

Genesis 5 (and 11)

Issues Related to Time and Dating

- **How Old is the Human Race?**
 - The Genealogies of Genesis 5 and 11
 - Supposed Objections to Interpreting the Genealogies Literally
- **How Old is the Earth?**
 - Radioactive Dating Methods
 - Scientific Proofs for a Young Earth
- **How Old is the Universe?**
 - How Do We See Light From Distant Stars in a Young Universe?
 - Did the Universe Evolve?

Genesis 5 – The Line of Adam

This is the book of the generations of Adam. When God created man, he made him in the likeness of God. ² Male and female he created them, and he blessed them and named them Man when they were created.

*³ When Adam had lived **130 years**, he **fathered** a son in his own likeness, after his image, and named him Seth. ⁴ The days of Adam after he fathered Seth were 800 years; and he had other sons and daughters. ⁵ Thus all the days that Adam **lived** were **930 years, and he died.***

Genesis 5 – The Line of Adam

When Seth had lived 105 years, he fathered Enosh.⁷ Seth lived after he fathered Enosh 807 years and had other sons and daughters.⁸ Thus all the days of Seth were 912 years, and he died.

⁹ When Enosh had lived 90 years, he fathered Kenan.¹⁰ Enosh lived after he fathered Kenan 815 years and had other sons and daughters.¹¹ Thus all the days of Enosh were 905 years, and he died.

¹² When Kenan had lived 70 years, he fathered Mahalalel.¹³ Kenan lived after he fathered Mahalalel 840 years and had other sons and daughters.¹⁴ Thus all the days of Kenan were 910 years, and he died.

¹⁵ When Mahalalel had lived 65 years, he fathered Jared.¹⁶ Mahalalel lived after he fathered Jared 830 years and had other sons and daughters.¹⁷ Thus all the days of Mahalalel were 895 years, and he died.

Genesis 5 – The Line of Adam

¹⁸ When Jared had lived **162 years** he **fathered Enoch**. ¹⁹ Jared lived after he fathered Enoch 800 years and had other sons and daughters. ²⁰ Thus all the days of Jared were 962 years, and he died.

²¹ When Enoch had lived **65 years**, he **fathered Methuselah**. ²² Enoch walked with God after he fathered Methuselah 300 years and had other sons and daughters. ²³ Thus all the days of Enoch were **365 years**. ²⁴ Enoch walked with God, and he was not, for **God took him**.

²⁵ When Methuselah had lived **187 years**, he **fathered Lamech**. ²⁶ Methuselah lived after he fathered Lamech 782 years and had other sons and daughters. ²⁷ Thus all the days of Methuselah were **969 years, and he died**.

Genesis 5 – The Line of Adam

²⁸ When Lamech had lived 182 years, he fathered a son ²⁹ and called his name Noah, saying, "Out of the ground that the LORD has cursed, this one shall bring us relief from our work and from the painful toil of our hands." ³⁰ Lamech lived after he fathered Noah 595 years and had other sons and daughters. ³¹ Thus all the days of Lamech were 777 years, and he died.

³² After Noah was 500 years old, Noah fathered Shem, Ham, and Japheth.

Genesis 11 – The Line of Shem

These are the generations of Shem. When Shem was 100 years old, he fathered Arpachshad two years after the flood. ¹¹ And Shem lived after he fathered Arpachshad 500 years and had other sons and daughters.

¹² When Arpachshad had lived 35 years, he fathered Shelah. ¹³ And Arpachshad lived after he fathered Shelah 403 years and had other sons and daughters.

¹⁴ When Shelah had lived 30 years, he fathered Eber. ¹⁵ And Shelah lived after he fathered Eber 403 years and had other sons and daughters.

¹⁶ When Eber had lived 34 years, he fathered Peleg. ¹⁷ And Eber lived after he fathered Peleg 430 years and had other sons and daughters.

Genesis 11 – The Line of Shem

- ¹⁸ When Peleg had lived 30 years, he fathered Reu.
¹⁹ And Peleg lived after he fathered Reu 209 years and had other sons and daughters.
- ²⁰ When Reu had lived 32 years, he fathered Serug.
²¹ And Reu lived after he fathered Serug 207 years and had other sons and daughters.
- ²² When Serug had lived 30 years, he fathered Nahor.
²³ And Serug lived after he fathered Nahor 200 years and had other sons and daughters.
- ²⁴ When Nahor had lived 29 years, he fathered Terah.
²⁵ And Nahor lived after he fathered Terah 119 years and had other sons and daughters.
- ²⁶ When Terah had lived 70 years, he fathered Abram, Nahor, and Haran.

Years After
Creation

0

100

200

300

400

500

600

700

$130+105+90+70+65+162+...=4000$ B.C.

ADAM

130

800

SETH

130

105

807

ENOS

235

90

815

CAINAN

325

70

MAHALALEEL

395

65

JARED

460

162

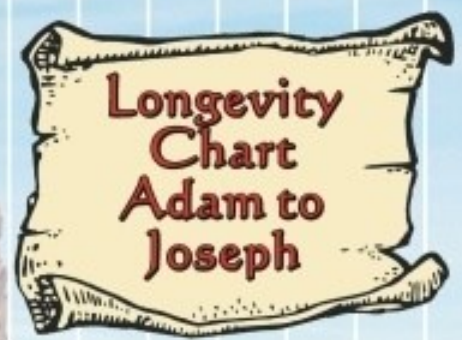
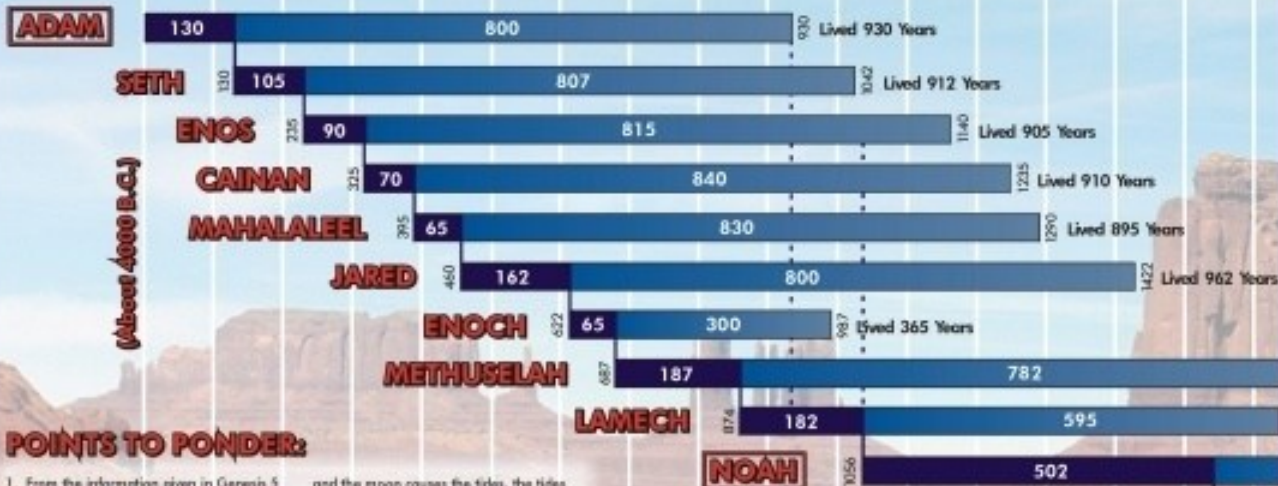
ENOCK

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65

Last page of
"seminar
notebook"
by Kent
Hovind

(About 4000 B.C.)



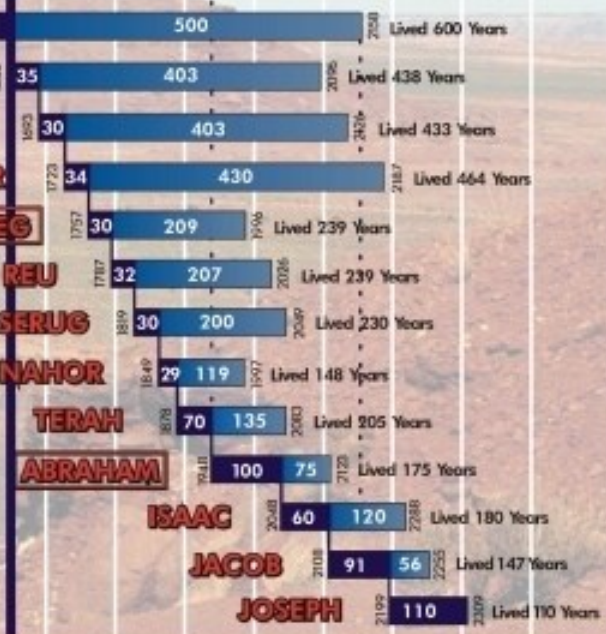
POINTS TO PONDER:

- From the information given in Genesis 5 and 11, it is easy to construct a chart like this. Genealogies are also found in Luke 3 and 1 Chronicles 1; however the spelling varies in a few instances and three people are excluded in some lists for good reason. Some have wrongly used this fact to justify adding millions of years to scripture.
- Jesus said in Matthew 19:6 and Mark 10:6 that the creation of Adam and Eve was "the beginning" (see 1 Cor. 15:45 and Romans 5:12-14). By further comparing Exodus 20:11, Acts 13:20-21, 1 Kings 2:11, 11:42 and other dates given in the Bible and known history, it becomes obvious that the Bible teaches that Adam was created about 6,000 years ago, not "billions of years ago" as the textbooks and even some Christians now teach.
- There are scores of scientific ways to show that the earth and universe are not "billions of years old." For example:
 - The sun is losing 5 million tons per second. At this rate, several billion years ago, the sun's gravity would have been much stronger, pulling the Earth into it.
 - The earth's spin is slowing down about 1/1000 of a second per day. Because of this fact we have a "leap second" where a second is added to the clock every 10 months. Billions of years ago, the earth would have been spinning so fast that life on earth would have been impossible.
 - The distance to the moon is increasing with each revolution. Since the moon obviously used to be closer to the earth,

- and the moon causes the tides, the tides would have been great enough to drown everything on earth billions of years ago.
- The thin layer of dust on the moon, the small amount of sediment in the oceans, the rate of heat loss of Earth, Jupiter, and other bodies in space, the erosion rate of the mountains, the weakening magnetic field, the small (though increasing) amount of salt in the ocean, the small human population (compared to the growth rate), the rate cave formations develop and a host of other facts from all branches of science show that the earth is not billions of years old. (See videotape #1 for more information on this subject.)
- Genesis 1:5-7 and 11 Peter 3 tells of a canopy of "water above the firmament." Many scientists believe this canopy of water (or possibly ice) provided greater air pressure and a shield from the sun's harmful rays. These factors could explain the great age and size of man and animals before the flood. After the flood, the canopy was gone and the life span dropped off rapidly in the next few generations. (See Gen. 4:9 and other video tapes # 1, 2 & 4 for more on this.)
- The tower of Babel incident probably took place during the days of Peleg when "the earth was divided" (see Gen. 10:25). The languages, nationalities and possibly the races were created at the tower of Babel. Over the next few decades people migrated to all parts of the world before the earth was "divided." (Order video tape #6 for more information on this.)
- 11 Peter 3:8: "One day with the Lord is as a thousand [not billion] years, and a thousand years as one day." Bishop Ussher calculated the creation to be 4004 B.C. (Our calendar is off by about four years since Christ was born around 4 B.C.) Could it be that God is working on a 7000 year calendar for the earth, and that the 7th day (1000 years) is what is referred to in Rev. 20:2-7 and Isaiah 11:6-16; 65:17-25? I wouldn't be dogmatic about it, but it would be smart to be ready for 1 Thes. 4:16-18! (See also: Matt. 24:37-38; Luke 17:26-27; Heb. 11:7; 1 Peter 3:20; 11 Peter 2:5)
- Methuselah's name apparently means "when he dies it shall cease." Could it be that God told Enoch to name him that? The flood started when Methuselah died. Enoch did not know when his son would die. Maybe Enoch stayed so close to the Lord that God just took him to heaven without dying? (See Gen. 5:21-24.)
- Adam knew Methuselah for 243 years.
- Shem knew Abraham, Isaac and Jacob.
- The first 2157 years of history are covered by three men whose lives overlap (Adam, Methuselah and Shem).
- How much could you learn in 950 years? The wisdom and inventions of the pre-flood era were probably much greater than we can imagine. (See video #7.)
- Noah had 6 living ancestors that could have known Adam personally.

- All 10 of Abraham's post-flood ancestors (even Noah) were alive for his early life (imagine family reunions)! There is a discrepancy about Terah's age at birth of Abraham. This is explained on our web site in FAQ.
- Noah had sons, uncles, brothers and sisters that probably drowned in the flood (Genesis 5:30). Noah may have had other sons and daughters born before Japheth that also drowned (Gen. 5:32).
- If you would like to know more about the Lord or would like a list of video and audio tapes on the subjects of creation, evolution and dinosaurs, contact:
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THE FLOOD 1656



Archbishop James Ussher of Armagh (1581-1656)



Archbishop Ussher's Chronology of the Bible

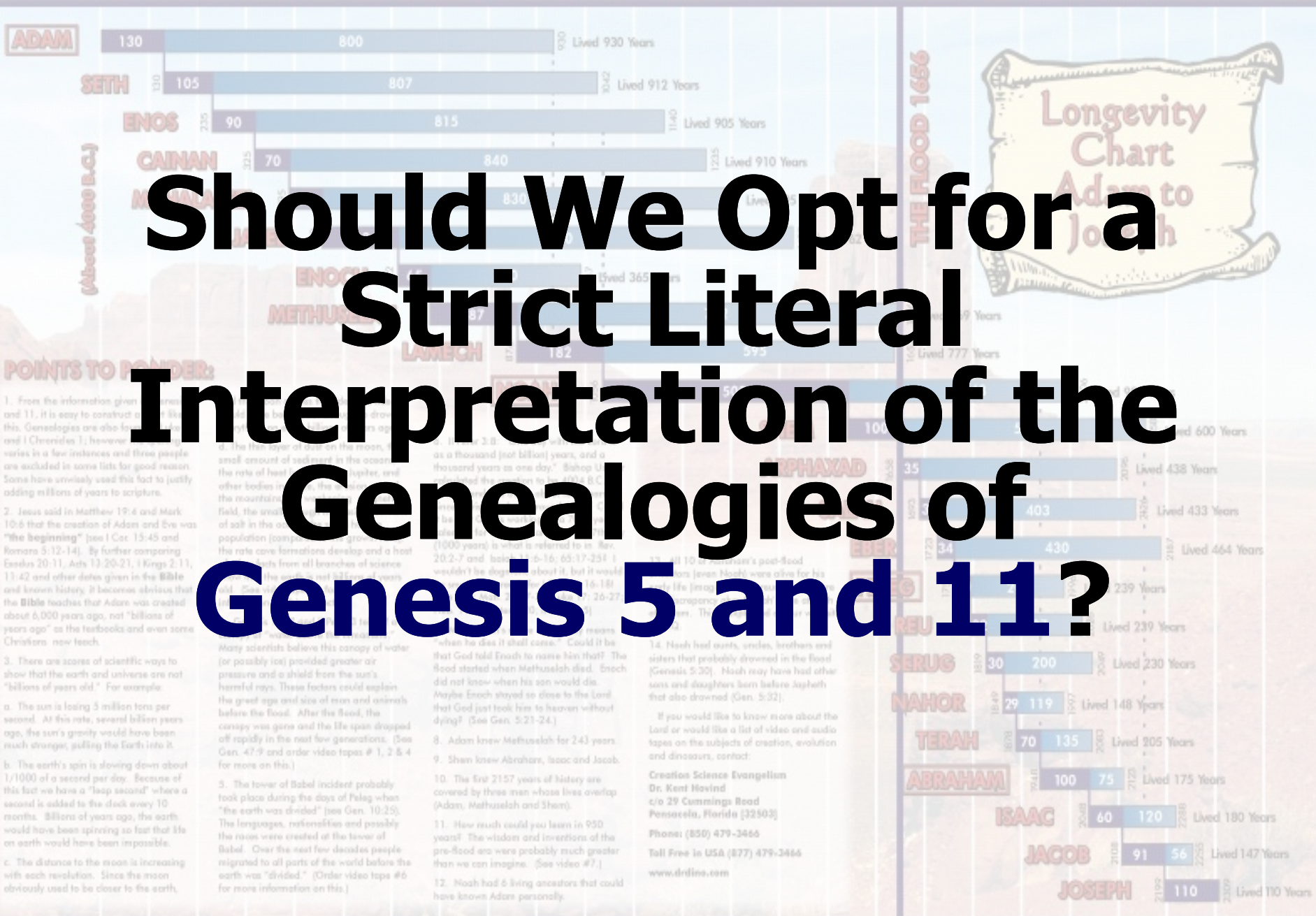
- **Was originally compiled in 1650.**
- **Was based on a literal interpretation of the genealogies of Genesis 5 and 11 in addition to other Biblical and historical data.**
- **Gave a date of 4004 BC for the creation of the heavens and the earth and a date of 2348 BC for Noah's flood.**
- **Was printed in the margins of the King James Bible for many years, beginning in the eighteenth century.**
- **Is often criticized today for:**
 - **Attempting to be too precise**
 - **Interpreting the Bible too literally**
 - **Giving too young a date for the creation**

Genealogical Data -- Genesis 5

Verses in Genesis	Father – Son(s)	Age at Son's Birth	Years From Creation	Ussher Date (BC)	Age at Death
1:26-27; 2:7	Creation of Adam		0	4004	
5:3-5	Adam - Seth	130	130	3874	930
5:6-8	Seth - Enos	105	235	3769	912
5:9-11	Enos - Cainan	90	325	3679	905
5:12-14	Cainan - Mahaleel	70	395	3609	910
5:15-17	Mahaleel - Jared	65	460	3544	895
5:18-20	Jared - Enoch	162	622	3382	962
5:21-24	Enoch - Methusalah	65	687	3317	365
5:25-27	Methusalah - Lamech	187	874	3130	969
5:28-31	Lamech - Noah	182	1056	2948	777
5:32; 9:29	Noah - Shem, Ham, & Japheth	500	1556	2448	950
7:6	Flood (Noah age 600)		1656	2348	

Genealogical Data -- Genesis 11

Verses in Genesis	Father – Son(s)	Age at Son's Birth	Years From Creation	Ussher Date (BC)	Age at Death
11:10-11	Shem - Arphaxad	100	1656	2348	600
11:12-13	Arphaxad - Salah	35	1691	2313	438
11:14-15	Salah - Eber	30	1721	2283	433
11:16-17	Eber - Peleg	34	1755	2249	463
11:18-19	Peleg - Reu	30	1785	2219	239
11:20-21	Reu - Serug	32	1817	2187	249
11:22-23	Serug - Nahor	30	1847	2157	230
11:24-25	Nahor - Terah	29	1876	2128	148
11:26	Terah - Abram, Nahor, & Haran	70	1946	2058	205



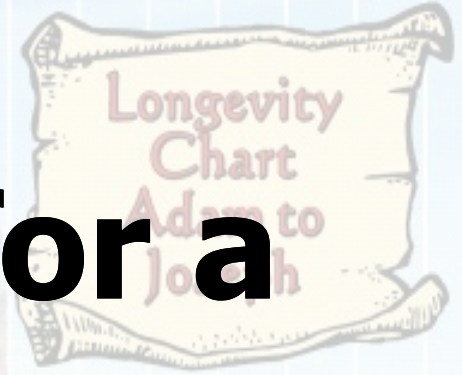
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- There are scores of scientific ways to show that the earth and universe are not "billions of years old." For example:
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Should We Opt for a Strict Literal Interpretation of the Genealogies (of Genesis 5 and 11)?

