

REASON TOGETHER CHURCH

REASON TOGETHER STUDIES

DOES SCIENCE AGREE WITH AN OLD EARTH?

GENESIS 1:1; PROVERBS 18:13, 17 KJV



DR. THOMAS W. HAWKSLEY

www.ReasonTogether.Church

Bring your questions. Open your Bible. Let's Reason Together the Word of God.

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SERMON TRANSCRIPT

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Genesis 1:1; Psalm 19:1; Proverbs 18:13, 17

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Aloha,

Welcome to Reason Together Church.

I am grateful that you are here today.

If you are worshiping with us for the first time, you are not merely a visitor.

You are our honored guest.

We are glad that the Lord has brought you into this conversation.

At Reason Together Church, you are allowed to bring your questions.

You are allowed to admit that you do not understand something.

You are allowed to examine a claim before you accept it.

And you are allowed to discover that a question is more complicated than someone made it sound.

That is why our invitation is simple.

Bring your questions.

Open your Bible.

Let's Reason Together the Word of God.

Before we begin, let us pray.

Our Heavenly Father,

Thank You for giving us another day and another opportunity to gather around Your Word.

Thank You for every person in this room and every person who will receive this study somewhere else.

You created the heaven and the earth.

Nothing that is true can threaten You.

Nothing that is discovered can surprise You.

Give us wisdom today.

Protect us from pride, fear and careless conclusions.

Keep us from accepting an argument merely because it supports what we already believe.

Keep us from rejecting an argument merely because it challenges us.

Teach us to listen carefully, test honestly and speak graciously.

Above all, help us see Jesus clearly and honor Him in the way we search for truth.

In His precious name we pray.

Amen.

Our Scripture reading begins with the first verse of the Bible.

Genesis chapter 1 and verse 1 says:

"In the beginning God created the heaven and the earth."

Psalms 19 and verse 1 says:

“The heavens declare the glory of God; and the firmament sheweth his handywork.”

Proverbs 18 and verse 13 says:

“He that answereth a matter before he heareth it, it is folly and shame unto him.”

And verse 17 says:

“He that is first in his own cause seemeth just; but his neighbour cometh and searcheth him.”

May the Lord bless the reading of His Word.

Before we enter the study, let me briefly explain a few things about Reason Together Church.

We do not pass an offering plate.

There is a giving box available for members who are led to give, but our guests are never expected to contribute.

If you are a member of another church, we encourage you to support your home church.

Giving is an act of worship and the Bible teaches that it should never be done under compulsion.

If you would like us to stay in touch with you, our guest card asks only for your first name and email address.

We do not need your life history to welcome you into a conversation.

Our Keiki Kids Center is available for families who would like to use it.

After the study, please join us at the Reason Together Café.

COFFEE stands for Christ Offers Forgiveness For Everyone Everywhere.

The coffee is free and so are the refills on conversations.

Now let us turn to the question before us.

Does science agree with an old Earth?

This is Part Two of a two-part Reason Together Study.

In Part One, we asked whether scientific evidence can agree with a young Earth.

Today we turn the question around.

In Part One, I told you about an afternoon when I was doing nothing in particular.

I was minding my own business.

I was not bothering anyone.

I was having a good day.

Then my wife called me into the bedroom.

She was trying on dresses for an event we were attending that evening.

She looked me directly in the eyes.

Then she asked:

“Does this dress make me look old?”

Gentlemen, there are questions that contain no safe answer.

This was one of them.

My wife is a beautiful woman with an attractive figure.

I told her how beautiful she looked.

She thanked me and continued trying on dresses because she had already planned to try several more.

I left the room as quickly and as quietly as wisdom allowed.

But I began thinking about the question.

I did not say this aloud.

What I did not say was that the dress might influence how old she appeared, but it could not change her actual age.

A dress may make someone look younger.

A dress may make someone look older.

The appearance may change while the chronological age remains exactly the same.

That gave us the doorway into Part One.

Something can appear old without actually being old.

But today we must ask the opposite question.

What if something appears old because it really is old?

What if the rocks, meteorites, isotope systems and astronomical observations preserve evidence of actual elapsed time?

We must not accept that conclusion merely because most scientists presently accept it.

But neither should we reject it merely because it creates difficulty for what we already believe.

Proverbs tells us that the first person to present a case may sound convincing.

Then another person comes and searches that case.

Part One allowed the young-earth case to be heard.

Today the old-earth case receives the same opportunity.

We will listen to it.

We will search it.

We will ask what was measured.

We will ask what was assumed.

We will ask what was tested.

We will ask what remains unresolved.

And we will not pretend that science is one person speaking with one voice.

Not every scientist accepts every part of the conventional chronology.

Some scientists who question conventional ages are Christians.

Some are not Christians.

A scientist does not become a Christian scientist merely by supporting a young Earth.

A scientist does not become an atheist merely by supporting an old Earth.

Credentials do not make a conclusion true.

Minority status does not make a conclusion true.

Consensus does not make a conclusion infallible.

The question is whether the evidence carries the conclusion.

What do scientists ordinarily mean by an old Earth?

The accepted estimate is approximately 4.54 billion years.

That number is so large that it can become little more than a sound in our ears.

One million seconds is a little more than eleven days.

One billion seconds is more than thirty-one years.

Four and a half billion years is a length of time beyond ordinary human experience.

No person watched those years pass.

No scientist stood beside the Earth when it formed.

The age is a reconstruction of history from evidence that exists now.

That does not make it imaginary.

Archaeologists reconstruct civilizations they did not observe.

Investigators reconstruct accidents they did not witness.

Astronomers reconstruct events from light that arrived later.

Historical science asks what past event best explains the evidence that remains.

But where did the number 4.54 billion come from?

It did not come from carbon-14.

It did not come from one scientist picking up one ordinary rock and reading a number printed on it.

Earth's surface has been repeatedly changed.

Rocks have melted.

Continents have moved.

Mountains have risen and eroded.

Material has been recycled through Earth's crust and mantle.

Scientists therefore looked beyond ordinary surface rocks.

They studied some of the oldest minerals found on Earth.

They studied material returned from the moon.

And they studied meteorites.

Meteorites are important because they are treated as remnants of the material associated with the formation of the solar system.

In the middle of the twentieth century, Clair Patterson studied lead isotopes in meteoritic material.

His work produced an estimated age near 4.55 billion years.

Later measurements refined the estimate without radically replacing it.

The modern estimate is commonly stated as 4.54 billion years with an uncertainty of roughly one percent.

That does not mean Patterson directly dated the entire planet.

