s world shines through all He has made
- Molecules and mountains bring us to **Awe**

**Research Article**

**Awe Expands People’s Perception of Time, Alters Decision Making, and Enhances Well-Being**

Melanie Rudd\(^1\), Kathleen D. Vohs\(^2\), and Jennifer Aaker\(^1\)

\(^1\)Graduate School of Business, Stanford University, and \(^2\)Carlson School of Management, University of Minnesota
Truth: from the ground

• Humans are made from the ground
  – From dust you have come to dust you will return (J. Walton)
  – Adam is indeed made from the Adamah (N. Wizrzba)
“Upon them, therefore upon men who, as animals were essentially impermanent, He bestowed a grace which other creatures lacked – namely the impress of His own Image. (28)

“But, in fact, the Good God has given them a share in His own Image, that is, in our Lord Jesus Christ.” (38)
Truth: Fallen

- Sin disrupts all our relationships and responsibilities
Truth: This is how the world is

• Whether or not the early chapters of Genesis tell us how the world came to be…

**Genesis tell us how the world is right now.**

• The Genesis informed worldview has been true through every understanding of cosmology, origins, or life.
Summary

1. This is a very important conversation
2. It is very difficult to discuss
3. Scripture seems to indicate one story of origins
4. Science seems to reveal another
   (shared ancestry, large population)
5. The Church Fathers can guide us
   Augustine, Origin, Clement, Gregory of Nyssa, Athanasius
6. Concordism or NOMA, different kinds of truth
7. The claims of Genesis are true about life today
For more information
THANK YOU

Questions later?
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