- **Secular Objections:**
 - Archeologists **claim** to have found civilizations preceding Ussher's Date for **Creation**.
 - Archeologists **claim** to have found civilizations existing during Ussher's date for the **Flood**
- **Some Things to Think About:**
 - Archeology is far from being a **precise science**.
 - Archeological **dating methods** are far from certain.
 - Archeologists have often claimed that the Bible was **wrong**, only to discover later that the Bible was **right** after all.

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- **Nelson Glueck**, famous Jewish archaeologist, spoke of what he called 'the almost incredibly accurate historical memory of the Bible, and particularly so when it is fortified by archaeological fact.' (Geisler, N.L. and Nix, W.E., *A General Introduction to the Bible*, Moody Press, Chicago, 1986)

- **William F. Albright**, widely recognized as one of the great archaeologists, stated:

“The excessive skepticism shown toward the Bible by important historical schools of the eighteenth and nineteenth centuries, certain phases of which still appear periodically, has been progressively discredited. Discovery after discovery has established the accuracy of innumerable details, and has brought increased recognition to the value of the Bible as a source of history.” (McDowell, J., *Evidence that Demands a Verdict*, Vol. 1, Campus Crusade for Christ, San Bernadino, CA, 1972)

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- The **Hittites** were once thought to be a Biblical legend, until their capital and records were discovered at Bogazkoy, Turkey.
- Many thought the Biblical references to **Solomon's wealth** were greatly exaggerated. Recovered records from the past show that wealth in antiquity was concentrated with the king and Solomon's prosperity was entirely feasible.
- It was once claimed there was no Assyrian king named **Sargon** as recorded in Isaiah 20:1, because this name was not known in any other record. Then, Sargon's palace was discovered in Khorsabad, Iraq. The very event mentioned in Isaiah 20, his capture of Ashdod, was recorded on the palace walls. What is more, fragments of a stela memorializing the victory were found at Ashdod itself.
- Another king who was in doubt was **Belshazzar**, king of Babylon, named in Daniel 5. The last king of Babylon was Nabonidus according to recorded history. Tablets were found showing that Belshazzar was Nabonidus' son who served as coregent in Babylon.

*Examples cited from <http://www.christiananswers.net/q-abr/abr-a008.html>

Should We Opt for a Strict Literal Interpretation of the Genealogies (of Genesis 5 and 11)?

• **Secular Objection:**

- The **genealogies** of other ancient cultures seem to suggest that those **civilizations** existed for more time than a literal interpretation of Genesis 5 and 11 would allow.

• **Something to Think About:**

- When faced with an **irreconcilable conflict** between the genealogies in the **Bible** and the genealogies of ancient heathen nations, which would ***you*** believe?

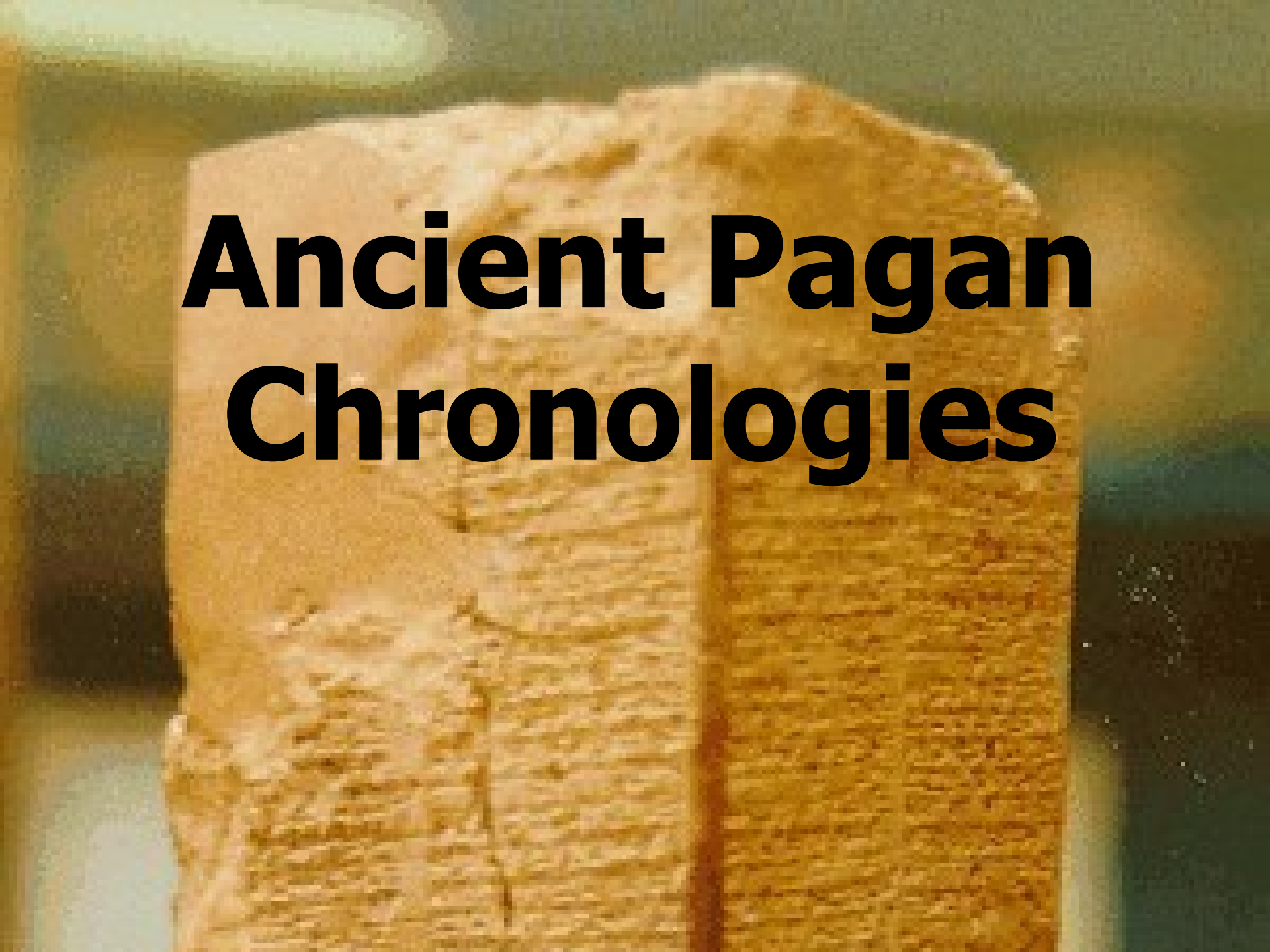
Longevity Chart
Adam to
Joseph



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Ancient Pagan Chronologies

Berosus*

- **Berosus was a Babylonian historian who lived around 300 BC.**
- **Basing his history on ancient pagan writings, Berosus named 10 long-lived kings who lived before "the Great Deluge occurred."**
- **According to Berosus, these kings (supposedly) reigned from 10,000 to 60,000 years each!**

**From Halley's Bible Handbook, 1965 edition, p.71*

Weld Prism and Nippur Tablets*

Ancient pagan inscriptions uncovered in recent times, such as the Weld Prism and Nippur Tablets, give a similar list to the one recorded by Berosus. The kings given in these inscriptions are listed below.

Chronology of Kings Given in Ancient Pagan Inscriptions:

Alulim	Reigned at Eridu	28,000 years
Alalmar	Reigned at Eridu	36,000 years
Emenluanna	Reigned at Badgurgurru	43,000 years
Kichunna	Reigned at Larsa	43,000 years
Enmengalanna	Reigned at Badgurgurru	28,000 years
Dumuzi	Reigned at Badgurgurru	36,000 years
Sibzianna	Reigned at Larak	28,000 years
Emenduranna	Reigned at Sippar	21,000 years
Uburratum	Reigned at Shuruppak	18,000 years
Zinsuddu (Utnapishtim)		64,000 years

"Then the Flood overthrew the land."

***From *Halley's Bible Handbook*, 1965 edition, p.71**

Ancient Pagan Chronologies

- It seems that the ancient pagans tended to exaggerate when giving the chronologies of their ancient ancestors!
- But, although they tended to exaggerate, it is interesting that the Babylonians, Egyptians, Hindus, Greeks and others all record that the earth's earliest inhabitants lived for long periods of time.
- This undoubtedly is because men in ancient times *did* in fact live for long periods of time.

Should We Opt for a Strict Literal Interpretation of the Genealogies (of Genesis 5 and 11)?

• Supposed *Biblical* Objection:

- Some Christians believe that there *could* be "**gaps**" (missing names) in the genealogies of Genesis 5 and 11 because:

- In the Bible, "became the **father** of" can mean to become "the **ancestor** of", rather than "the **immediate father** of" someone.
- We see an example of this in the genealogy of Matthew 1:8 where it says that Jehoram was the **father** of Uzziah.
- But we know from 2 Kings 8:25, 11:2, 14:1, and 2 Chronicles 26:1 that Jehoram was actually the **great-great-grandfather** of Uzziah!

Longevity Chart
Adam to
Joseph

ABRAHAM

ISAAC

JACOB

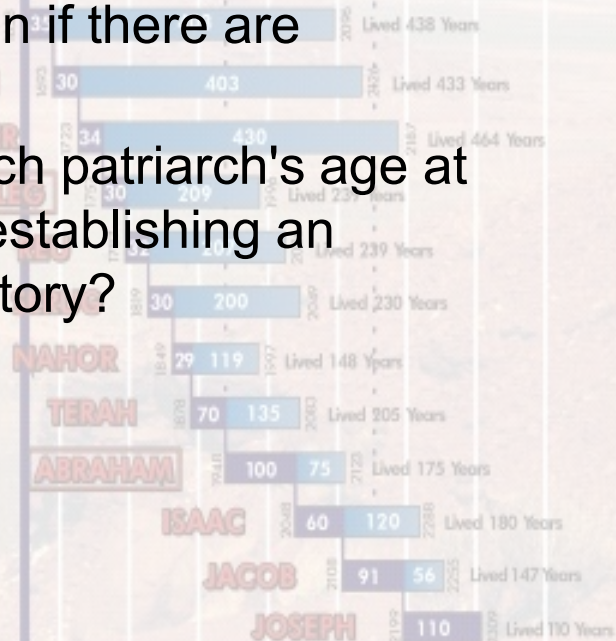
JOSEPH

Should We Opt for a Strict Literal Interpretation of the Genealogies (of Genesis 5 and 11)?

• Some Things to Think About:

- Unlike the chronologies of Matthew, Genesis 5 and 11 gives *each* patriarch's **age** at the birth of his son.
- If the each age given is the patriarch's age at the **birth** of the descendant listed, then we can still **add** the years listed to arrive at a date for Adam's **creation** (even if there are "gaps").
- What would be the **purpose** of listing each patriarch's age at the birth of his descendant if it is not for establishing an accurate **chronology** of early human history?

Longevity Chart
Adam to
Joseph



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3. There are scores of scientific ways to show that the earth and universe are not "billions of years old." For example:

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c. The distance to the moon is increasing with each revolution. Since the moon obviously used to be closer to the earth,

and the moon causes the tides, the tides would have been much stronger, pulling the moon into the earth. The first layer of dust on the moon, the Apollo 16 mission found, was a thousand foot layer of dust. This is a thousand foot layer of dust, and it is a thousand foot layer of dust. (Our calendar is off by about four years since Christ was born around 4 BC.) Could it be that God is working on a 7000 year calendar for the earth, and that the 7th day (1000 years) is what is referred to in Rev. 19:2? (See also Matt. 24:37-38; Luke 17:30-37; 19:11-12; 21:34-36; 22:28-32; 24:29-31; 26:32-34; 27:1-2; 28:1-2; 29:1-2; 30:1-2; 31:1-2; 32:1-2; 33:1-2; 34:1-2; 35:1-2; 36:1-2; 37:1-2; 38:1-2; 39:1-2; 40:1-2; 41:1-2; 42:1-2; 43:1-2; 44:1-2; 45:1-2; 46:1-2; 47:1-2; 48:1-2; 49:1-2; 50:1-2; 51:1-2; 52:1-2; 53:1-2; 54:1-2; 55:1-2; 56:1-2; 57:1-2; 58:1-2; 59:1-2; 60:1-2; 61:1-2; 62:1-2; 63:1-2; 64:1-2; 65:1-2; 66:1-2; 67:1-2; 68:1-2; 69:1-2; 70:1-2; 71:1-2; 72:1-2; 73:1-2; 74:1-2; 75:1-2; 76:1-2; 77:1-2; 78:1-2; 79:1-2; 80:1-2; 81:1-2; 82:1-2; 83:1-2; 84:1-2; 85:1-2; 86:1-2; 87:1-2; 88:1-2; 89:1-2; 90:1-2; 91:1-2; 92:1-2; 93:1-2; 94:1-2; 95:1-2; 96:1-2; 97:1-2; 98:1-2; 99:1-2; 100:1-2; 101:1-2; 102:1-2; 103:1-2; 104:1-2; 105:1-2; 106:1-2; 107:1-2; 108:1-2; 109:1-2; 110:1-2; 111:1-2; 112:1-2; 113:1-2; 114:1-2; 115:1-2; 116:1-2; 117:1-2; 118:1-2; 119:1-2; 120:1-2; 121:1-2; 122:1-2; 123:1-2; 124:1-2; 125:1-2; 126:1-2; 127:1-2; 128:1-2; 129:1-2; 130:1-2; 131:1-2; 132:1-2; 133:1-2; 134:1-2; 135:1-2; 136:1-2; 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How Old is the Human Race?

If we interpret the genealogies in a straightforward, literal manner then the human race is about 6000 years old:

From Adam to the Abraham:

From Abraham to Christ:

From Christ to the Present:

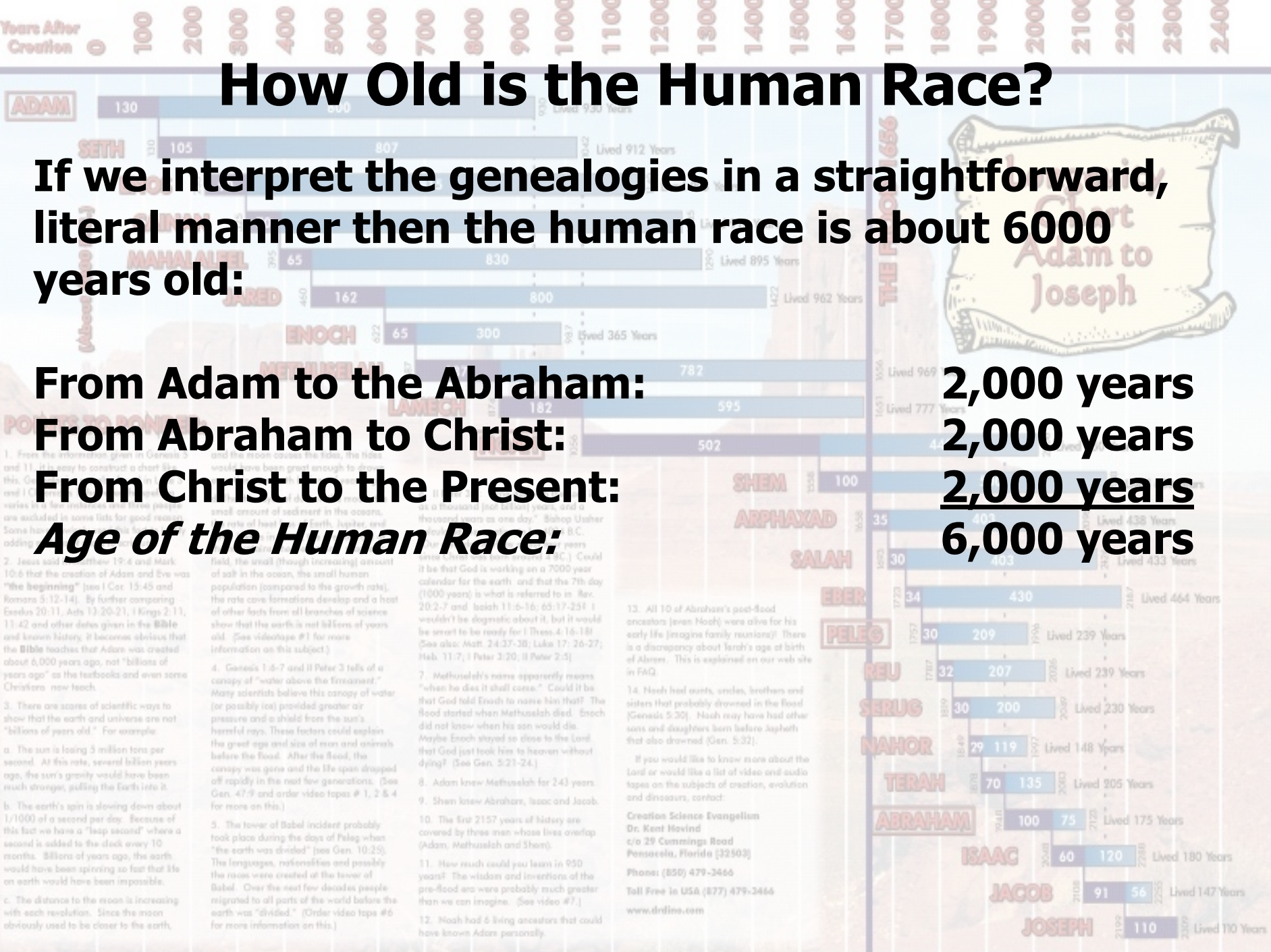
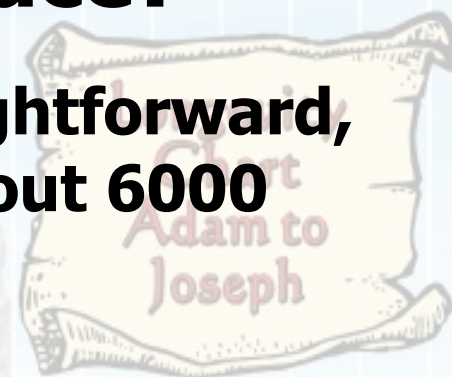
Age of the Human Race:

2,000 years

2,000 years

2,000 years

6,000 years



1. From the information given in Genesis 5 and 11, it is easy to construct a chart like this. God gave Adam and Eve the ability to have children and I believe that the genealogies in Genesis 5 and 11 are accurate. Some have argued that the genealogies are excluded in some lists for good reason. Some have argued that the genealogies are added in some lists for good reason. I believe that the genealogies are accurate and that the human race is about 6000 years old.
2. Jesus said in Matthew 17:4 and Mark 10:6 that the creation of Adam and Eve was "the beginning" (see I Cor. 15:45 and Romans 5:12-14). By further comparing Genesis 20:11, Acts 13:20-21, I Kings 2:11, 13:42 and other dates given in the Bible and known history, it becomes obvious that the Bible teaches that Adam was created about 6,000 years ago, not "billions of years ago" as the textbooks and even some Christians now teach.
3. There are scores of scientific ways to show that the earth and universe are not "billions of years old." For example:
 - a. The sun is losing 5 million tons per second. At this rate, several billion years ago, the sun's gravity would have been much stronger, pulling the Earth into it.
 - b. The earth's spin is slowing down about 1/1000 of a second per day. Because of this fact we have a "leap second" where a second is added to the clock every 10 months. Billions of years ago, the earth would have been spinning so fast that life on earth would have been impossible.
 - c. The distance to the moon is increasing with each revolution. Since the moon obviously used to be closer to the earth,

- and the moon causes the tides, the tides would have been great enough to pull the moon into the earth. (See video #1 for more information on this subject.)
4. Genesis 1:8-7 and II Peter 3:10 tells of a canopy of "water above the firmament." Many scientists believe this canopy of water (or possibly ice) provided greater air pressure and a shield from the sun's harmful rays. These factors could explain the great age and size of man and animals before the flood. After the flood, the canopy was gone and the life span dropped off rapidly in the next few generations. (See Gen. 4:7-9 and order video tapes #1, 2 & 4 for more on this.)
5. The tower of Babel incident probably took place during the days of Peleg when "the earth was divided" (see Gen. 10:25). The languages, nationalities and possibly the races were created at the tower of Babel. Over the next few decades people migrated to all parts of the world before the earth was "divided." (Order video tape #6 for more information on this.)

6. The second verse in one day." Bishop Ussher calculated that the world was created in 4004 B.C. (See video #1 for more information on this subject.)
7. Methuselah's name apparently means "when he dies it shall cease." Could it be that God told Enosh to name him that? The flood started when Methuselah died. Enosh did not know when his son would die. Maybe Enosh stayed so close to the Lord that God just took him to heaven without dying? (See Gen. 5:23-24.)
8. Adam knew Methuselah for 243 years.
9. Shem knew Abraham, Isaac and Jacob.
10. The first 2157 years of history are covered by three men whose lives overlap (Adam, Methuselah and Shem).
11. How much could you learn in 950 years? The wisdom and inventions of the pre-flood era were probably much greater than we can imagine. (See video #7.)
12. Noah had 6 living ancestors that could have known Adam personally.

13. All 10 of Abraham's post-flood ancestors (even Noah) were alive for his early life (imagine family reunions)! There is a discrepancy about Sarah's age at birth of Abraham. This is explained on our web site in FAQ.

14. Hesh had sons, uncles, brothers and sisters that probably drowned in the flood (Genesis 5:30). Hesh may have had other sons and daughters born before Joseph that also drowned (Gen. 5:32).

If you would like to know more about the Lord or would like a list of video and audio tapes on the subjects of creation, evolution and dinosaurs, contact:

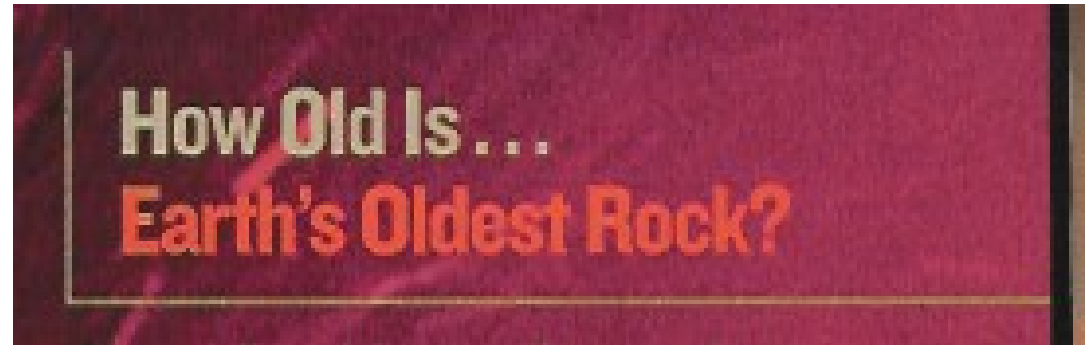
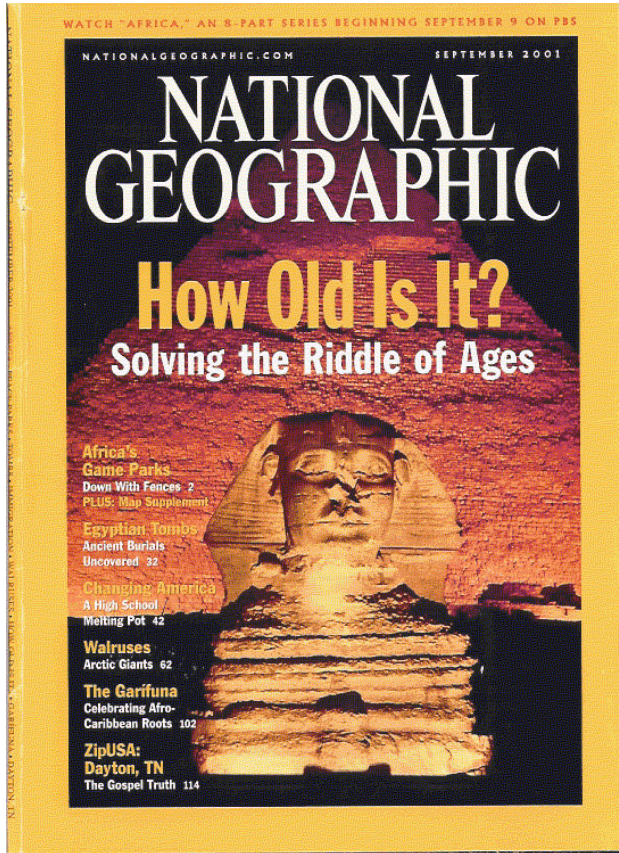
Creation Science Evangelism
Dr. Kent Hovind
c/o 29 Cummings Road
Pensacola, Florida 32503
Phone: (850) 479-3466
Toll Free in USA (877) 479-3466
www.drline.com

Lived 912 Years
Lived 895 Years
Lived 962 Years
Lived 365 Years
Lived 782 Years
Lived 595 Years
Lived 502 Years
Lived 100 Years
Lived 438 Years
Lived 433 Years
Lived 464 Years
Lived 239 Years
Lived 239 Years
Lived 230 Years
Lived 148 Years
Lived 205 Years
Lived 175 Years
Lived 180 Years
Lived 147 Years
Lived 110 Years



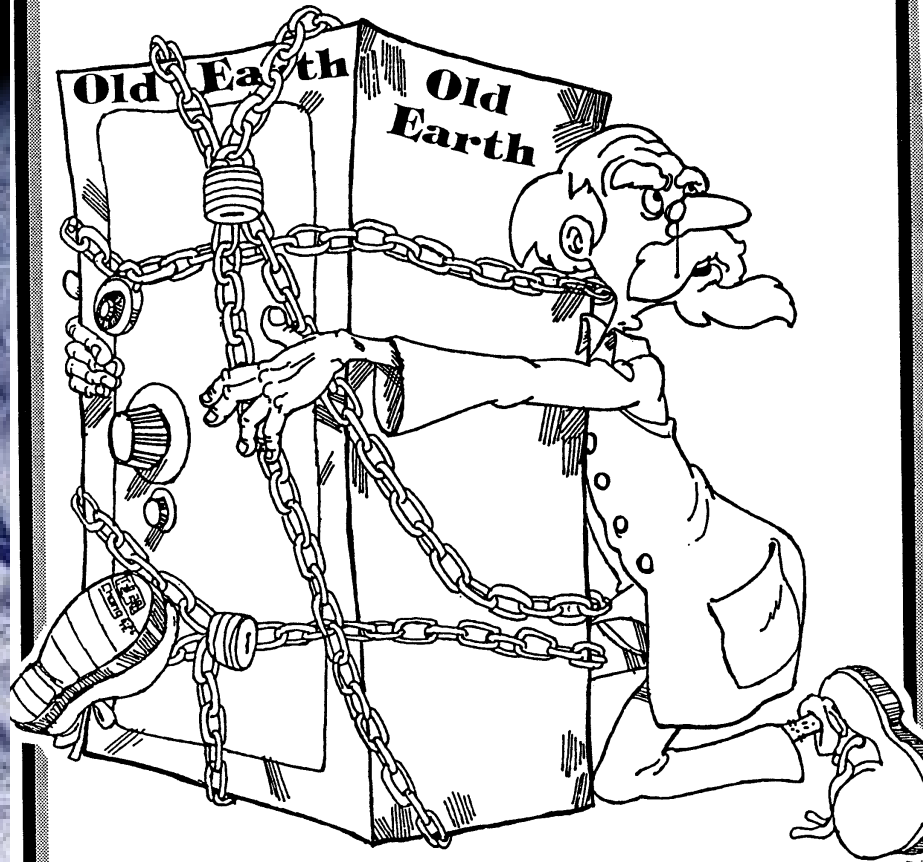
How Old is the Earth?

How Old is the Earth?



*“The world’s oldest known rock was dated . . . at 4.03 billion years. **The earth itself goes back 4.5 billion years.**”*

National Geographic, September 2001, p. 91



Pet Theory: Do Not Question



The Bible teaches that the earth is about 6000 years old

If we recognize that the “the heavens and the earth and all that is in them” were created in six ordinary days and we interpret the genealogies in a straightforward, literal manner then we have to conclude that the earth is about 6000 years old:



From Creation to the Abraham:	2,000 years
From Abraham to Christ:	2,000 years
From Christ to the Present:	<u>2,000 years</u>
<i>Age of the Earth:</i>	6,000 years

The Bible teaches that the earth is about 6000 years old

“Probably, so far as I know, there is no professor of Hebrew or Old Testament at any world-class university who does not believe that the writer(s) of Genesis 1-11 intended to convey to their readers the ideas that

- (a) Creation took place in a series of six days which were the same as the days of 24 hours we now experience*
- (b) The figures contained in the Genesis genealogies provided by simple addition a chronology from the beginning of the world up to later stages in the biblical story . . .*

Or, to put it negatively, the apologetic arguments which suppose the 'days' of creation to be long eras of time [and] the figures of years not to be chronological . . . are not taken seriously by any such professors, as far as I know.” [emphasis added]

(**James Barr** in a letter to David Watson, 1984. Barr is Professor of Hebrew Bible, Vanderbilt University, and former Regius Professor of Hebrew, Oxford University, Oxford, England.)

A surrealist painting by Salvador Dalí titled 'The Persistence of Memory'. The scene is set on a dark, craggy rock formation overlooking a calm sea under a pale, hazy sky. In the foreground, a pocket watch with a cracked, orange-brown face lies on the left. To its right, a melting, blue, liquid-like clock face is draped over the edge of the rock. Further right, another melting clock face is draped over a long, thin, branch-like object. In the background, a small, dilapidated building with a tiled roof sits on a distant shore. The overall mood is dreamlike and contemplative, exploring the concept of time and its fluidity.

How Can We Know How Old Something Is?

How Can We Know How Old Something Is?

- **A. First Hand Knowledge** - We were there personally when it came into existence.
- **B. A Reliable Eyewitness** - We have a reliable eyewitness account telling us when the item in question came into existence from someone who was there to see it.
- **C. A Reliable "Clock"** - We have the current reading from a reliable "clock" that we are sure has been running since the time the object came into existence. And in order for us to determine the age of the item in question from this "clock" we need to know **three** things about the clock:
 - **The Original Setting:** What the clock read at the time that the item in question was created.
 - **Runs at a Known Rate** - That the clock has been running at a constant rate (or if the rate has changed, we must know exactly how it changed and when)
 - **Has Never Been Changed** - That the clock has never been changed or reset since the creation of the item in question (or if the clock has been changed, we must know exactly how it changed and when)

How Can We Know How Old Something Is?

- A. **First Hand** Knowledge
- B. A Reliable **Eyewitness**
- C. A Reliable **"Clock"**

- **So how do we know how old the earth is?:**
 - **Option A** - We weren't there (Job 38:4).
 - **Option B** - Those who believe that the Bible is the Word of God and believe that Genesis 1 teaches the earth was made in six days and the genealogies are reliable - believe that they have option "B": a reliable eyewitness account.
 - **Option C** - Those who do not accept Genesis as a reliable account of when God created the earth (either because they think that Genesis is not reliable on this point or they read long, indefinite periods time into the text of Genesis 1) must rely on option "C". The "clock" most often chosen by secular scientists by which they arrive at such ancient dates for the age of the earth is the "clock" of radioactive decay.



Radioactive Dating Methods

How Radioactive Dating Works

- A radioactive element (known as the "**parent**" element) gives off radiation at an (**assumed**) constant rate.
- As this happens, the radioactive element turns into another (usually non-radioactive) element (known as the "**daughter**" element).
- The **time** it takes for half of any parent element to turn into the daughter element is called the "**half-life**" of that element.
- By measuring the amount of **parent** and **daughter** elements present in a rock, scientists (given certain **assumptions**) believe that they can determine the **age** of that rock.

Radioactive Dating Methods

Some examples of radioactive elements used in dating rocks are:

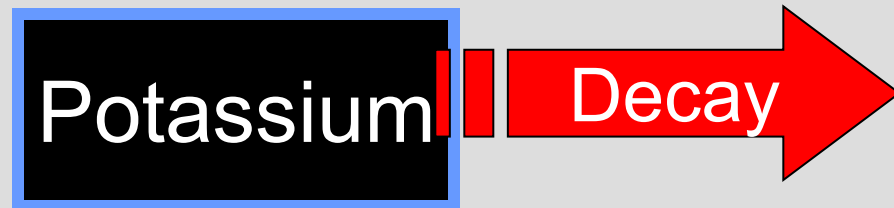
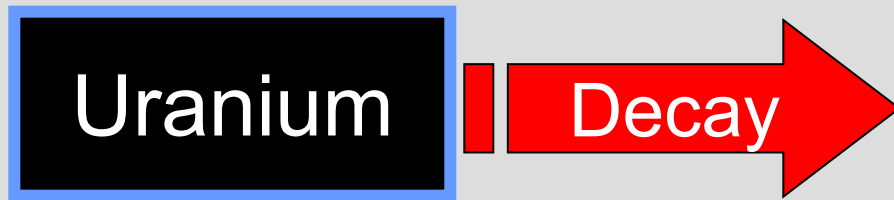
Parent-Daughter	Half Life
uranium-lead	4.5 billion years
potassium-argon	1.3 billion years
rubidium-strontium	4.7 billion years

- **Note:** These radioactive dating methods can only be used on:
 - **Igneous** Rocks (formed by volcanic action)
 - Or **Metamorphic** Rocks (igneous rocks that have undergone change).
 - *Not* **Sedimentary** Rocks (rocks laid down as sediment by water).