It means he reconstructed the age of material connected with the formation of Earth and the solar system.

That raises reasonable questions.

Why should a meteorite reveal Earth's age?

Were Earth and the meteorite formed from the same larger system?

Was the initial lead composition understood correctly?

Could later events have altered the ratios?

Do ancient Earth minerals and lunar samples support the same history?

Those are fair questions.

But the old-earth case is already stronger than the claim that one person simply assumed the world was old.

Real material was measured.

Real isotope ratios were compared.

A model connected those measurements to a proposed history.

To understand the argument, we need to understand radiometric dating.

An isotope is a form of an element distinguished by the number of neutrons in its atoms.

Some isotopes are unstable.

Over time, a radioactive parent isotope changes into a daughter product.

The half-life describes the time required for half of a quantity of the parent isotope to decay.

Scientists measure the parent and daughter products in a mineral.

They then calculate how much time would be required to produce the measured relationship.

The measurement is real.

The calculated age is an interpretation of that measurement through a model.

What assumptions enter the model?

First, when did the clock begin?

Second, what parent and daughter material was present at the beginning?

Third, did material enter or leave the system?

Fourth, did heat or pressure disturb or reset the clock?

Fifth, has the decay rate remained sufficiently stable?

Sixth, was the correct method selected for the sample?

Seventh, does another method confirm the result?

Assumptions are not optional.

Every reconstruction of an unobserved past contains assumptions.

But the word assumption does not automatically mean guess.

Some assumptions are supported by experiments.

Some are checked against other systems.

Some produce predictions that can be tested.

Others remain uncertain.

Our responsibility is to identify which is which.

This brings us to carbon-14.

Carbon-14 is discussed so frequently that some people imagine scientists used it to calculate Earth's age.

They did not.

Carbon-14 has a half-life of approximately 5,730 years.

It is principally useful for comparatively recent material that was once living.

It may be used for wood, bone, cloth and other organic remains.

It cannot measure billions of years in the ordinary way because too little original carbon-14 would remain.

The proposed age of Earth comes from isotope systems with much longer half-lives.

These include uranium-lead and lead-lead systems.

That does not make carbon-14 irrelevant.

Young-earth researchers report measurable carbon-14 in coal, fossils and diamonds assigned great conventional ages.

If the carbon-14 is original to those materials, that is a serious question for immense age.

But detection alone does not answer the question.

Could modern carbon have entered the sample?

Could carbon-14 have been produced within the material?

Could preparation have introduced it?

Could the instrument's background account for the measurement?

Did the amount consistently rise above the laboratory background?

Did different laboratories reproduce the result?

The old-earth response cannot responsibly say "contamination" and then stop investigating.

It should identify a plausible source and demonstrate that the source can account for the amount detected.

The young-earth response cannot responsibly say "carbon-14 was detected" and then declare the entire age question settled.

It must establish that the carbon was original and that other explanations fail.

This is what reasoning together requires.

Now we reach the strongest feature of the old-earth case.

The case does not depend upon only one radioactive clock.

It depends heavily upon agreement among different clocks and different kinds of evidence.

One clock may be defective.

One sample may be contaminated.

One mineral may contain inherited material.

One system may have been opened or reset.

But what happens when different systems point toward compatible ages?

Scientists compare uranium-lead, lead-lead, rubidium-strontium, potassium-argon and argon-argon systems.

They compare terrestrial minerals with meteorites.

They compare Earth materials with lunar samples.

They compare isotope ages with the order of geological formations.

The argument is not that every result agrees perfectly.

They do not.

The argument is that many independent measurements converge upon great age.

That word independent matters.

Are the methods genuinely independent?

Do they begin with the same assumptions?

Were they calibrated to the same expected timeline?

Do they agree on the same sample?

Do they agree only within a broad range?

How are contradictory results handled?

Are unsuccessful dates disclosed?

When a date is rejected, is there a physical reason or merely an inconvenient number?

Those questions should be asked.

But agreement among independent measurements is not meaningless.

If several clocks with different mechanisms point toward the same history, the combined case is stronger than any one clock.

This is one reason the old-earth conclusion has remained dominant.

What happens when the clocks disagree?

Radiometric methods sometimes produce discordant results.

Different minerals from the same formation may yield different apparent ages.

Recently erupted volcanic material has sometimes produced surprisingly old dates.

Scientists do reject some measurements.

The old-earth model offers several possible explanations.

A newly formed rock may contain older crystals that did not completely melt.

A mineral may contain excess daughter material.

Water or heat may allow some elements to enter or leave.

One isotope system may reset while another remains closed.

A method with a very long half-life may be inappropriate for extremely young material.

Sampling and laboratory mistakes can occur.

Those are possible explanations.

But possible is not the same as demonstrated.

Each rejected result should have a reason connected to the physical sample.

We should not allow “contamination” or “wrong method” to become automatic escape doors.

At the same time, a failed application outside a method’s useful range does not invalidate every proper application.

A bathroom scale may weigh a person accurately.

The same scale may be unable to weigh a grain of sand.

Its failure with the grain does not prove it failed with the person.

Every measuring instrument has limitations.

Every dating method has an appropriate range and an appropriate material.

This matters when we hear about Mount St. Helens, Mount Etna or Hualalai here in Hawaii.

Young volcanic rocks have sometimes produced apparent ages far older than their known eruptions.
That observation deserves an answer.
What exactly was dated?
Which isotope system was used?
Was that system designed to measure material only a few years or centuries old?
Did the rock contain inherited minerals?
Was excess argon expected?
Did the laboratory know the sample's approximate age?
Was the reported number actually interpreted as the eruption date?
A poor result may reveal a limitation in the sample or method.
It may also reveal a deeper problem.
We have to investigate before deciding which it is.
The old-earth case does not rest entirely upon radioactive dating.
Geologists also examine the order and structure of the rocks.
They observe repeated sedimentary formations.
They find erosion surfaces between formations.
They identify what appear to be buried soils.
They find reefs and other biological structures within the record.
They observe fossil organisms appearing in consistent general sequences.
They find evidence of uplift, erosion, deposition and later uplift again.
The old-earth interpretation sees repeated episodes of geological history.
The young-earth interpretation assigns much of that record to rapid events surrounding a global Flood.
The question is not whether water can deposit sediment quickly.
It can.
The question is whether one catastrophic year and its aftermath can account for the order, repetition and regional differences in the record.
Plate tectonics adds another line of evidence.
Continents move today.
Ocean floors display patterns associated with seafloor spreading.
Magnetic patterns appear on opposite sides of mid-ocean ridges.
Rocks preserve what are interpreted as reversals of Earth's magnetic field.
Mountain ranges preserve evidence of continental collision.