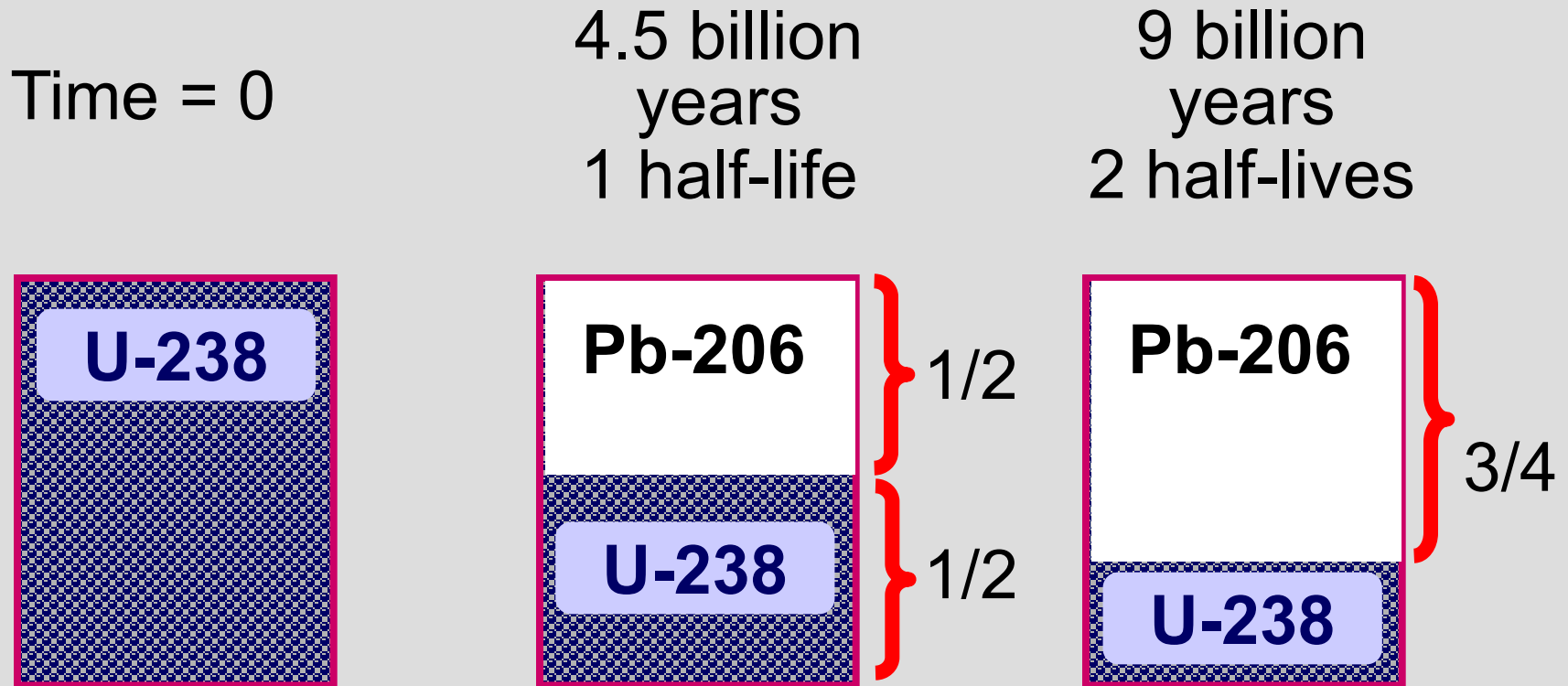
Radioactive Decay

Parent element

Daughter element

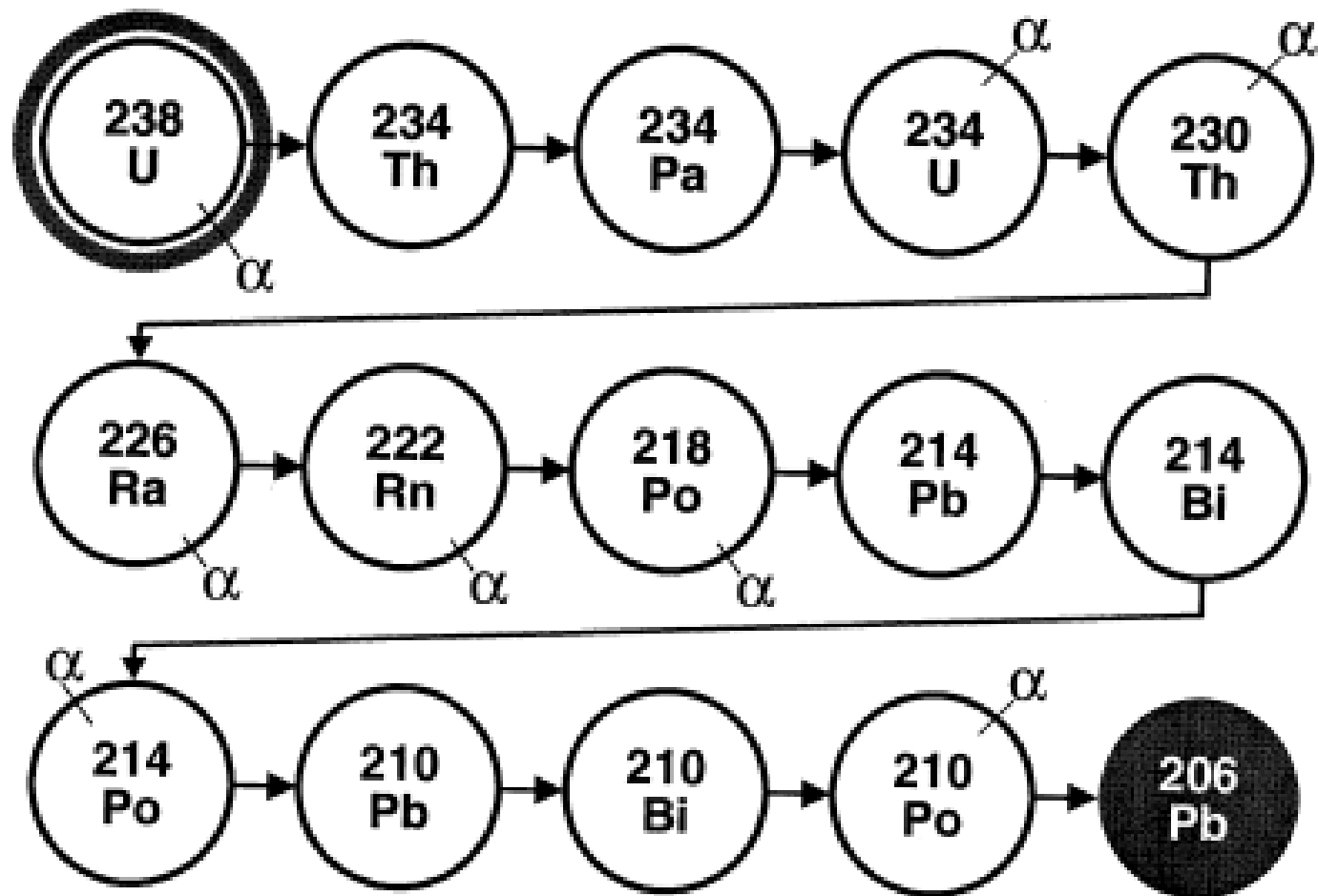


Half-Life Illustration



The above dating assumes that we know:

- 1. The original sample was 100% U-238**
- 2. No contamination of the sample has taken place**
- 3. The rate of radioactive decay has always been the same**



U²³⁸ Decay Series

Apparent Problems with Radioactive Dating

- Scientists often encounter examples in the real world that **contradict** their assumptions about the reliability of radioactive dating methods:
 - Scientists often get **conflicting dates** using different radioactive dating methods on the **same rock**. Obviously both dates can't be right!
 - Sometimes rocks that are thought to be much **older** than other rocks (because they are buried several layers **under** them) date much **younger** than the rocks found above them!
 - Often rocks that are **known to be very young** (because they come from recent volcanoes whose eruption date is known) give dates using radioactive **dating** methods that are **very old** and therefore known to be erroneous

Basaltic rocks of Uinkaret Plateau (Grand Canyon)

six K-Ar model ages	0.01 to 17 million
five Rb-Sr model ages	1270 to 1390 million
one Rb-Sr isochron age	1340 million
one Pb-Pb isochron age	2600 million



Paleozoic

Precambrian

Gardenas Basalt (Precambrian)

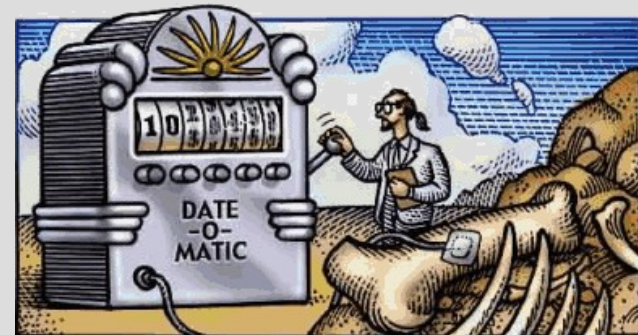
five K-Ar model ages	791 to 853 million
six Rb-Sr model ages	980 to 1100 million
one K-Ar isochron age	715 million
one Rb-Sr isochron age	1070 million

As documented
by Steve Austin
Ph.D., *Grand
Canyon -
Monument to
Catastrophe*,
1994, p.126

More Radioactive Dating Problems

- ◆ Sunset Crater, Northern Arizona
 - Potassium-argon: **200,000** years old
 - Reality: AD 1065 (about a **1,000** years old)
- ◆ Hualalai basalt, Hawaii
 - Various Methods: **140 million – 2.96 billion** years old
 - Reality: AD 1801 (about **200** years old)

Above examples are documented by John Morris, Ph.D., The Young Earth, 1994, p.54-55



In 1993, several pieces of wood were found entombed in the bottom of a (cooled) lava flow in a coal mine in Australia. Parts of the wood were still intact! The various pieces of wood were carbon dated between **35 and 45 thousand** years old. The lava enclosing the wood was dated (using K-Ar dating) at **36.7 ± 1.2 million** years old!

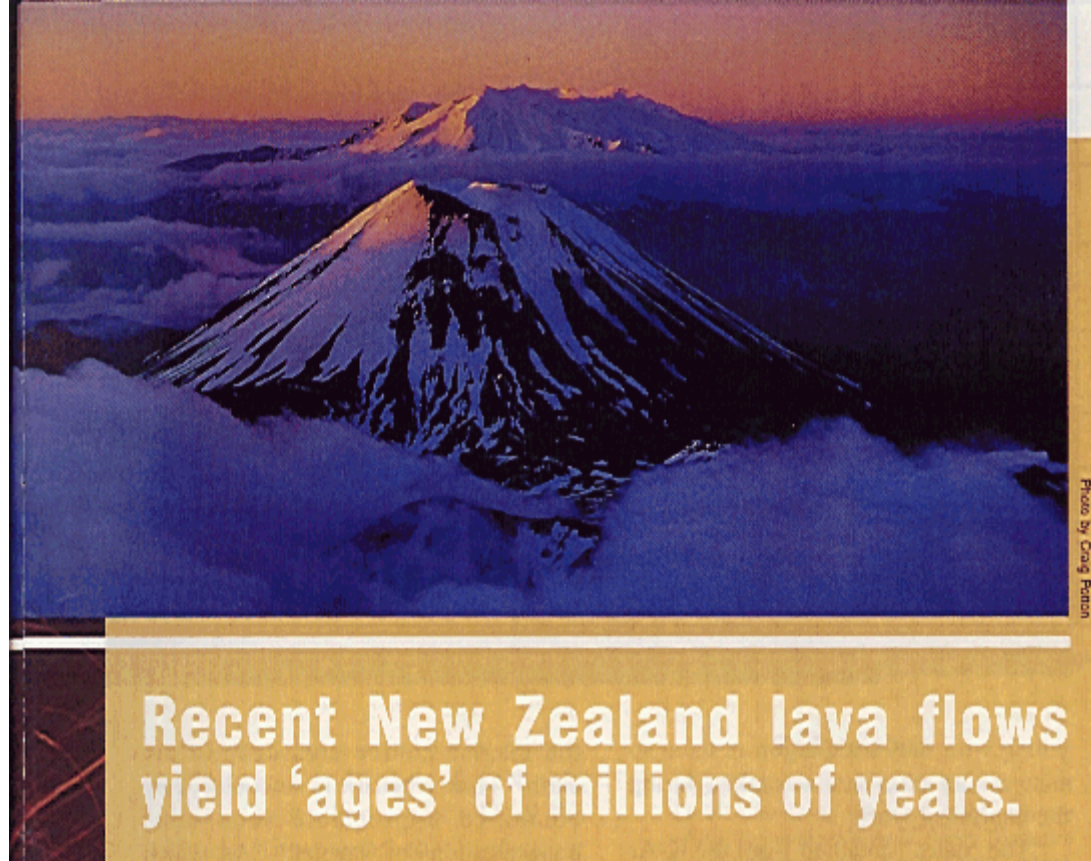


Dr. Andrew Snelling, *Creation ex nihilo*, December 1997 - February 1998, Vol. 20 No. 1, p.24-27

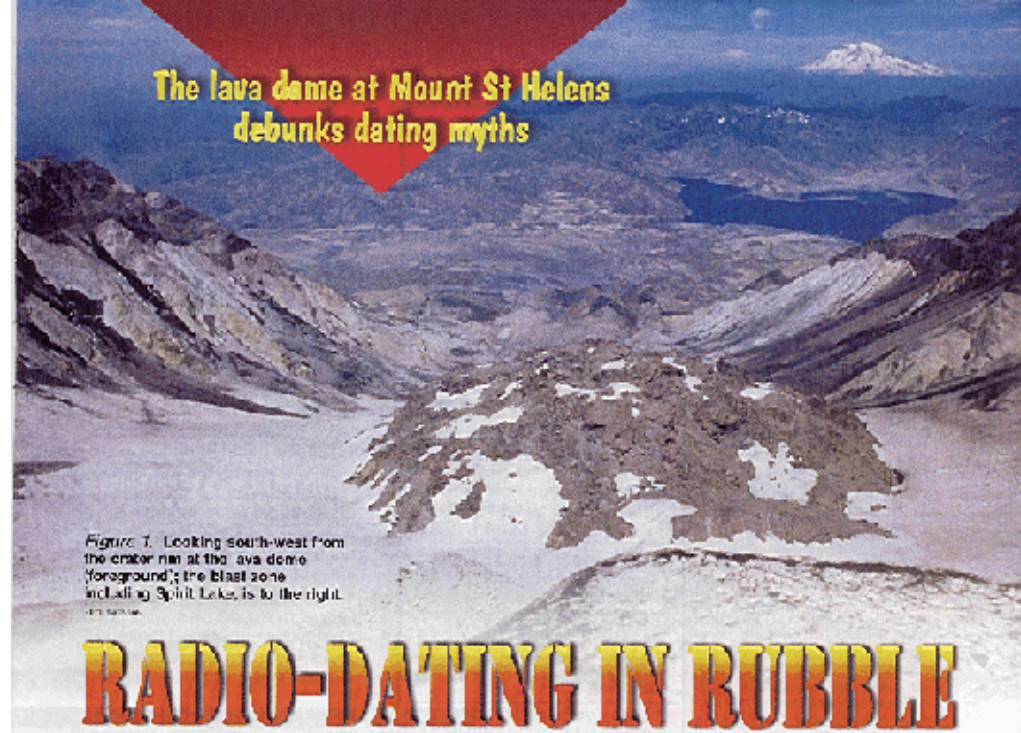


Rock from cooled lava flows **known** to have occurred between 1949 and 1975 were sent to several standard labs to be dated - **without** telling the labs where the rocks had come from or that the actual age of the rocks was **already known**. The labs (using K-Ar) dating returned results ranging from <0.27 million years old to $3.5 \pm .2$ million years old!

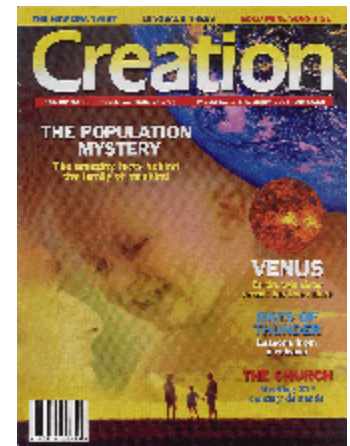
Dr. Andrew Snelling, *Creation ex nihilo*, December 1999 - February 2000, Vol. 22 No. 1, p.18-21



Rocks from the cooled lava dome of Mount St. Helens (which at the time were about **10 years** old) were sent to a reputable lab to be dated - ***without*** telling the lab where the rocks had come from. The lab (using K-Ar) dating returned results ranging from **0.34 ± 0.06 million years old** to **2.8 ± 0.6 million years old!**



Keith Swensen, *Creation*, June - August 2001, Vol. 23
No. 3, p.23-25



Radioisotope Dating

Reliability and Consistency

If the dates aren't right when we **know** the age of the rocks, how can we be sure they are correct when we **don't know** the exact date of the rocks?

A close-up photograph of a person's hands using a shovel to dig in the ground. The shovel head is visible in the foreground, and the person's hands are wearing a red glove. The ground is reddish-brown soil with some roots and debris. The text "What about Carbon Dating?" is overlaid in large yellow letters.

What about Carbon Dating?

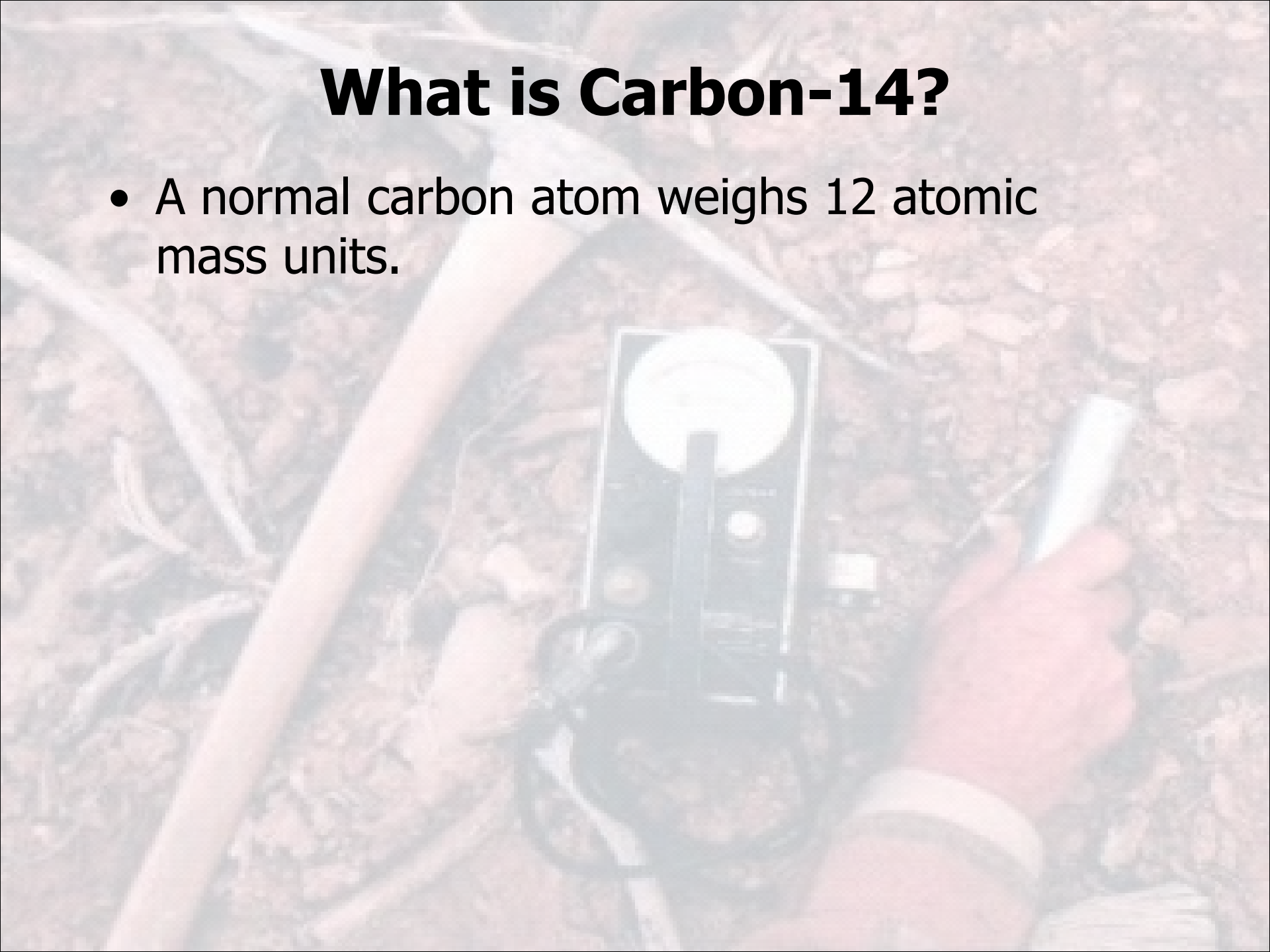
Carbon-14 Dating

Some Basic Facts About Carbon Dating:

- Carbon-14 dating can only be used on organic materials, not on rocks or even fossils
- The half-life of C-14 is about 5,730 years
- Scientists will usually not use Carbon-14 dating on anything that they consider to be older than 50,000 years

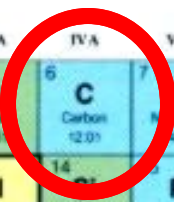
What is Carbon-14?

- A normal carbon atom weighs 12 atomic mass units.



PERIODIC TABLE OF THE ELEMENTS

Representative Elements		Transition Metals										Representative Elements		Noble Gases																				
IA												IIIA		IVA		VA		VIA		VIIA		0												
Periods																																		
1	1 H Hydrogen 1.008																					2 He Helium 4.003												
2	3 Li Lithium 6.941	4 Be Beryllium 9.012											5 B Boron 10.81	6 C Carbon 12.01	7 N Nitrogen 14.01	8 O Oxygen 16.00	9 F Fluorine 19.00	10 Ne Neon 20.18																
3	11 Na Sodium 22.99	12 Mg Magnesium 24.31											13 Al Aluminum 26.98	14 Si Silicon 28.09	15 P Phosphorus 30.97	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.96																
4	19 K Potassium 39.098	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.71	29 Cu Copper 63.55	30 Zn Zinc 65.37	31 Ga Gallium 69.72	32 Ge Germanium 72.59	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.80																
5	37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	43 Tc Technetium (98)	44 Ru Ruthenium 101.1	45 Rh Rhodium 102.9	46 Pd Palladium 106.4	47 Ag Silver 107.9	48 Cd Cadmium 112.4	49 In Indium 114.8	50 Sn Tin 118.7	51 Sb Antimony 121.8	52 Te Tellurium 127.6	53 I Iodine 126.9	54 Xe Xenon 131.3																
6	55 Cs Cesium 132.9	56 Ba Barium 137.3		72 Hf Hafnium 178.5	73 Ta Tantalum 180.9	74 W Tungsten 183.8	75 Re Rhenium 186.2	76 Os Osmium 190.2	77 Ir Iridium 192.2	78 Pt Platinum 195.1	79 Au Gold 197.0	80 Hg Mercury 200.6	81 Tl Thallium 204.4	82 Pb Lead 207.2	83 Bi Bismuth 209.0	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)																
7	87 Fr Francium (223)	88 Ra Radium (226)		104 Unq (261)	105 Unp (262)	106 Unh (263)	107 Uns (264)		109 Une (295)																									
Inner Transition Metals																																		
Lanthanides		57 La Lanthanum 138.9	58 Ce Cerium 140.1	59 Pr Praseodymium 140.9	60 Nd Neodymium 144.2	61 Pm Promethium (145)	62 Sm Samarium 150.4	63 Eu Europium 152.0	64 Gd Gadolinium 157.3	65 Tb Terbium 158.9	66 Dy Dysprosium 162.5	67 Ho Holmium 164.9	68 Er Erbium 167.3	69 Tm Thulium 168.9	70 Yb Ytterbium 173.0	71 Lu Lutetium 175.0																		
Actinides		89 Ac Actinium (227)	90 Th Thorium 232.0	91 Pa Protactinium (231)	92 U Uranium 238.0	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (260)																		



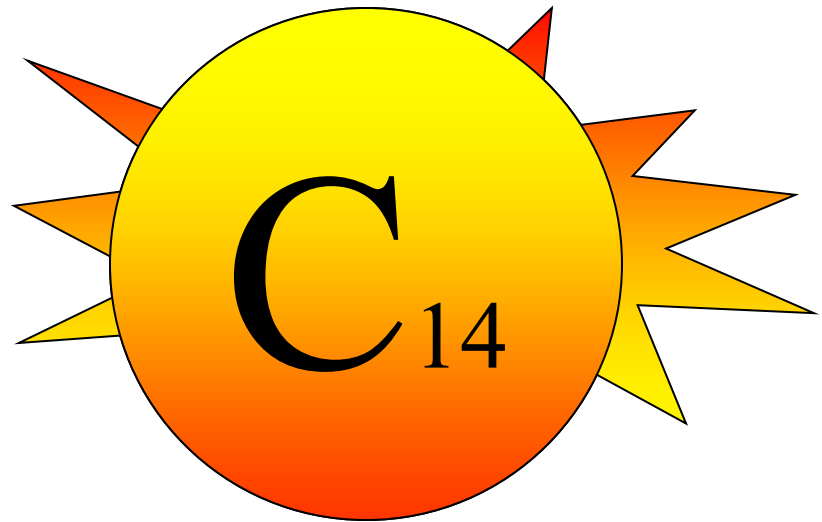
					2
					He Helium 4.003
IIIA	IVA	VA	VIA	VIIA	
5 B Boron 10.81	6 C Carbon 12.03	7 N Nitrogen 14.01	8 O Oxygen 16.00	9 F Fluorine 18.99	10 Ne Neon 20.18
13 Al Aluminum 26.98	14 Si Silicon 28.09	15 P Phosphorus 30.97	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.95

What is Carbon-14?

- A normal carbon atom weighs 12 atomic mass units.
- However, about one in every trillion carbon atoms (in earth's atmosphere today) weighs **14** atomic units.
- This carbon is called carbon-14.
- It is also called **radio**carbon because it is **radio**active (but not dangerous).

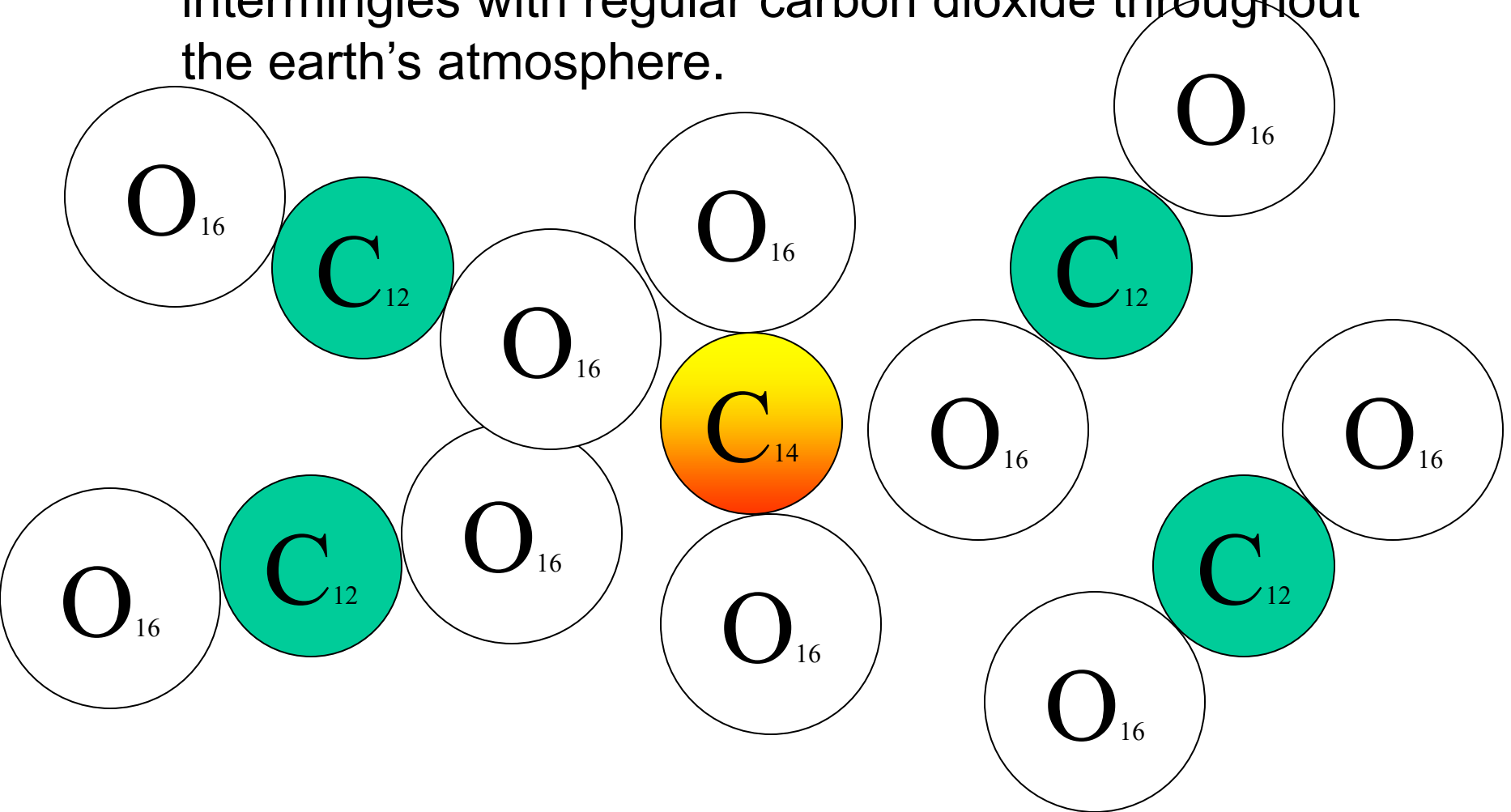
How Carbon-14 Dating Works

- When Nitrogen in the earth's upper atmosphere is struck by cosmic radiation it turns into radioactive carbon (Carbon-14).
- In this way, about 21 pounds of Nitrogen is converted each year into radiocarbon (carbon-14)



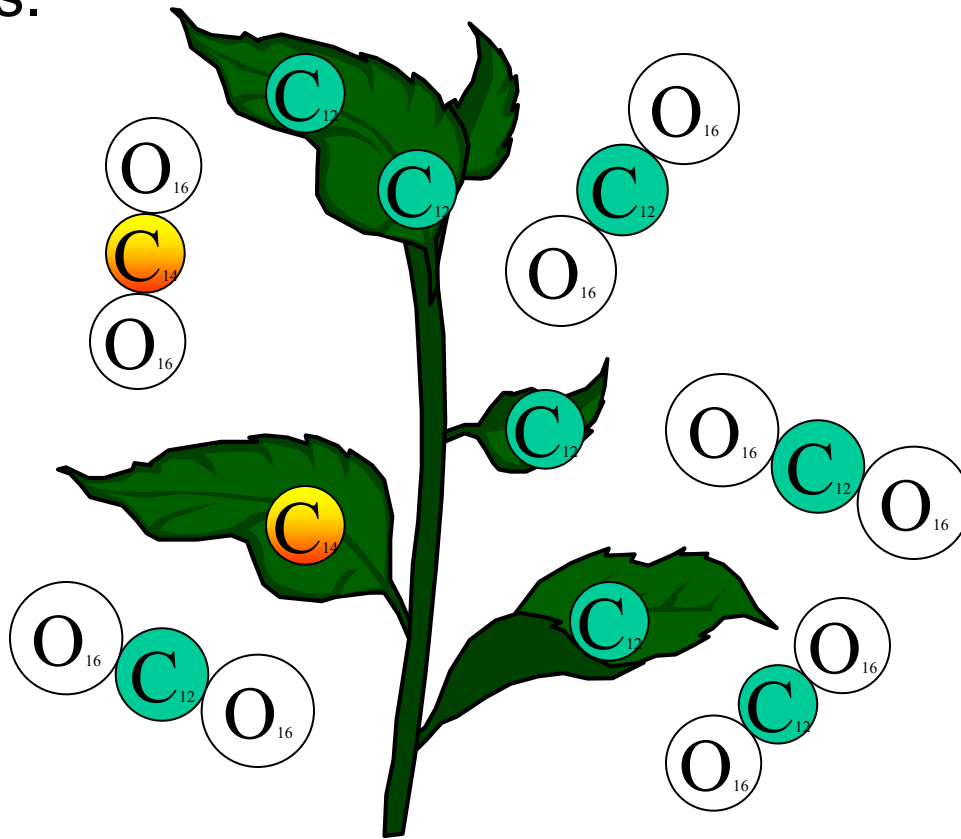
How Carbon-14 Dating Works

Most carbon-14 quickly combines with oxygen to form radioactive **carbon dioxide**, which then intermingles with regular carbon dioxide throughout the earth's atmosphere.



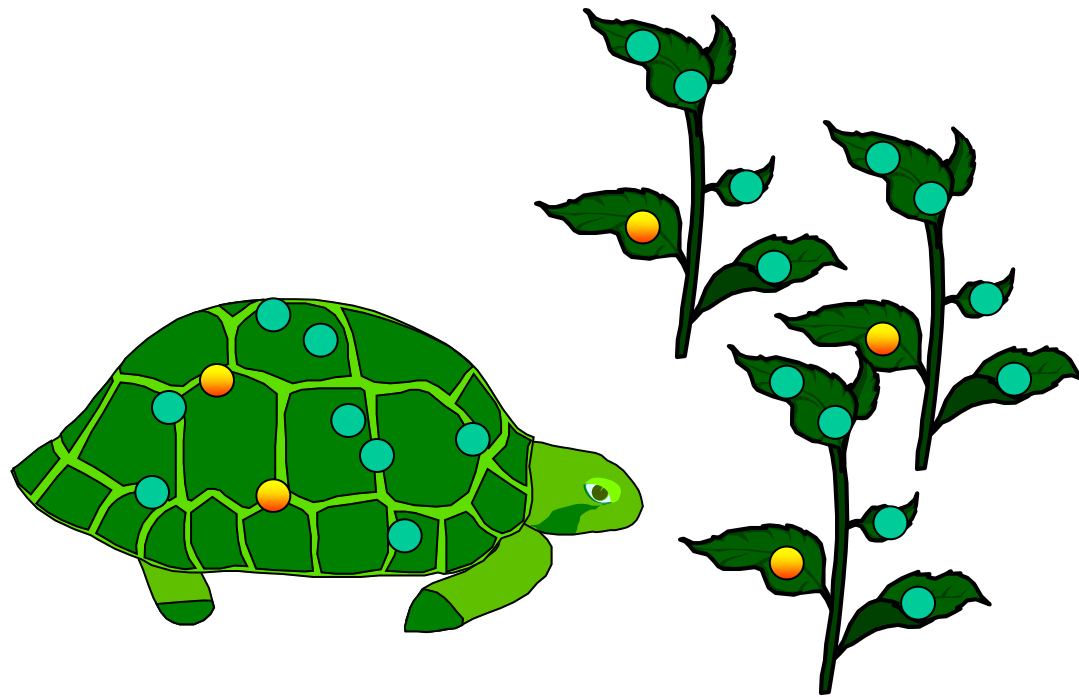
How Carbon-14 Dating Works

Plants use carbon dioxide. In doing this, plants absorb small amounts of radioactive carbon into their cells.



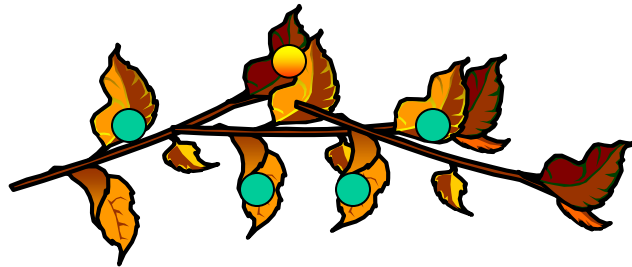
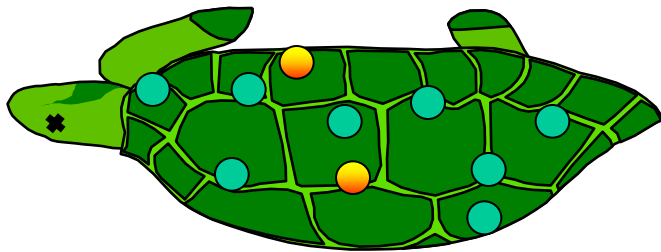
How Carbon-14 Dating Works

Animals eat plants. In doing this, animals absorb small amounts of radioactive carbon into their bodies.