Conventional geology places these processes across vast periods.

Young-earth models sometimes propose that much of the movement occurred rapidly during the Flood.

Then the question becomes physical.

How rapidly did the plates move?

How much friction and heat would that produce?

What would happen to the ocean floor?

What evidence would rapid movement leave?

Could the heat be removed quickly enough for life to survive?

The model must explain the mechanism, not merely the final location of the continents.

Scientists also examine records interpreted as annual or seasonal.

Trees produce rings.

Glaciers preserve layers.

Some lakes preserve alternating seasonal sediments called varves.

Corals produce growth bands.

Caves accumulate mineral deposits.

Not every visible line represents one year.

Some years may produce several lines.

Some years may produce no clear line.

Catastrophes may interrupt a sequence.

Scientists therefore look for recurring seasonal changes in chemistry, dust, pollen and other features.

They compare overlapping records.

They attempt to anchor portions to known events.

The important question is not whether someone counted lines.

It is whether independent seasonal evidence confirms that the lines represent repeated years.

Can thousands of apparent years be compressed into only a few thousand actual years?

Sometimes layers can be compressed.

Sometimes the proposed compression must explain several connected patterns at once.

This is why the total body of evidence matters.

We should also correct an outdated caricature.

Modern old-earth geology does not teach that everything always happened slowly.

Geologists recognize enormous catastrophes.

Asteroids struck Earth.

Volcanoes transformed landscapes.

Tsunamis moved sediment.

Glacial floods carved terrain.

Underwater landslides transported enormous deposits.

Sudden burial preserved organisms.

Mass extinctions occurred in the conventional record.

Catastrophe does not belong exclusively to young-earth science.

The real disagreement is not slow processes against catastrophes.

The disagreement concerns which processes acted, how rapidly they acted, how often they acted and how much of the record they produced.

Mount St. Helens demonstrated that layers can form rapidly.

It demonstrated that erosion can cut channels rapidly.

It demonstrated that logs can be transported, sorted and buried.

Those observations corrected oversimplified assumptions.

But Mount St. Helens did not reproduce the entire geological record.

The fact that a process can occur rapidly does not prove that every example occurred rapidly.

The fact that a feature is large does not prove that it required millions of years.

Capability and history are not the same question.

This brings us to rocks and diamonds.

Some rocks can form within minutes or hours.

Lava can cool rapidly.

Sedimentary layers can be deposited rapidly.

Crystals can grow rapidly under suitable conditions.

Synthetic diamonds can be created rapidly under controlled pressure and temperature.

Fossilization can begin quickly under unusual conditions.

Those facts must not be discounted.

But formation time and chronological history are not always the same measurement.

A wooden table may be constructed in one afternoon from a tree that grew for a hundred years.

The table is one day old as a table.

The wood has a much longer history.

In the same way, we may need to distinguish the age of a source material, the time of crystallization, the time of cooling and the time since a radioactive system closed.

A diamond forming quickly does not by itself establish whether its carbon source is young or old.

A rock forming rapidly does not by itself determine when its ingredients originated.

The distinction does not prove an old age.

It shows why rapid formation alone does not settle the age question.

Dinosaur tissue raises another important challenge.

Researchers have reported flexible structures, blood-vessel-like structures, cellular shapes, collagen and protein fragments in dinosaur fossils.

Those discoveries are real and scientifically important.

But the language matters.

A mineralized shape is not necessarily an intact blood vessel.

A protein fragment is not the same as fresh flesh.

A flexible structure is not automatically evidence that the animal died recently.

We should ask what was actually recovered.

Was the material original to the dinosaur?

Could bacteria account for any portion of it?

Did minerals help preserve it?

Could iron-driven chemistry stabilize biological material?

Have laboratory experiments reproduced meaningful preservation?

Do those mechanisms demonstrate survival for tens of millions of years or merely suggest that longer survival may be possible?

Unexpected preservation should challenge assumptions about decay.

It should encourage further research.

It does not independently give us Earth's age.

Now we need to revisit the RATE project.

RATE means Radioisotopes and the Age of the Earth.

Its researchers approached radioisotope evidence from a young-earth position.

They investigated helium in zircons, radiohalos, isotope discordance and carbon-14 in conventionally ancient materials.

The project made an important acknowledgment.

The rocks contain evidence interpreted as enormous amounts of radioactive decay.

RATE did not merely deny that the daughter products exist.

Instead, the researchers proposed that decay occurred much more rapidly during creation or the Flood.

That proposal creates a new question.

Has large-scale accelerated nuclear decay been observed?

What physical mechanism caused it?

Did every isotope accelerate in a compatible way?

How much radiation would be released?

How much heat would be generated?

What would happen to Earth's crust, oceans and atmosphere?

Could people and animals survive?

The heat problem is not a small footnote.

Accelerated decay sufficient to compress billions of apparent years into a short period would release tremendous energy.

Rapid plate movement would add more heat.

Volcanism, friction and impacts would add still more.

Where did the heat go?

A young-earth model may propose miraculous removal.

God can perform miracles.

Creation itself is a miracle.

The Flood involved divine judgment.

But a proposed miracle should not be described as though the physical mechanism has been scientifically demonstrated.

Science can investigate effects that remain observable.

It cannot place an unmeasured miracle inside an equation and claim the equation explained the event.

That does not make the miracle impossible.

It identifies the boundary between a scientific mechanism and a theological proposal.

We also need to consider the connection between Earth and the heavens.

Genesis 1:1 does not begin by separating them into unrelated creations.

"In the beginning God created the heaven and the earth."

Earth, the moon, the Sun, meteorites and the larger heavens belong to one created reality.

Different instruments may examine different parts of that reality.

But the evidence belongs to a connected history.

Meteorites provide part of the conventional age assigned to Earth.

Moon rocks provide another comparison.

The Sun's behavior places conditions upon the history of the solar system.

Light from distant stars and galaxies raises questions of astronomical time.

Some light carries information about apparent events.

We observe stars changing.

We observe explosions.

We observe motion.

If all distant light were created already traveling toward Earth, did that light portray events that never occurred?

Created maturity is a Biblical reality.

Adam was created as a functioning man.

Eve was created as a functioning woman.

Trees may have been created bearing fruit.

Animals were capable of movement and reproduction.

Maturity does not require a deceptive history.

Adam could be mature without possessing scars from accidents that never happened.