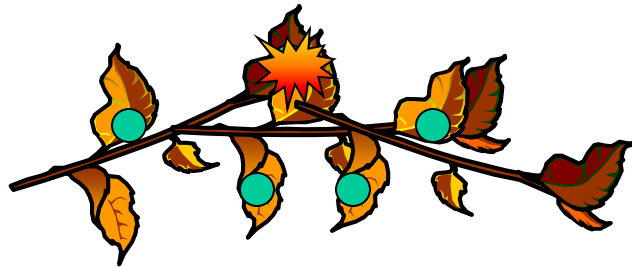
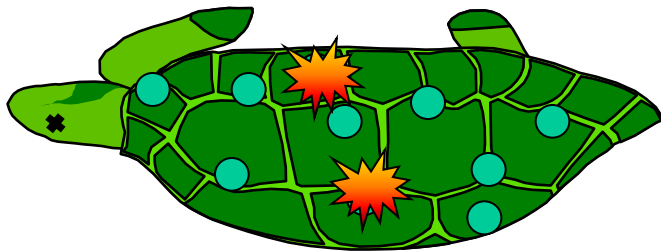
How Carbon-14 Dating Works

When plants and animals die, they stop taking in radioactive carbon.



How Carbon-14 Dating Works

The radioactive carbon in a plant or animal will slowly decay back into **nitrogen** after the plant or animal dies.

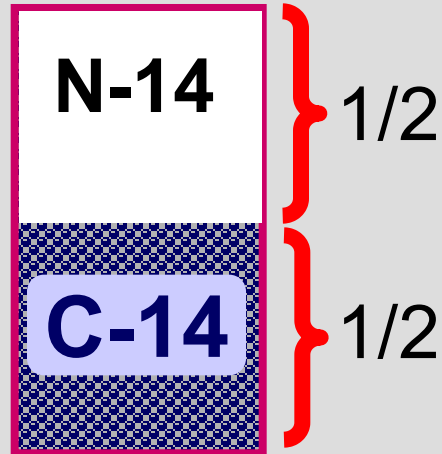


Half-Life Illustration

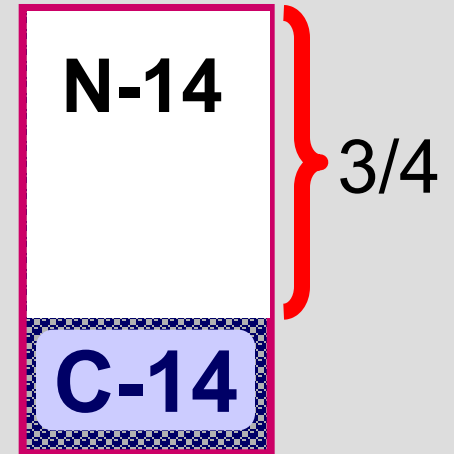
Time = 0



5,730 years
1 half-life

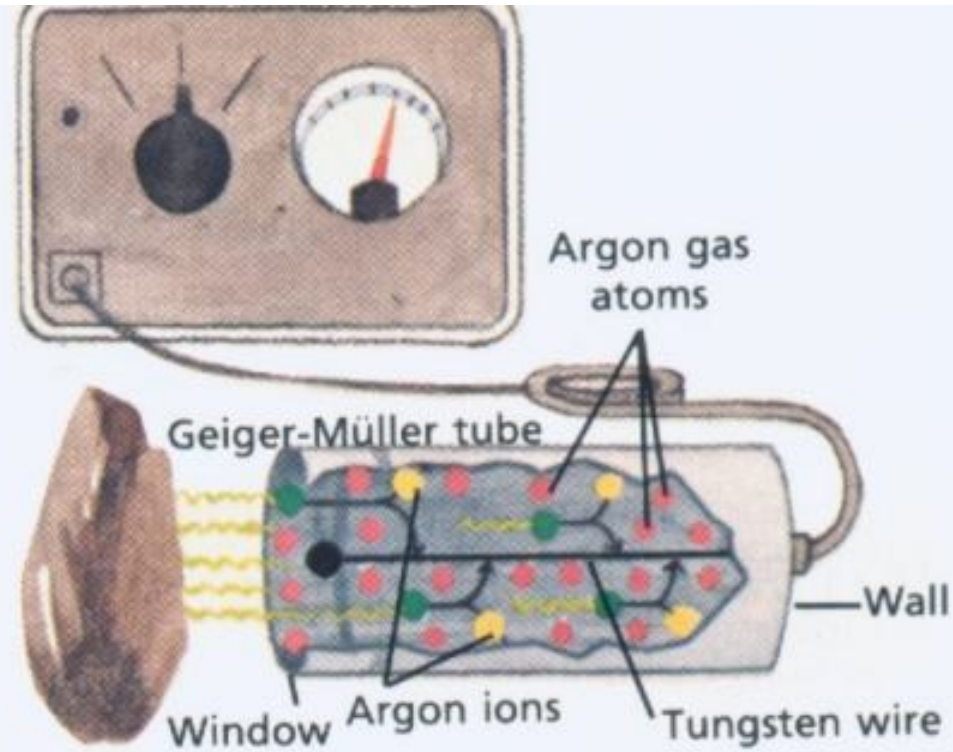


11,460 years
2 half-lives



How Carbon-14 Dating Works

By measuring the amount of radioactive carbon left in a dead plant or animal (and by making certain assumptions) scientists believe that they can determine how long ago the plant or animal has died.



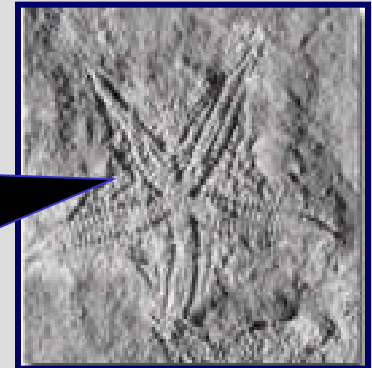
Determining the Starting Amount

- ◆ When an organism is alive it is normally expected to have about the same ratio of C-12 to C-14 that exists in the atmosphere at the time it is living – which today is about 1-trillion to 1
- ◆ Once the organism dies that ratio slowly begins to **change** as the C-14 in the dead organism decays.



I'm alive

Same ratio



I'm a
fossil

Different ratio

How the C-12 / C-14 Ratio Works

Amount of stable C-12	Amount of unstable C-14	Ratio	Years Dead	# Half-lives
100 Trillion	100	1-T to 1	0	0
100 Trillion	50	2-T to 1	5,730	1
100 Trillion	25	4-T to 1	11,460	2
100 Trillion	12	8-T to 1	17,190	3
100 Trillion	6	16-T to 1	22,920	4
100 Trillion	3	32-T to 1	28,650	5

A Critical Assumption

Has the ratio of C-12 to C-14 in the earth's atmosphere always been the same as it is today (1-trillion to 1)?

This is a key assumption

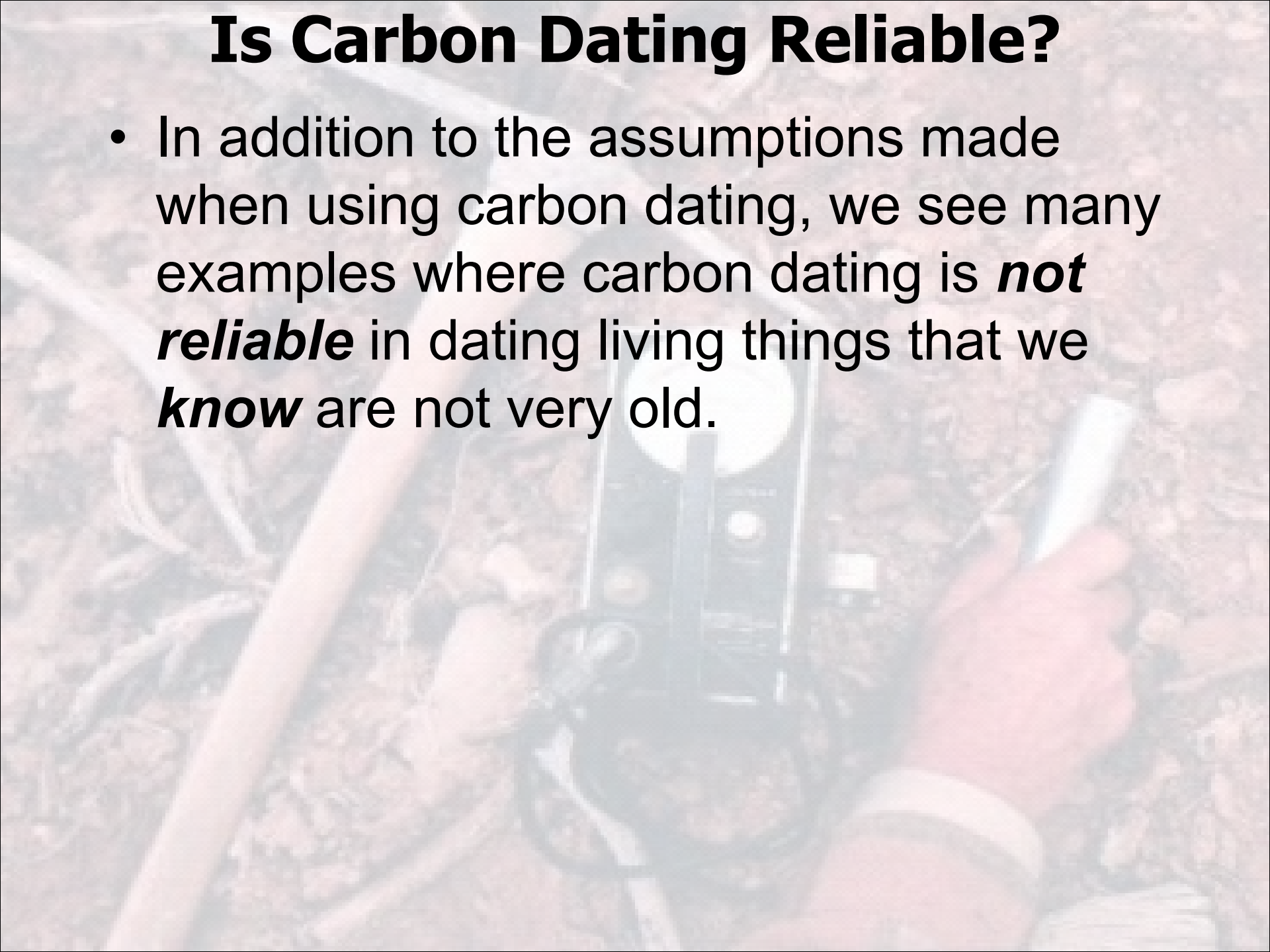
- ◆ If this assumption is true then carbon-14 dating is a reliable dating method
- ◆ If this assumption is false then carbon-14 dating is not a reliable dating method

Problems with the Assumptions of Carbon-14 Dating in Light of Biblical Teaching:

- The Bible teaches that the earth was created about 6000 years ago. God **might** not have created the earth with the same ratio of carbon-14 to carbon-12 that exists today.
- The Bible teaches that about 4,500 years ago there was a global flood. Conditions on the earth before, during, and after the flood **might** have had a dramatic effect on the ratio of carbon-14 to carbon-12.

Is Carbon Dating Reliable?

- In addition to the assumptions made when using carbon dating, we see many examples where carbon dating is ***not reliable*** in dating living things that we ***know*** are not very old.



**Living mollusk
shells were
carbon dated as
being 2300 years
old.**

***Science* vol. 141, 1963 p. 634-637**

**A freshly
killed seal
was carbon
dated as
having died
1300 years
ago!**

***Antarctic Journal*
vol. 6 Sept-Oct.
1971 p. 211**





Shells from living snails were carbon dated as being **27,000 years old.**

Science Vol. 224, 1984 p. 58-61

Creation versus Evolution - Week 5

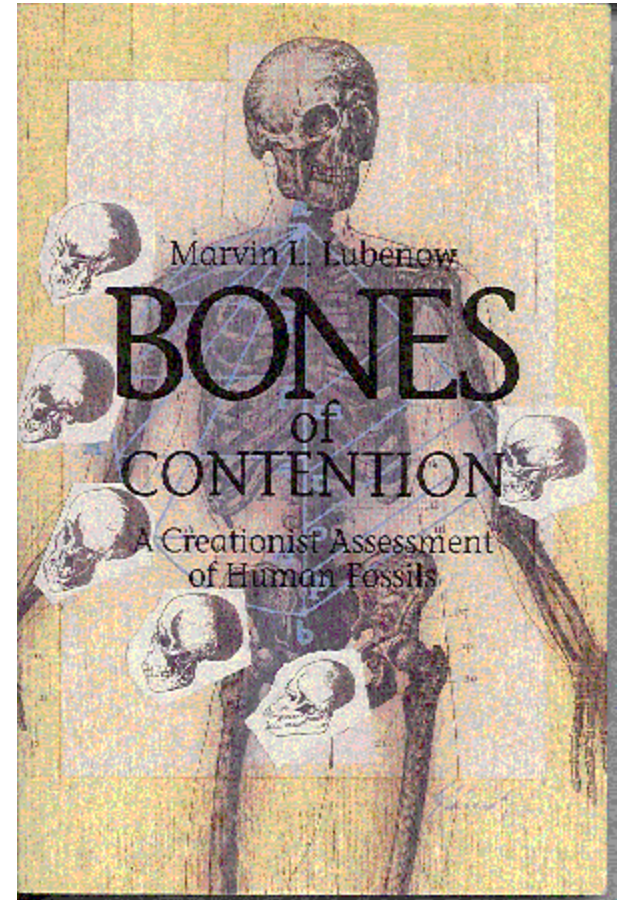
Problems With Carbon-14 Dating

- *The troubles of the radiocarbon dating method are undeniably deep and serious. Despite 35 years of technological refinement and better understanding, the underlying **assumptions** have been strongly challenged, and warnings are out that radiocarbon may soon find itself in a crisis situation. Continuing use of the method depends on a "fix-it-as-we-go" approach, allowing for contamination here, fractionation there, and calibration whenever possible. It should be no surprise, then, that fully half of the dates are rejected. The wonder is, surely, that the remaining half come to be **accepted**.*
- *No matter how "useful" it is, though, **the radiocarbon method is still not capable of yielding accurate and reliable results**. There are gross discrepancies, the chronology is uneven and relative, and the accepted dates are actually selected dates.*

Lee, Robert E. "Radiocarbon, Ages in Error, *Anthropological Journal of Canada*, Vol. 19, No. 3, 1981, pp. 9, 29 (Assistant Editor).

The Dating Game

A great illustration of the games evolutionists play when dating a particular rock or fossil can be seen in a sequence of events described by Marvin Lubenow in the appendix of his book, *Bones of Contention*, 1992



The Dating Game

Background: In 1972, Richard Leakey discovered a very modern looking skull in Kenya just east of Lake Turkana. At the time, fossils found in this area were considered about 2.9 million years old. Leakey's discovery created a problem, because the theory of human evolution did not allow for a skull that looked so modern to be so old! The following chart gives a history of how the evolutionists ended up "solving" this problem. Notice how many different dates evolutionists can get for the same layer of rock!

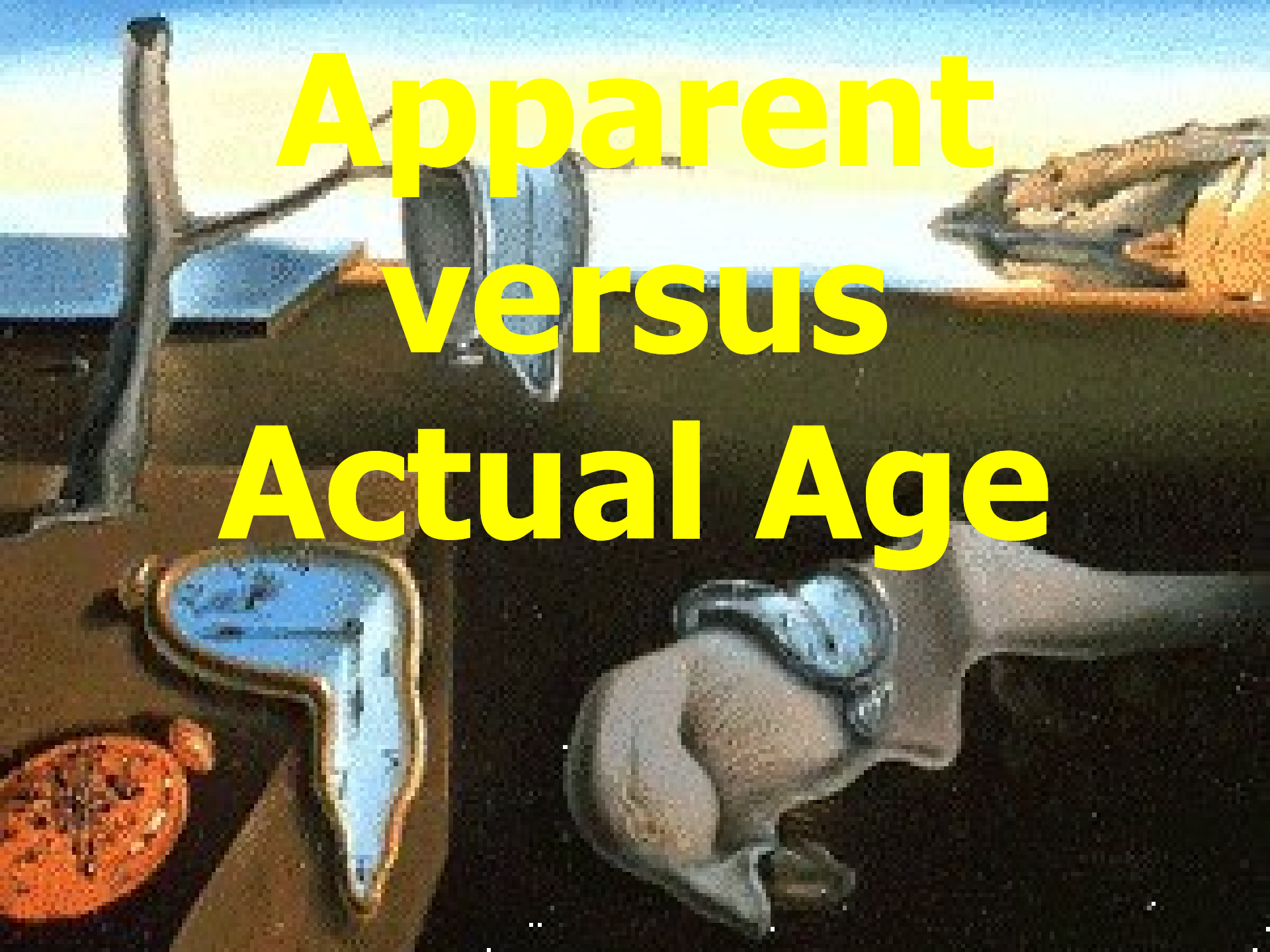


Year	Dated by	Dating Method	Age Claimed	Comment
1969	Fitch and Miller	potassium-argon	212 to 230 million yrs. old	Original Dating of the rocks <i>above</i> the area where Leakey later found his skull.
1970	Fitch and Miller	potassium-argon argon-argon	2.61 ± .26 million yrs. old	The original date conflicted with the dating of fossils in the area so they asked for new samples
1972			2.9 million yrs. old	Richard Leakey discovered a very modern looking skull.
1972	Vincent Maglio	fossils of pigs and elephants found in the area	2.61 million yrs. old	Confirmed Fitch and Miller's date
1974	Brock and Isaac	paleomagnetism	2.7 to 3.0 million yrs. old	Based on samples <i>below</i> area tested by Fitch and Miller, thus confirming their dates
1974	Fitch and Miller		2.61 ± .26 million yrs. old	Published their revised study
1975	Basil Cooke	pig fossils in area	1.8 million yrs. old	Presented at a geology conference in London
1975	G. H. Curtis et al.	potassium-argon	1.82 million yrs. old	They challenged the validity of Fitch and Miller's methodology
1976	Fitch and Miller	potassium-argon argon-argon	2.4 million yrs. old	Re-tested both sets of rocks using more advanced techniques.
1976	Hurford et al.	fission-track dating	2.44 million yrs. old	
1977	G.A. Wagner	fission-track dating	1.9 million yrs. old	Claimed that Hurford et al. used the wrong radioactive constant in their calculations
1980	Gleadow et al.	fission-track dating and potassium-argon	1.87 or 1.89 million yrs. old	
1981	Ian McDougal	Argon-argon	1.88 million yrs. old	Published in <i>Nature</i> magazine
Today			1.9 million yrs. old	Leakey's skull now fits the traditional evolutionary view