A tree could bear fruit without containing records of fires that never burned.

The old-earth objection is that isotope systems, magnetic patterns and astronomical light appear to contain records of events.

The young-earth response must explain whether those are necessary features of a functioning creation or apparent records of history.

An ancient universe does not mathematically prove an ancient Earth.

Someone might propose an old universe with a comparatively recent preparation of Earth.

But the physical connections make the questions overlap.

We should not pretend that Earth exists outside the history of the solar system and the heavens.

Now let us address an uncomfortable but necessary question.

Who pays the scientist?

Science is conducted by human beings.

Human beings have ambitions, fears, commitments and weaknesses.

Government grants can influence which questions receive attention.

Corporations may have financial interests.

Universities may favor established research programs.

Journals may favor conclusions considered important or credible.

Scientists may fear losing employment, promotion or professional respect.

Religious commitments can influence interpretation.

Secular commitments can influence interpretation.

No group becomes free of bias merely by accusing another group of bias.
Mainstream institutions receive funding.
Creationist organizations also receive donations and institutional support.
Both may begin with expected conclusions.
Funding may influence the questions that are asked.
It does not determine whether a measurement is accurate.
The identity of the person who wrote the check cannot substitute for examining the method.
We should ask whether the procedure is explained.
We should ask whether the data are available.
We should ask whether another laboratory can reproduce the result.
We should ask whether contrary findings were disclosed.
We should ask whether the explanation makes risky predictions.
We should ask whether criticism receives an answer or merely a label.
That leads us to scientific consensus.
Consensus means that most qualified scientists working in relevant fields accept a conclusion.
It is more than a public opinion poll.
It reflects accumulated research, education, peer criticism and repeated testing.
It can still be wrong.
Scientific conclusions have changed before.
Consensus is strongest when independent forms of evidence converge.
Consensus is weakest when questions are forbidden or contrary evidence is ignored.
Consensus deserves to be understood.
It does not deserve to be worshiped.
Dissent deserves to be heard.
It does not deserve to be accepted merely because it dissents.
So what are the hardest questions for the old-earth position?
Why do some radiometric methods produce incorrect dates?
How are invalid results distinguished from inconvenient results?
Are supposedly independent clocks genuinely independent?
Can contamination explain every report of carbon-14 in ancient material?
Can proteins or cellular structures survive for tens of millions of years?
Has conventional geology underestimated catastrophic processes?
Do professional incentives discourage alternative models?

Does an old Earth require animal suffering before Adam?

How can predation, disease and extinction be described as part of a very good creation?

Does the old-earth conclusion arise from evidence or from naturalistic assumptions?

Can Genesis permit ancient history without being forced into a modern scientific framework?

Those are serious questions.

This study cannot resolve every theological consequence of an old Earth.

We have already completed a separate study of the six creation days.

Our primary question today concerns what the scientific evidence indicates.

But scientific chronology carries Biblical consequences.

An old Earth does not automatically deny God as Creator.

It does not automatically deny a historical Adam and Eve.

It does not automatically deny miracles.

It does not automatically deny Noah's Flood.

It does not automatically establish evolution.

At the same time, an old Earth places animal death, disease and extinction before recent human history if the conventional fossil record is substantially correct.

That requires careful Biblical examination.

Romans 5 and verse 12 says:

"Wherefore, as by one man sin entered into the world, and death by sin."

Does Paul mean all biological death or specifically human death under sin?

First Corinthians 15 connects death through Adam with resurrection through Christ.

Psalms 104 describes animal predation and death within God's governing care.

Romans 8 describes creation groaning under corruption.

Those passages must be interpreted together.

We should not erase the theological difficulty.

We should not claim that the difficulty automatically settles a scientific measurement.

What conclusions are available to us?

One possibility is that science requires an old Earth.

That would mean no scientifically credible young-earth model can account for the evidence.

A second possibility is that science strongly supports an old Earth.

That would mean the evidence substantially favors great age while assumptions and unresolved questions remain.

A third possibility is that science permits both chronologies.

That would mean young-earth and old-earth models explain the total evidence comparably well.

A fourth possibility is that science fails to establish Earth's age.

That would mean the assumptions are too uncertain for either chronology to receive strong support.

Which conclusion best fits what we have examined?

The evidence appears to support the second conclusion most strongly.

Contemporary science strongly agrees with an old Earth.

That statement does not mean every scientist agrees.

It does not mean every date is correct.

It does not mean every objection has been answered.

It does not mean the conclusion is beyond revision.

It means the old-earth case is supported by more than one rock, one clock and one institution.

Meteorites, ancient terrestrial minerals and lunar materials point toward great age.

Multiple isotope systems converge upon compatible histories.

Geological formations appear to record repeated episodes.

Plate movement and magnetic records add another line of evidence.

Seasonal records add evidence not identical to ordinary radiometric dating.

Astronomical observations connect Earth to a creation that appears ancient.

The convergence is stronger than any individual measurement.

But the conclusion must remain carefully worded.

Every reconstruction contains assumptions.

Incorrect and discordant dates occur.

Rapid formation is real.

Catastrophe is real.

Carbon-14 findings deserve continued examination.

Biological preservation remains significant.

Funding, worldview and institutional pressure should be examined.

No scientist observed creation.

Science presently agrees far more strongly with an old Earth than with a young Earth.

But that conclusion must be defended by evidence, not protected by authority, consensus or ridicule.

And the scientific conclusion does not answer every question that matters.

Science cannot determine why anything exists.

It cannot determine whether God spoke creation into existence.

It cannot tell us why human beings possess moral responsibility.

It cannot reconcile a sinner to God.
It cannot turn a geological chronology into a gospel.
The greatest human problem is not assigning an incorrect age to a rock.
Our greatest problem is sin against the God who made us.
A person may understand isotope systems and remain separated from the Creator.
A person may choose the correct chronology and remain unsaved.
A person may win every argument and lose his own soul.
The Bible's message does not end with creation.
It tells us that humanity rebelled against the Creator.
It tells us that all have sinned and come short of the glory of God.
It tells us that the wages of sin is death.
But it also tells us that the gift of God is eternal life through Jesus Christ our Lord.
Jesus Christ came into the world.
He lived the sinless life we could not live.
He died upon the cross for our sins.
He was buried.
He rose again on the third day.
He offers forgiveness and eternal life to every person who will repent and trust Him.
Christ is Lord whether Earth is thousands or billions of years old.
His resurrection does not depend upon our ability to calculate a mineral's age.
Our salvation rests upon His finished work.
Perhaps you came today with a scientific question.
Perhaps the question has become a barrier between you and Christian faith.
You do not have to pretend that every question has been answered before you come to Christ.
You are invited to bring your questions.
But you are also invited to recognize what God has already made clear.
You have sinned.
You cannot save yourself.
Jesus Christ died and rose again.
He calls you to repent and believe.
If you are ready to trust Christ today, you may call upon Him now.
Prayer does not save through special words.
Jesus saves the person who genuinely turns to Him in faith.

You may pray something like this:

Lord Jesus,

I know that I am a sinner.

I believe that You died for my sins.

I believe that You were buried and rose again.

I cannot save myself.

I turn from my sin and place my trust in You.

Please forgive me, save me and make me the person You created me to be.

Thank You for the gift of eternal life.

Amen.

If you prayed that prayer sincerely and trusted Christ today, please speak with me after the service.

We would like to rejoice with you, answer your questions and help you begin growing in your faith.

For everyone else, carry this conversation into the coming week.

Do not let it remain a conversation that ended when the sermon ended.

Read RTS-051 and RTS-052 together.

Identify the strongest evidence for each position.

Do not build your position around the weakest argument from the other side.

Speak with someone who disagrees with you.

Listen before you answer.

Distinguish measurements from interpretations.

Ask what was observed.

Ask what was assumed.

Ask what was tested.

Ask what remains unresolved.

Join us at the Reason Together Café after the service.

The coffee is free.

The refills on conversations are always free too.

And remember that I am available throughout the week if questions, problems or concerns arise.

Let us pray.

Our Heavenly Father,

Thank You for creating the heaven and the earth.

Thank You that Your works are worthy of careful examination.

Forgive us for the times we have answered a matter before hearing it.

Forgive us for protecting familiar arguments instead of pursuing truth.

Give humility to scientists who study creation.

Give humility to pastors who interpret Your Word.

Give courage to those who ask difficult questions.

Help us distinguish evidence from assumption and confidence from certainty.

Help us defend truth without bearing false witness against those who disagree.

Thank You most of all for Jesus Christ.

Thank You that our salvation rests upon His finished work and not upon our ability to answer every scientific question.

For those who trusted Him today, give assurance and help them grow.

For those still considering His invitation, continue drawing them toward the truth.

Use these two studies to create honest conversations in homes, churches and communities.

In Jesus' name we pray.

Amen.

Bring your questions.

Open your Bible.

Let's Reason Together the Word of God.

Aloha Nui Loa.

REASON TOGETHER CHURCH
REASON TOGETHER STUDIES

COMMENTARY

**DOES SCIENCE AGREE
WITH AN OLD EARTH?**

A Biblical, Scientific and Pastoral Commentary

Genesis 1:1; Psalm 19:1; Proverbs 18:13, 17 (KJV)

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**Bring your questions. Open your Bible.
Let's Reason Together the Word of God.**

Commentary Introduction

This study asks whether science agrees with an old Earth. It does not ask whether every scientist agrees, because science is not a single voice. It does not ask whether every conventional date is correct, because some dates fail and some samples are unsuitable. It asks whether the whole body of scientific evidence is most coherently explained by an ancient Earth and universe while assumptions, anomalies and Biblical boundaries remain open to honest examination.

RTS-052 is Part Two of a paired investigation. RTS-051 examined the strongest observations that may be consistent with a young Earth. This commentary now examines the positive case for an old Earth and the hardest questions that case must answer. The standard does not change between studies. We ask what was observed, what was measured, what was assumed, what model connected the evidence to the conclusion and what remains unresolved.

The opening return to Mama D, whose given name is Danielin and who is Dr. Hawksley's wife, keeps the issue human. A dress cannot change her age. It can affect how old she appears or feels. Earth also has an actual history, but investigators do not possess a birth certificate for the planet. They reconstruct that history from records in minerals, meteorites, layers, fossils, ice and light. Appearance begins the question. Converging evidence determines how seriously an answer should be taken.

CONTROLLING PRINCIPLE

An ancient age is strongest when different clocks, materials and disciplines independently converge. It is weakest when one questionable sample is asked to carry the entire conclusion.

Genesis 1:1: Creation Before Chronology

Genesis 1:1

In the beginning God created the heaven and the earth.

Genesis begins with God. Matter, energy, time and the laws described by science are not self-existent rivals to Him. The heaven and the earth exist because God created. That declaration establishes origin, ownership and purpose before the text addresses sequence or duration.

The verse also places the heaven and the earth inside one creation declaration. Geological and astronomical evidence may be distinguished because their instruments and processes differ. They should not be treated as unrelated theological questions. A proposed chronology must make sense of Earth's rocks and the light of the distant heavens together.

Genesis 1:1 does not calculate a half-life or identify the mineral event recorded by an isotope system. Science cannot determine from a ratio whether creation has purpose or whether the Creator has spoken. Scripture and scientific investigation address overlapping but not identical questions. Neither should be forced to pretend it performs the work of the other.

BIBLICAL FOUNDATION

The universe is created, ordered and intelligible because it comes from God. An old chronology does not make creation self-existent, accidental or independent of Him.

Psalm 19:1: Creation's Witness Is Real

Psalm 19:1

The heavens declare the glory of God; and the firmament sheweth his handywork.

Creation truly testifies. Christians should not speak as though rocks, stars and physical laws are deceptive merely because their testimony is difficult to reconcile with a favored interpretation. Romans 1 likewise teaches that God's eternal power and Godhead are understood through the things that are made.

The first error treats nature as an authority above Scripture.

The second error treats careful observation of nature as disloyalty to Scripture.

The third error assumes that an interpretation is identical to either the text or the evidence.

God's Word is true and God's world is real. A contradiction may reveal that Scripture has been misunderstood, that evidence has been misread or that a model has exceeded what its data can support. Humility does not require permanent indecision. It requires conclusions that are proportionate to the evidence.

Proverbs 18:13, 17: The Reason Together Method

Proverbs 18:13

He that answereth a matter before he heareth it, it is folly and shame unto him.

Proverbs 18:17

He that is first in his own cause seemeth just; but his neighbour cometh and searcheth him.

The old-earth case can sound overwhelming when it is presented as a mountain of technical authority. The young-earth objection can sound decisive when a surprising sample or failed date is presented without the wider record. Proverbs requires both cases to be heard and searched. Neither confidence nor religious sincerity exempts a claim from examination.

Cross-examination asks whether a result is reproducible, whether the sample was appropriate, whether the event dated was correctly identified, whether competing explanations were tested and whether the conclusion survives independent methods. These questions do not attack science. They are part of responsible science.