The Dating Game

“The pigs won. In the ten-year controversy over the dating of one of the most important human fossils ever discovered, the pigs won. The pigs won over the elephants. The pigs won over K-Ar dating. The pigs won over Ar-Ar dating. The pigs won over fission-track dating. They won over paleomagnetism. The pigs took it all. But in reality, it wasn't the pigs that won. It was evolution that won. In the dating game, evolution always wins.” (Lubenow, p.266)

Apparent versus Actual Age





God did not make two babies in the Garden of Eden and give them seeds to plant. The creation was mature.

Apparent vs. Actual Age

- When God created the world, he created it with the **appearance** of **age**. For example:
 - The day after God made him, **Adam** probably looked **20** to **30** years old (when in reality he was one day old!)
 - When God made the first **trees**, they probably looked **50** to **100** years old, maybe older. They might have even had tree rings!
 - When God made the first **rocks**, they might have looked **millions** or perhaps **billions** of years old by today's "scientific" reckoning.

Apparent vs. Actual Age

- Some people have a problem with the idea of God creating things with an apparent age because they think that it would be deceptive for God to do this. There are two responses to this objection:
 - If God is going to make something that is fully functioning and mature **instantaneously**, it would **have** to have an apparent age.
 - It is not **deceptive** for God to do this, because He tells us what He did. If we fail to believe God, then we **deceive** ourselves!

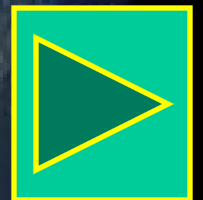
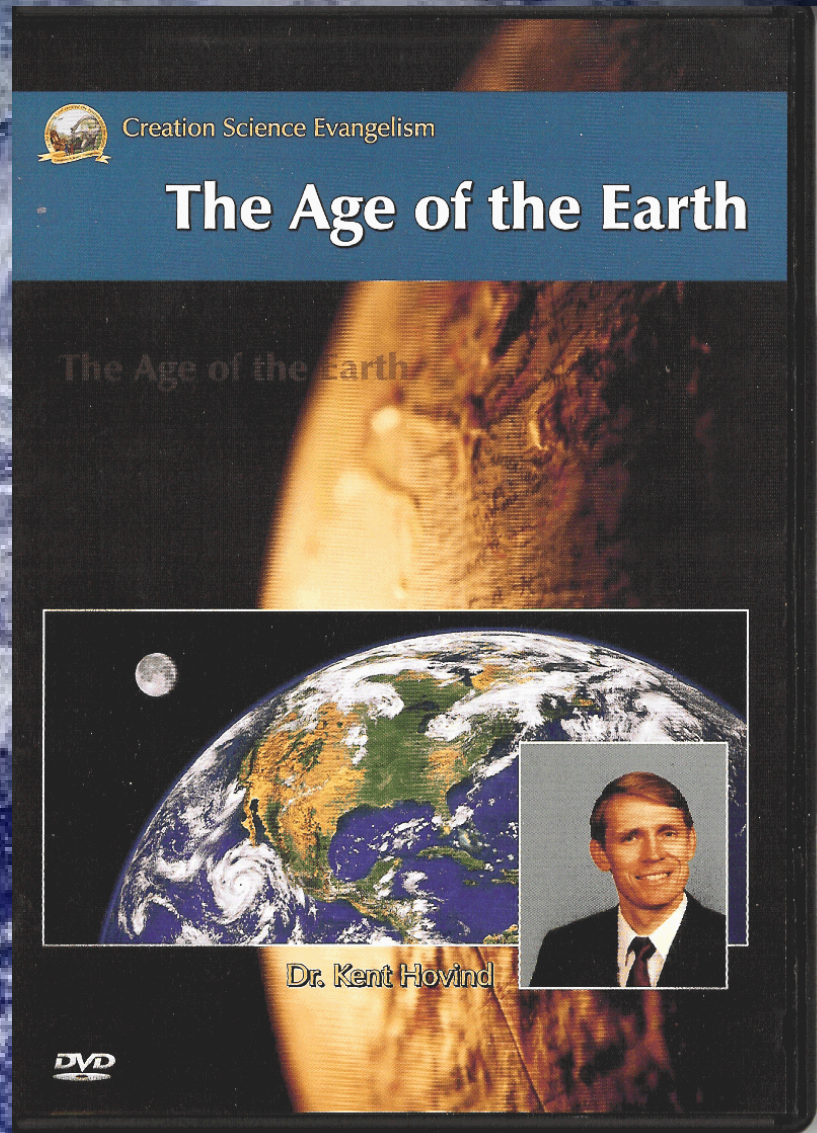
Scientific “Proofs” for a Young Earth



Scientific “Proofs” for a Young Earth

- There are a number of scientific “proofs” that the earth is much younger than secular scientists now claim.
- Secular scientists generally reject such proofs because they do not give the “correct” results.
- Of course, like any other dating method (including the radioactive methods) these proofs are only as good as their **assumptions**. And it is on this basis that such proofs are often challenged - sometimes rightfully so.
- It is interesting to note that prior to the advent of radioactive dating methods, such methods were often used to estimate the age of the earth.
- Morris and Parker (*What is Creation Science?* Master Books, 1982, pp. 288-293) list 68 such proofs which, if we assume everything on the earth has always operated as it does today, yield a maximum age for the earth of anywhere from 140 years to 500,000,000 years!

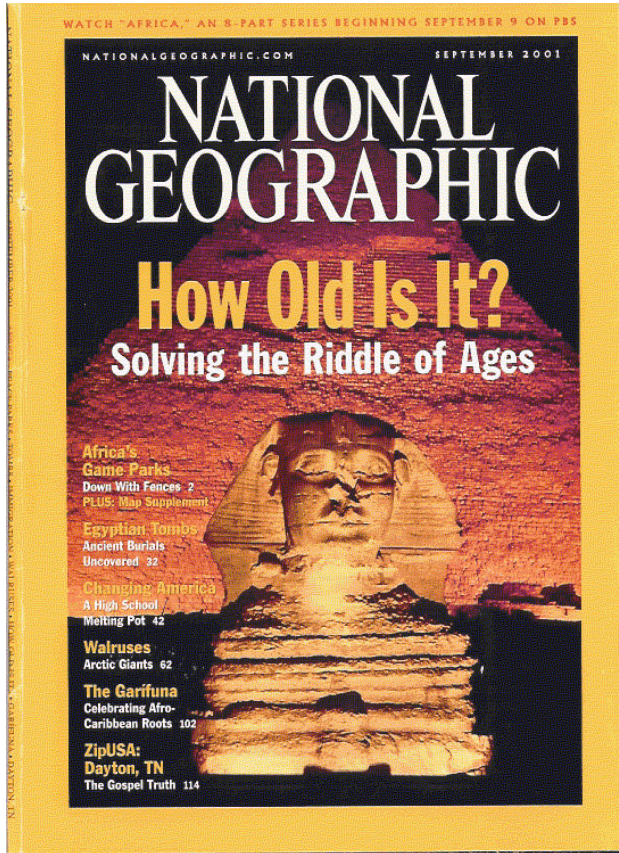
Scientific “Proofs” for a Young Earth



How Old is the Universe?



How Old is the Universe?



How Old Is ...
the Universe?

Answer **13 Billion Years**

National Geographic, September 2001, p. 85

How Old is the Universe?

- Those who believe in secular evolution generally believe that the universe is somewhere between 13 to 20 *billion* years old.
- The Bible teaches that the universe, like the earth is *thousands* of years old

**If the Universe is
only thousands of
years old, how can
we see stars that
are billions of light
years away?**

The “Problem”

- Distant galaxies are extremely far away
- Based on present understanding, it should take billions of years for light to travel from these galaxies to Earth
- We see these galaxies
- Therefore, we are told, the universe must be billions of years old

Solutions to **Avoid** (because they have BIG problems)

- **Claim:** “Those distances are not real”
- **Problem:** Operational science confirms the galaxies are indeed a great distance.
- **Problem:** The Milky Way galaxy (our own galaxy) alone is about 80,000 light-years across.

Solutions to **Avoid**

(because they have BIG problems)

- **Light in transit:** The light was created already on its way
- **Problem:** We would be seeing events that never happened (for example stars that blow up and form a supernova)

Two Possible Solutions Suggested by Creationists

- 1. Changes in the speed of light
over time**
- 2. Gravitational Time Dilation
(based on Einstein's Theory
of General Relativity)**

The background is a dark blue field filled with vibrant, diagonal streaks of light in shades of blue, purple, and magenta. These streaks create a sense of motion and depth. In the center-right area, there is a three-dimensional cube that appears to be made of a transparent, crystalline material, reflecting the surrounding light. The text is overlaid on this background.

**Has the Speed
of Light
Changed?**

Has the Speed of Light Changed?*

- Creationist author Barry Setterfield went back and looked at the various **measurements** taken **of the speed of light** as they have been **recorded historically** (the first measurement being made in 1675).
- Setterfield noticed that **earlier measurements** for the speed of light seemed to be **consistently higher** than later measurements.
- In fact, when he then **plotted** these measurements on a **graph** he noticed that the **speed** of light seems to have been **decreasing logarithmically** over time – which would suggest that the speed of light was much greater in the past than it is today.

*Much of the information in this section was gleaned from Douglas F. Kelly, *Creation and Change*, 1997, pp.144-148

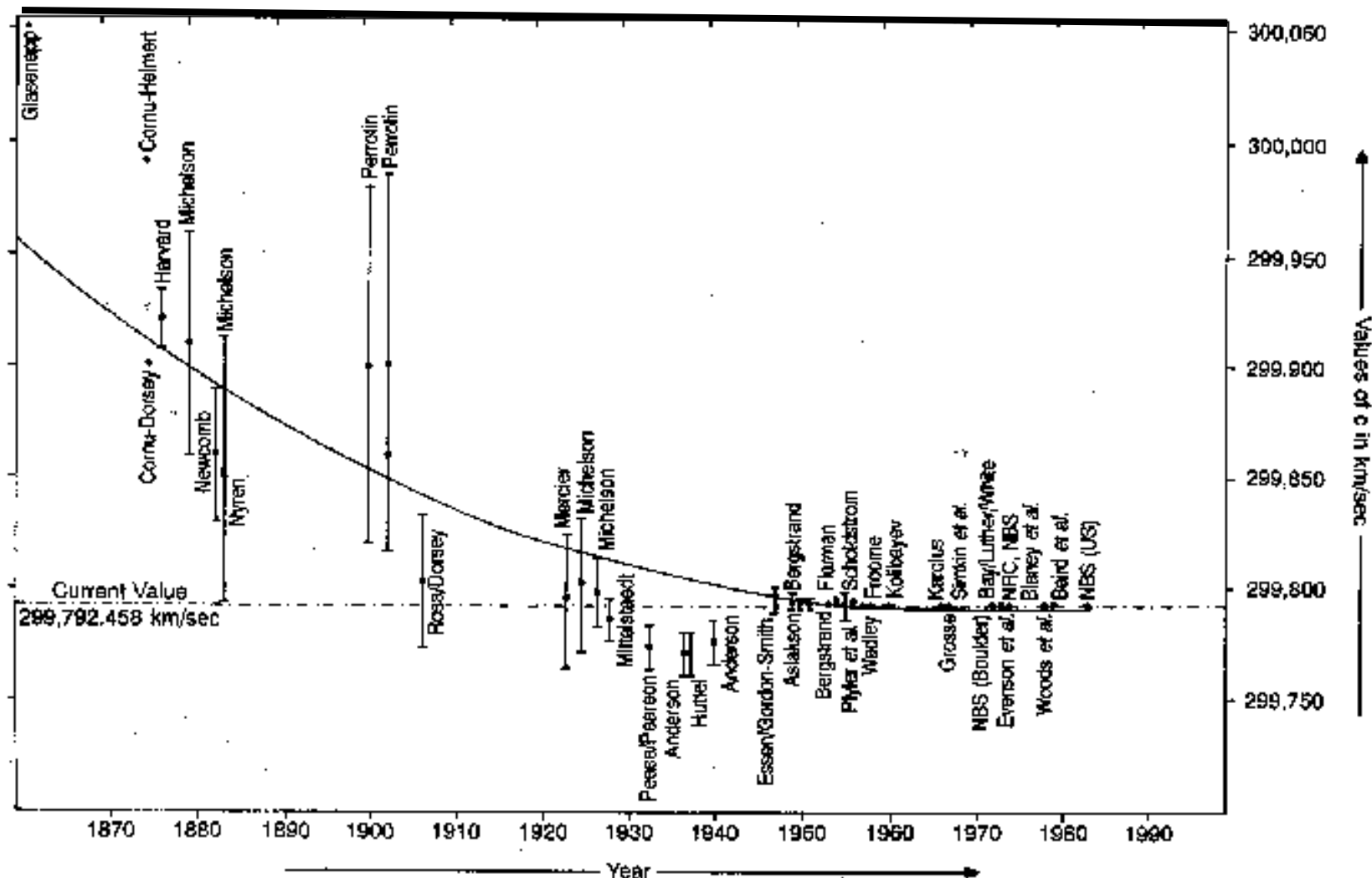


Figure 4. c decay 1880-1980. An enlargement of a portion of Figure 3.

Speed of light has decayed. *Creation Tech. Journal*, June, 2000

Has the Speed of Light Changed?

- Setterfield extended the curve formed by these historical measurements back in time and estimated that at the time of creation (around 4000 BC) the speed of light would have been 5×10^{11} faster than it is today – making it possible for light to have reached the earth from the distant stars in time for Adam (and us) to see them.

Has the Speed of Light Changed?

- When Setterfield and other creationists first presented the idea of the speed of light changing over time they were mocked by evolutionists for even **suggesting** the possibility (Creation ex nihilo, vol.22 no.1, December 1999 - February 2000, "'C' the difference", p.9)
- But in recent years, **because it** has been discovered that a constant speed of light in the past **creates problems for the big bang theory**, some evolutionary scientists are beginning to suggest that maybe the speed of light ***was*** much faster in the past than it is today!

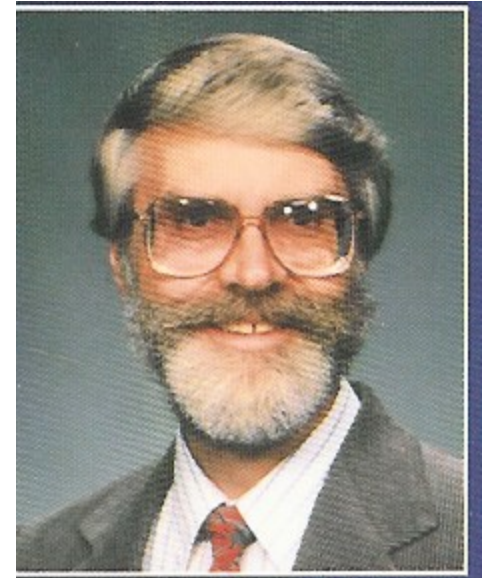
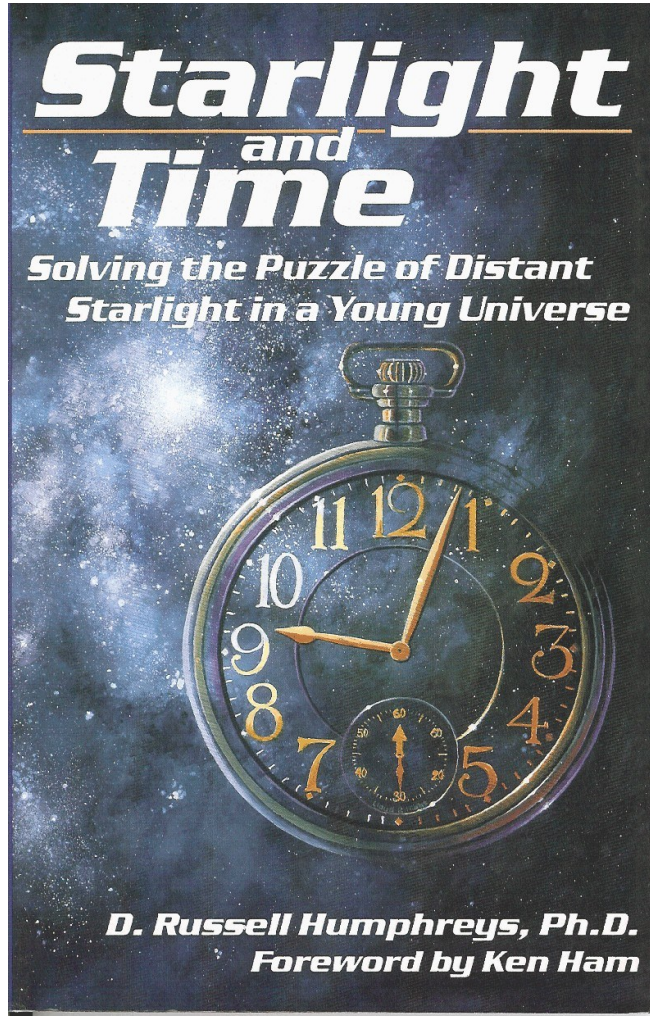
Has the Speed of Light Has Changed?