COMMENTARY METHOD

Hear the claim. Identify the observation. Examine the measurement. Locate the assumptions. Test the model. Compare independent evidence. State what remains unresolved.

Science Is a Method, Not a Single Voice

The sentence 'science agrees with an old Earth' is useful shorthand, but it needs qualification. Science is a disciplined process conducted by people. Scientists observe, measure, model, publish, criticize and revise. They do not all share one worldview, one employer or one conclusion.

The prevailing judgment across geology, geochronology, planetary science and astronomy is that Earth is about 4.54 billion years old and the universe is substantially older. That judgment is not unanimous. Some scientists reject it, and not every scientist who favors a young Earth is a Christian. A person's religious label does not determine whether a measurement is accurate.

Likewise, an old-earth scientist may be Christian, Jewish, Muslim, secular or something else. Old Earth does not automatically mean atheism, Darwinian evolution or rejection of miracles. The chronology must be evaluated before philosophical claims are attached to it.

Funding, Institutions and Human Influence

Research requires money, equipment, access and time. Governments, universities, corporations, ministries and private donors decide which projects receive support. Funding can influence which questions are asked, which results are emphasized and which careers advance. Human institutions are capable of bias, self-protection and group pressure.

That concern must be applied symmetrically. A government laboratory may favor an established program. A corporation may favor a profitable outcome. A creation ministry may favor research that supports a recent chronology. Following the money can identify incentives. It cannot by itself establish that a measurement is false.

Proper question	Improper shortcut
Who funded the work and what interests were disclosed?	The funding source proves the result is false.
Were methods, samples and data open to review?	A prestigious institution makes review unnecessary.
Could another laboratory reproduce the result?	Agreement proves that every investigator has the same motive.
Did the conclusion exceed what the data established?	A questionable motive erases the physical evidence.

PASTORAL SENTENCE

Follow the money to recognize incentives. Follow the evidence to evaluate the claim.

Observation, Measurement, Model and Conclusion

An isotope ratio is an observation measured with an instrument. The sentence 'this mineral crystallized 2.6 billion years ago' is a historical conclusion reached by placing that measurement within a model. The model includes a measured decay rate, the parent and daughter relationship, the event that reset the clock and evidence that later alteration did not erase the record.

Stage	Question
Observation	What physical sample, layer, fossil or signal is present?
Measurement	What quantity did the instrument actually record?
Assumptions	What starting condition, system history or event identification is required?
Model	What tested relationship connects the measurement to elapsed time?
Cross-check	What independent evidence should agree if the model is correct?

Stage	Question
Conclusion	What age or history best explains the combined evidence?

Calling an age an interpretation does not make it arbitrary. Good interpretations are constrained by experiment, mineral chemistry, field relationships and independent methods. Calling a premise an assumption does not make it a guess. Some assumptions are measured directly. Some are tested indirectly. Some remain uncertain and should lower confidence.

Where the 4.54-Billion-Year Figure Comes From

Earth's age is not normally obtained by dating one ordinary surface rock. Earth's crust is active. Weathering, erosion, burial, melting, metamorphism and plate movement repeatedly alter or recycle material. Many accessible rocks therefore record a later geological event rather than the original formation of the planet.

The central estimate comes largely from meteorites and primitive solar-system material. The working model is that Earth and the meteorites formed from the same early solar reservoir. Lead isotope relationships in multiple meteorites converge near 4.54 billion years. Ancient terrestrial minerals, lunar samples and the chronology of the solar system provide additional constraints.

Evidence family	What it dates or constrains	Contribution
Meteorites	Early solar-system differentiation and crystallization	Provides the principal estimate for the age of Earth and the solar system
Ancient zircon	Crystallization of extremely old crustal minerals	Shows that solid crust existed very early
Lunar samples	Events in the history of the Moon	Provides an independent planetary comparison
Solar models	The Sun's history and present state	Tests whether the planetary chronology is physically coherent

KEY POINT

The conventional age is a network of related results, not a date printed by one machine on one ordinary rock.

Radiometric Dating: What the Clocks Actually Do

A radioactive parent changes into a daughter product at a measurable rate. A half-life states how long it takes for half of the parent atoms in a large population to change. Different isotope systems operate over different ranges and are suited to different minerals and events.

System	Typical use	Event commonly dated
Carbon-14	Once-living carbon-bearing material within a limited range	Death of the organism
Potassium-argon and argon-argon	Volcanic minerals and rocks	Cooling or crystallization that retained radiogenic argon
Uranium-lead	Zircons and other uranium-bearing minerals	Crystallization and later disturbance patterns
Rubidium-strontium	Minerals and whole-rock suites	Formation or later equilibration, depending on the system

System	Typical use	Event commonly dated
Samarium-neodymium	Ancient rocks and meteorites	Formation and source history with resistance to some disturbance

No method is simply a stopwatch sealed inside a rock. Investigators must determine what event began or reset the record. A volcanic crystal can contain inherited material. A metamorphic event can partially reset one system while another remains closed. A scientifically responsible age includes the geological interpretation of what the clock recorded.

Why Independent Agreement Matters

The strongest old-earth argument is not that every date agrees. It is that different systems often agree when used on appropriate samples and when they date the same event. The systems use different elements, half-lives, mineral behaviors and sensitivities to alteration. Agreement is therefore difficult to dismiss as one shared arithmetic mistake.

Agreement can be tested within a mineral, across minerals in one rock, across rocks related to one event and against non-radiometric relationships such as stratigraphic order. Concordance does not make the conclusion infallible. It makes a global alternative carry a larger explanatory burden.

FAIR TEST

Ask whether agreement results from independent evidence or merely from selecting only the results that fit. Then ask whether rejected results were excluded by stated scientific reasons.

Discordant Dates and Known-Age Rocks

Young volcanic rocks have sometimes produced apparent ages older than the eruption. This does not prove that all radiometric dating is invalid. It demonstrates that a method can be misapplied or that the material contains inherited components, excess daughter product or a system that did not reset completely.

The important question is whether the failure was predicted from mineral history and whether another method correctly identifies the recent event. A bad result matters. It should be reported and explained. Yet the failure of one sample under unsuitable conditions does not automatically erase agreement among carefully selected samples across different systems.

Problem	Possible explanation	Responsible response
Excess daughter product	Material began with daughter isotope not accounted for by a simple model	Use mineral chemistry, isochrons or another suitable system
Inherited crystals	Older grains survived inside younger rock	Date individual grains and interpret their geological setting
Open-system behavior	Parent or daughter moved after formation	Look for alteration and compare systems with different sensitivities
Wrong event identified	The clock records crystallization or metamorphism rather than eruption	State precisely which event the age can represent

Carbon-14: Important, Limited and Often Misused

Carbon-14 has a half-life of about 5,730 years. It is used primarily for once-living carbon-bearing material. After many half-lives, the remaining amount approaches laboratory background and small contamination becomes increasingly important. Carbon-14 therefore does not function as the ordinary clock for billion-year-old rocks.

Carbon-14 reported in coal, diamonds and fossils assigned very old conventional ages deserves careful investigation. The proper questions concern procedural background, sample preparation, modern carbon, in-situ nuclear production and reproducibility across laboratories. If a signal is intrinsic and cannot be explained by known processes, it challenges the assigned history.

Detection alone does not convert the sample into a precise young age.

Question	Why it matters	What strong evidence would require
Was the signal above the full procedural background?	The expected amount is near the method's limit	Repeated blanks, standards and transparent chemistry
Could modern carbon enter during collection or preparation?	A small amount can dominate an ancient sample	Independent preparation and controls
Could carbon-14 form within the material?	Nuclear reactions may create limited carbon-14	Measured production sufficient to explain the signal
Does the signal decline in a pattern consistent with age?	A real historical signal should show structure	Reproducible patterns across related samples

CARBON-14 CONCLUSION

Unexpected carbon-14 deserves an explanation. It is not automatically contamination and it is not automatically a young-earth date.

Catastrophe and Rapid Formation

Modern geology recognizes catastrophes. Volcanic eruptions, impact events, landslides, tsunamis, floods, debris flows and underwater currents can deposit sediment, move enormous material and cut channels rapidly. The old caricature that mainstream geology requires every feature to form slowly is false.

Rapid formation addresses the duration of a process. It does not necessarily identify when that process occurred. A canyon can be cut quickly through older rock. A fresh lava flow can contain older crystals. A sedimentary layer can be deposited rapidly from grains that already possess a longer history.

This distinction permits both sides to say something true. Young-earth investigators are right to reject automatic assumptions of necessary slowness. Old-earth investigators are right to ask whether rapid local processes occur within a much longer regional and planetary record.

KEY DISTINCTION

Catastrophe can compress the time required for an event. It does not by itself determine the age of the material involved or the age of the whole Earth.

Rocks and Diamonds Can Form Quickly

Lava can cool rapidly. Sediment can cement under favorable conditions. Minerals can precipitate in short periods. Diamonds can be manufactured on human timescales through high pressure, high temperature or chemical-vapor processes. These observations defeat the claim that visible formation always requires immense time.

They do not prove that every natural rock or diamond is young. A newly formed object can contain older material, inherited inclusions or isotope systems that record an earlier event. Formation time, material age and chronological age must remain distinct.

Question	What it can establish	What it cannot establish alone
Can the object form quickly?	Long duration is not inherently required for formation	The calendar date when this natural specimen formed
Does it contain older material?	Source material or inclusions may predate the final object	That the whole object has the age of every inclusion
Does surrounding geology constrain it?	Field relationships may set older and younger boundaries	An exact age without a suitable clock

Dinosaur Tissue and Protein Preservation

Researchers have reported flexible vessel-like structures, cellular-looking structures and remnants associated with proteins in some dinosaur fossils. The findings are genuine and important. Popular descriptions such as 'fresh meat' usually exaggerate what was recovered.

Young-earth researchers argue that original molecular remnants should not survive tens of millions of years under known degradation rates. Conventional researchers answer with preservation mechanisms involving iron chemistry, mineral association, oxidative cross-linking and protected environments. These proposals must be tested rather than merely repeated.

The existence of endogenous remnants corrects older assumptions that original biological material could never persist. It does not independently produce a young date. The evidence strengthens the need to understand preservation rates and conditions while the fossil's broader geological setting remains part of the age question.

BALANCED CONCLUSION

Ancient molecular remains are not enough to require a young age. Their survival challenges simple decay stories and deserves continuing investigation.

RATE, Accelerated Decay and the Heat Problem

The RATE project accepted that isotope systems contain evidence of extensive nuclear decay and proposed that much of the decay occurred rapidly during creation or the Flood. This approach is more serious than denying the measured ratios because it attempts to explain why the evidence exists.

The proposal faces an enormous physical difficulty. Compressing vast quantities of nuclear decay into a short period would release extraordinary heat and radiation. Rapid tectonic motion adds more heat. Young-earth researchers have acknowledged the problem, but no complete tested mechanism presently removes the energy while preserving the physical record.

God can act miraculously. A miracle is theologically possible. Yet a scientific model should state plainly when its mechanism cannot be tested and when a miracle is introduced to prevent otherwise expected consequences. Miraculous rescue may preserve theological possibility, but it does not function as independent scientific confirmation.

Earth and the Heavens Belong to One Creation Question

A chronology for Earth cannot ignore the heavens. Light from distant galaxies carries spectra, motion and records of events such as stellar explosions. The universe's expansion, stellar life cycles and the history of the solar system contribute to the cumulative chronology. The measurements differ from geological measurements, but the theological question remains connected because Genesis speaks of the heaven and the earth together.

Young-earth proposals include created light already in transit, changing light speed and unusual relativistic models. Each proposal must explain not only travel time but the information carried by the light. A record of a stellar event that never occurred raises a problem different from creating Adam mature. Created maturity supplies function. Fabricated event history appears to report an event that did not happen.

CREATED MATURITY AND CREATED HISTORY
A mature tree can function immediately. Light carrying a detailed record of a nonexistent explosion would appear to testify about an event that never occurred. The distinction matters.

The Strongest Scientific Case for an Old Earth

The old-earth case is cumulative. Meteorites, ancient minerals, multiple isotope systems, ordered stratigraphy, plate movement, magnetic reversals, ice cores, tree-ring chronologies and distant light do not all depend on one instrument or one starting assumption. The case becomes strong when these records form a coherent history and produce successful predictions.

Evidence	Why it carries weight	Question an alternative must answer
Meteorite and lead-isotope chronology	Independent meteorites converge near the same early solar-system age	Why unrelated samples share compatible ancient relationships
Multiple isotope systems	Different elements and minerals often agree on the same event	What mechanism resets every clock consistently without destroying the record
Ordered geological succession	Layers, fossils and magnetic patterns recur predictably	How a short chronology produces global order and regional detail
Annual and layered records	Overlapping trees, ice and sediments form long coherent sequences	Why nonannual layers still cross-match across independent records
Astronomical evidence	Light and stellar processes indicate deep cosmic history	How travel time and recorded events fit a recent creation

THE CONCLUSION IN ONE LINE

Science is not unanimous, but the total converging evidence strongly agrees with an old Earth and universe.