- *New Science Magazine*: Call it heresy, but all the big cosmological problems will simply melt away, if you break one rule . . . The rule that says the speed of light never varies (“Is nothing sacred?”, July 24, 1999, p. 28)
- *The Sunday Times – UK*: Einstein built his theory around the idea that *the speed of light in a vacuum is a constant* 670,615,000 mph (186,282 miles per second) and that nothing could go faster. New studies suggest, however, that *this did not apply in the infancy of the universe*, during and soon after the big bang, in which the universe exploded into existence 12 to 15 billion years ago (Jonathan Leake, “High-speed Light Casts Doubt on Einstein’s Laws”, December 24, 2000)

Has the Speed of Light Has Changed?

- *The New York Times*: “New observations from the world’s biggest telescope indicate that *one of nature’s supposedly immutable constants [the speed of light] has changed* over the 15 billion-year history of the universe” (The Associated Press, “Study: Light Speed May Have Changed”, The New York Times, August 15, 2001)

Dr. Russell Humphreys Model



According to Einstein's Theory of Relativity

Gravity Affects Time

- Einstein's Theory of General Relativity has shown that time can pass at **different rates** for different objects.
- One of the things that affects the rate at which time passes is **gravity**.
- According to Einstein, Clocks tick more slowly when they experience the strong gravitational force exerted by a massive object – the larger the gravitational force, the more slowly the clock within that gravitational force will tick.
- We also know, that the **closer** an object gets to the **center** of a large mass, the more gravitational pull it will experience from that mass.

According to Einstein's Theory of Relativity

Gravity Affects Time

So for example, the atomic clock at the Royal observatory in Greenwich, England, ticks five microseconds per year slower than an identical clock at the National Bureau of Standards in Boulder, Colorado, both clocks being accurate to about one microsecond per year. The difference is exactly what general relativity predicts for the one-mile difference in altitude (Figure 1).

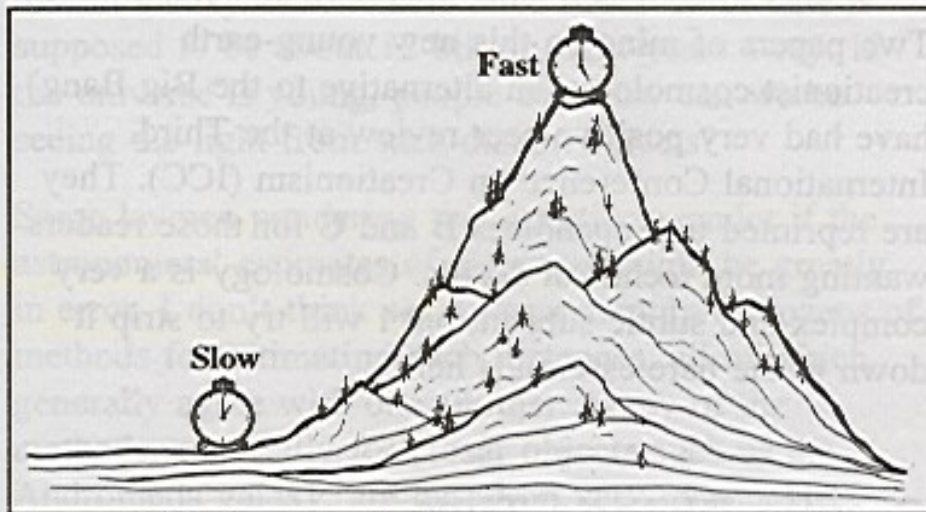


Figure 1 Gravity Affects time.

Starlight and Time: Solving the Puzzle of Distant Starlight in a Young Universe

- Dr. Russell Humphreys has proposed that:
 - God initially created all the materials in the universe in a (relatively) small area (he suggests an area two light years in diameter) with the earth being near the center of that area.
 - God then “stretched out the heavens”, as He created the galaxies and stars.

Starlight and Time: Solving the Puzzle of Distant Starlight in a Young Universe

- Isaiah 42:5 - *This is what God the LORD says-- he who created the heavens and stretched them out...*
- Isaiah 45:12 - *It is I who made the earth and created mankind upon it. My own hands stretched out the heavens; I marshaled their starry hosts.*
- (Cf. Job 9:8, Psalm 104:2, Isaiah 40:22, 42:5, 44:24, 45:12, 51:13, Jeremiah 10:12, 51:15, Zechariah 12:1)

Starlight and Time: Solving the Puzzle of Distant Starlight in a Young Universe

- Humphreys suggests that because of the tremendous gravitational force generated by having the mass of the universe initially concentrated in a relatively small area (and then later stretched out as He made the stars), **time** would have **passed more slowly on the earth** which was **near the center** of the created universe, **than** it passed **for the stars** which were **far away** from the center.
- Therefore, **the stars** and galaxies **could have aged billions of years during the time that the earth aged 24 hours** on the fourth day, giving time for the light from those stars to reach the earth where they could be seen by Adam.

Not just a problem for creation...

- Even if all the Young Earth Creation models turn out to be wrong, light travel-time cannot be used to support the big bang with it's billions of years because the big bang has a light travel-time problem of it's own!

The Horizon Problem

- The big bang theory requires that the different regions of the universe **started with very different temperatures.**
- **Today** they all have almost **the same temperature.**
- Yet there has **not** been **enough time** for these regions to exchange light in order to come to the same temperature.

Conclusions

- There are **several possible ways** in which starlight can travel large distances in a short amount of time.
- Therefore, the fact that the universe is large does not **prove** that it is billions of years old.
- The big bang has a light travel-time problem also.

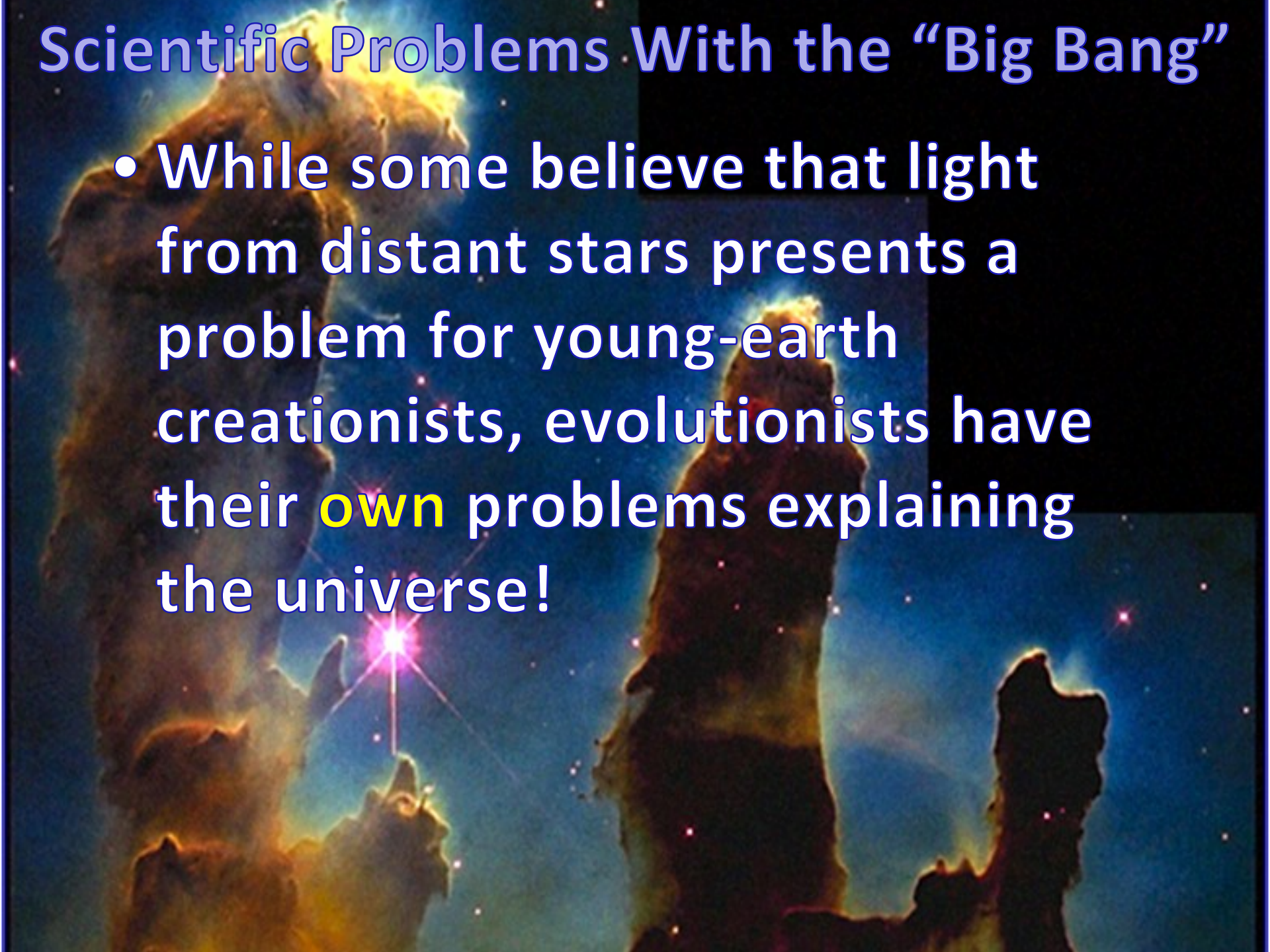
A cosmic background image featuring two prominent, jagged, pillar-like structures of interstellar dust and gas, known as the Pillars of Creation. These pillars are illuminated from within and by nearby stars, showing a mix of orange, yellow, and blue hues. The background is a deep blue space filled with numerous small, distant stars and a few brighter, more prominent stars with visible diffraction spikes.

Did the Universe “Evolve”?

Scientific Problems With the “Big Bang”

Scientific Problems With the “Big Bang”

- While some believe that light from distant stars presents a problem for young-earth creationists, evolutionists have their **own** problems explaining the universe!



Scientific Problems With the “Big Bang”

- The biggest problem that evolutionists have is explaining where the material for the universe came from. The First Law of Thermodynamics states that matter/energy can neither be created nor destroyed (through natural means). So if there was no supernatural creation, where did all the matter and energy in the universe come from ?
- And we know the universe has not always been here, because the Second Law of Thermodynamics states that the energy available for useful work always decreases over time. Therefore if the universe has always been here, it would have run out of usable energy by now.

Scientific Problems With the “Big Bang”

- Evolutionists also have their own problems with **light from distant stars**: For example, there are some faraway galaxies whose light has traveled great distances and therefore (supposedly) shows what those galaxies looked like millions of years ago, and yet look just as old as nearby galaxies (*Science News*, March 7, 1981, “Most Distant Galaxies: Surprisingly Mature”, p.148).
- Recently, distant galaxies have been observed by the Hubble Space Telescope whose age, based on calculations which assume the big bang occurred, **exceeds** the age of the universe! (*Nature*, June 13, 1996, “An Old Galaxy in a Young Universe”, pp.555-556)

Scientific Problems With the “Big Bang”

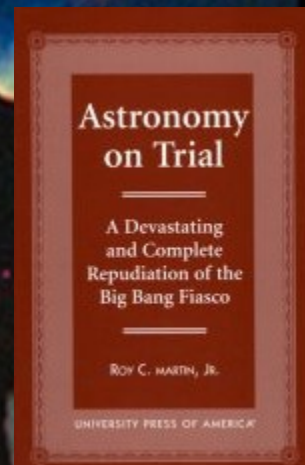
- In order to explain the things that we observe in our universe, Evolutionists who believe in the big bang often have to make **assumptions** for which there is **little or no evidence**:
 - Big bang cosmologists routinely assume that there is at least **ten times** as much matter in the universe as what we can see! (George Smoot and Keay Davidson, *Wrinkles in Time*, 1993, p.12)
 - Some big bang cosmologists are now beginning to assume that the **speed of light** was many **thousands of times faster** when the big bang occurred than it is today. (Jonathan Leake, “High-speed Light Casts Doubt on Einstein’s Laws”, *The Sunday Times* - UK, December 24, 2000, www.Sunday-times.co.uk)

Scientific Problems With the “Big Bang”

- Because there are so many **conflicts between** evolutionary **theories** and what we **actually see** as we observe the universe, evolutionists are often forced to **abandon** their theories of how the universe formed:
 - *Observations only recently made possible by improvements in astronomical instrumentation have put theoretical models of the Universe under intense pressure. The standard ideas of the 1980s about the shape and history of the universe have now been abandoned ... (Nature, June 25, 1998, “The End of the Old Model Universe”, p.741)*

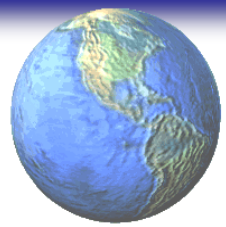
Scientific Problems With the “Big Bang”

- *“Astronomy, rather cosmology, is in trouble. It is, for the most part, beside itself. It has departed from the scientific method and its principles, and drifted into the bizarre; it has raised imaginative invention to an art form; and has shown a ready willingness to surrender or ignore fundamental laws, such as the second law of thermodynamics and the maximum speed of light, all for the apparent rationale of saving the status quo. Perhaps no ‘science’ is receiving more self-criticism, chest-beating, and self-doubt; none other seems so lost and misdirected; trapped in debilitating dogma.” (Roy C. Martin, Jr., Astronomy on Trial: A Devastating and Complete Repudiation of the Big Bang Fiasco, 1999, p. xv)*



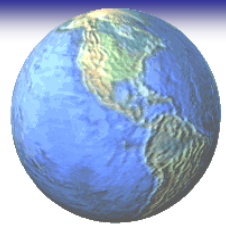


Problems With the Evolutionary View of Our Solar System



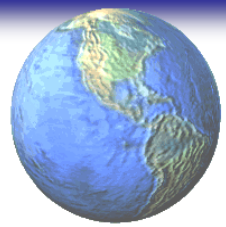
The Origin of the Moon?





The Origin of the Moon?

- The problems that arise in trying to explain the origin of the moon from an evolutionary perspective, caused one expert to joke, “The best explanation [for the Moon] was observational error - the Moon does not exist.” (Nature, September 25, 1997, “It’s not easy to make the Moon”, p.327)



The Origin of the Moon?

- But the moon ***does*** exist, and the best explanation for its existence is that God made it along with all the other heavenly bodies!

- ***Nehemiah 9:6 - You alone are the LORD. You made the heavens, even the highest heavens, and all their starry host, the earth and all that is on it, the seas and all that is in them. You give life to everything, and the multitudes of heaven worship you.***



Problems With the Evolutionary View of Our Solar System

Problems With the Evolutionary View of Our Solar System

- Many *undisputed observations* contradict current theories on how the solar system evolved.
 - One theory says planets formed when a star, passing near our Sun, tore matter from the sun.
 - More popular theories hold that the solar system formed from a cloud of swirling gas, dust, or larger particles.
- Either way, *if* the planets and moons in our solar system evolved from the *same material*, they should have *many similarities*.
- After several decades of planetary exploration, this expectation is now recognized as *false*.

Problems With the Evolutionary View of Our Solar System

- *“The solar system used to be a simple place . . . But 30 years of planetary exploration have replaced that simple picture with a far more complex image . . . One of the early hopes of planetary exploration was that learning why other planets differ from Earth would feed directly into our understanding of our home planet . . . I wish it were not so, but I’m somewhat skeptical we’re going to learn an awful lot about earth by looking at other planetary bodies. **The more that we look at different planets, the more each one seems to be unique**” (Science, September 2, 1994, “The Solar System’s New Diversity”, p.1360)*

Problems With the Evolutionary View of Our Solar System

Problems with evolutionary theories:

- **Backward-Spinning Planets** - All planets should spin in the same direction, but Venus, Uranus, and Pluto rotate backwards.
- **Backward Orbits** - All 72 moons in the solar system should orbit their planets in the same direction that the planets are rotating, but at least *eight have backward orbits*. Furthermore, Jupiter, Saturn, Uranus, and Neptune have moons orbiting in both directions!

Problems With the Evolutionary View of Our Solar System

Problems with evolutionary theories:

- **Tipped Orbits** - The orbit of each of these 72 moons should lie in the equatorial plane of the planet it orbits, but many, including the Earth's moon, are in highly inclined orbits.
- **Wrong Chemistry** - Because about 98% of the Sun is hydrogen or helium, Earth, Mars, Venus, and Mercury should have similar compositions. Instead much less than 1% of these planets is hydrogen or helium.

Problems With the Evolutionary View of Our Solar System

Problems with evolutionary theories:

- **Angular Momentum** - The Sun should have 700 times more angular momentum than all the planets combined. Instead, the planets have 50 times more angular momentum than the Sun.
- Information for this section is documented by Walter Brown, *In the Beginning - Compelling Evidence for Creation and the Flood*, Seventh Edition, 2001, p.21