The Hardest Questions an Old-Earth Model Must Answer

Scientific strength does not settle every Biblical question. An old chronology must still explain how its understanding fits Scripture, especially where the text connects creation, Adam, sin, death and the goodness of the world. These are not side issues for the church.

Question	Why it matters	Responsible old-earth task
What do the creation days mean?	Exodus 20:11 connects creation with the human workweek	Explain the textual basis without dismissing the ordinary-day reading
How do Genesis genealogies function?	They contribute chronological information	Distinguish omitted names from stated years and textual traditions
Was Adam historical?	Romans 5 and 1 Corinthians 15 build theology upon Adam	Preserve Paul's argument or explain precisely how it remains true
What death entered through sin?	Romans 5:12 connects sin and death	Account for animal death, predation and suffering before Adam
How was creation 'very good'?	Deep time includes extinction, disease and violence	Offer a Biblical account of goodness that does not trivialize suffering
How does Noah's Flood relate to geology?	The Flood is presented as real judgment	Identify its scope and physical consequences without emptying the text

INTELLECTUAL HONESTY

A strong scientific chronology does not answer every theological question. A responsible old-earth position must address the Biblical difficulties rather than treating them as irrelevant.

Old-Earth Christian Positions Are Not One Thing

Old Earth describes chronology, not a complete theology. Christians who accept an ancient Earth may hold very different views of the creation days, biological development, Adam and Eve, death before the Fall and Noah's Flood. Those positions must not be blended into one undefined category.

Position	Typical approach	Question requiring clarity
Old-earth special creation	Ancient cosmos with direct divine creation of major forms and historical Adam and Eve	How the creation days and pre-Adamic death are understood
Progressive creation	God creates at successive stages across long ages	How interventions relate to natural history and Scripture
Day-age interpretation	Genesis days correspond to long periods	How evening, morning and Exodus 20:11 are interpreted
Framework or analogical view	The week communicates order and theology rather than a material timetable	Whether the reading preserves the historical claims of Genesis
Evolutionary creation	God providentially works through evolutionary processes	How Adam, the Fall, death and Paul's theology are understood

A Christian can accept an old Earth while rejecting naturalism. Another may accept common descent. Another may affirm a specially created historical Adam. The public discussion should identify the actual position before criticizing it.

How to State the Old-Earth Case Honestly

Most scientists presently interpret Earth as approximately 4.54 billion years old, but not every scientist agrees.

The case rests on convergence among many methods, not on one isotope clock or one untested assumption.

Assumptions matter. Many are tested and constrained, while others remain open to challenge.

Discordant dates should be reported and explained rather than hidden or treated as meaningless.

Rapid formation and catastrophe are real, but speed of formation does not automatically determine chronological age.

Unexpected carbon-14 and dinosaur molecular remnants deserve investigation without premature conclusions.

Funding, institutions and worldview can influence scientists on every side, but motives do not erase measurements.

Earth and universe ages are connected within the creation question even when different sciences examine them.

Old Earth does not automatically mean atheism, evolution or denial of a historical Adam.

Scientific confidence must not be used to silence the Biblical questions involving creation days, Adam, death and the Flood.

Pastoral Counsel for the Church

Read RTS-051 and RTS-052 together before deciding that either study has presented the entire case.

Do not make Earth's age a test of salvation. Salvation is by grace through faith in Jesus Christ.

Do not mock a believer who accepts a young Earth or dismiss a believer who accepts an old Earth.

Do not use scientific consensus as though it were infallible, and do not reject consensus merely because it is uncomfortable.

Do not answer evidence only by accusing researchers of being paid. Ask whether the methods and results can be checked.

Ask which observation most strongly influences the other person's conclusion before preparing your reply.

Separate the measurement from the interpretation, then examine the assumptions that connect them.

Allow pastors and scientists to say 'I do not know' when the evidence does not justify certainty.

Remove weak arguments from Christian teaching even when those arguments once seemed useful.

Keep the conversation gracious enough that another person can reconsider without being humiliated.

The Gospel Is Greater Than the Geological Model

Romans 3:23

For all have sinned, and come short of the glory of God.

The greatest human problem is not assigning the wrong age to a meteorite. It is sin against the God who created the heaven and the earth. A person can hold the correct chronology and remain unreconciled to the Creator.

Romans 6:23

For the wages of sin is death; but the gift of God is eternal life through Jesus Christ our Lord.

Jesus Christ died for our sins, was buried and rose again. He offers forgiveness and eternal life to every person who will repent and trust Him. Scientific investigation can reconstruct aspects of physical history. It cannot forgive sin, conquer death or reconcile a sinner to God.

The church therefore reasons carefully without turning chronology into a substitute gospel. Christians care about truth because Christ is Lord of truth. They also remember that the purpose of every Reason Together Study is to bring people to the Word of God and to the Savior revealed there.

Final Commentary Conclusion

Science does not speak with absolute unanimity, but contemporary science strongly agrees with an old Earth. The case does not rest on one laboratory, one isotope or one assumption. It rests on convergence among meteorites, ancient minerals, independent radiometric systems, geological order, annual records, planetary history and astronomical evidence.

That conclusion remains open to examination. Assumptions matter. Samples fail. Systems can be disturbed. Catastrophes compress processes. Rocks and diamonds can form rapidly. Carbon-14 and preserved molecular remnants deserve serious investigation. None of those facts should be softened, and none presently supplies a complete alternative explanation for the entire converging record.

The proper conclusion for Part Two is confident but not arrogant. The scientific evidence strongly favors an ancient Earth and universe. The old-earth position still carries significant Biblical responsibilities involving the creation days, Adam, death, suffering and Noah's Flood. Science cannot decide why creation exists, identify its Creator or interpret Scripture for the church.

RTS-051 and RTS-052 belong together. One tests whether a young chronology can engage the evidence honestly. The other tests whether an old chronology can acknowledge its assumptions and honor Biblical boundaries. The church should neither surrender the question to consensus nor pretend that convergence is meaningless. It should reason carefully, speak truthfully and remain humble before the God who was present at the beginning.

FINAL COMMENTARY PRINCIPLE

Bring your questions. Open your Bible. Examine the evidence. Test both interpretations. Speak honestly about what is known and what remains unresolved.