

a response to scientific creationism

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"public schools within this state shall give balanced treatment to creation science and evolution science."

- arkansas legislature, 1981

key questions

- what's a creation scientist?
- why does creationism concern biology (and us)?
- what are the limitations of science?
- what arguments are used by the creationists?
- who's right?

creation science in a nutshell:

christianity

evolution

creation science



what are the beliefs of creationists?

- bible is the word of god
- world was created in 6 days
- all species created in their present form (special creation)
- the earth is young

"if the darwinian theory is true, **genesis is a lie**, the whole framework of the book of life falls to pieces, and the revelation of god to man, as we christians know it, is a delusion and a snare."

- unnamed contemporary of darwin, quoted by andrew dickson white, *the final effort of theology*, 1896

why should we care?

- personal values
- the main goal of creationism is to strike the teaching of evolution from schools
- creation science has been very successful

"although the creationists may be irrational, they are not to be dismissed as a lunatic fringe that can best be treated by being ignored."

- preson cloud, "scientific creationism" - a new inquisition brewing?, 1977

creation science is not common to all judaic religions

- major jewish organizations have accepted evolution as an aspect of creation
- the methodist, presbyterian, and episcopalian churches have denounced creation science
- the roman catholic church has established a positive stance concerning evolution.

"fresh knowledge leads to recognition of the theory of evolution as more than just a hypothesis."

- pope john paul, statement to the pontifical academy of science, 1996

"it seems absurd to doubt that a man may be an ardent theist and an evolutionist."

- charles darwin, personal diary

response to world war one

- questioning of our morals
- william jennings bryan
- darwinism = german militarism ???
- 5 states ban evolution in school

scopes challenges tennessee

- biology teacher ignores state's ban
- "monkey trial"
- found guilty (fined \$100)
- bryan flustered by prosecution
- conviction later overturned

the soviet contribution

- (1957) sputnik generates doubt
- national science foundation revises curriculum
- henry morris leads creationist revival

"god doesn't lie."

- henry morris, 1961

creationist organizations

- 1963 - creation research society (crs)
- 1970 - institute for creation research (icr)

"[the crs] attracted scientists willing to forsake the practice of their profession in certain areas, and accept instead explanations based on the word of authority alone."

- robert shapiro, *origins*, 1986

emergence of creation "science"

- (1970s) creationism lost legal battles due to separation of church and state
- next best alternative: equal time
- term masks religious beliefs as valid science

"whenever darwinism is presented in the public schools . . . the biblical story of creation should also be taught."

- ronald reagan, 1980

modern success of creationism

- creationists very successful in planned public debates
- (1981) arkansas passes law mandating "equal time"
- (1990s) "evidence against evolution" introduced in many curricula
- (1999) evolution no longer tested in kansas
- (past 5 years) alabama, arizona, idaho, kentucky, michigan, west virginia, nebraska, new mexico, oklahoma, and pennsylvania state school boards have challenged the teaching of evolution
- (2003) cobb county adopted a new "theory of origins" policy

about 40% of active science teachers believe that "there are sufficient problems with the theory of evolution to cast doubts upon its validity."

- eve and dunn, 1990

is evolution a fact?

- the scientific community has accepted evolution for over 100 years
- evolution is applied to all biological studies
- no contradictory evidence exists

"[evolution] is as much a scientific fact as the atomic constitution of matter or the revolution of the earth around the sun."

- douglas futuyma, *evolutionary biology*, 3rd ed., 1998

"just as we do not discard newtonian or einsteinian gravity because we do not have measurements of the mutual attractions between every particle in the universe, so the general evolutionary progression is clear, even though fossil remains are not found for every creature that ever lived . . ."

- preson cloud, "scientific creationism" - a new inquisition brewing?, 1977

"nothing in biology makes sense except in the light of evolution."

- theodosius dobzhansky

limitations of science

- incapable of proof
- only falsifiable hypotheses allowed
- does not comment upon what is good or bad

religion

- satisfies emotion & provides morals
- *mythos* – an account that asserts itself to be true without demonstration
- myth is not necessarily false
- most mythical claims cannot be disputed scientifically

religion as science



creationism as science

- usually, no theories proposed
- attacks the validity of science

common creationist fields of attack

1. ancient earth
2. evolution
3. origin of life

"ancient earth" attacks

- literal interpretation of the bible suggests a young earth
- attacks radiometric dating
- proposes noachian flood created fossils

"heaven and earth, centre and substance were made in the same instant of time and clouds full of water and man were created by the trinity on the 26th of october 4004 b.c., at 9:00 in the morning."

- archbishop james ussher, 1664

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someone should've taught this guy about significant digits!

non-radiometric evidence

- tree growth rings (8,000 years)
- stratified sedimentation (100,000 years)

radiometric evidence

- earth rocks 3.8 billion years old
- meteorites 4.6 billion years old
- many thousands of items have been dated

radiometric attacks

- half life values are incorrect
- decay rates vary
- contamination may alter the age

arguments for a young earth

- decay of earth's magnetic poles
- fossils caused by noachian flood

attacks on evolution as science

- evolution cannot be proved
- evolution produces no testable hypotheses
- disagreements of scientists show that the entire study is in disarray

attacks on evolutionary principles

- mutations are harmful
- complex adaptations can not evolve gradually
- violation of thermodynamics

attacks on evolutionary data

- the fossil record contains no transitional forms
- there are no links between apes and humans
- if evolution is gradual, no phenotypic gaps would exist

creationist explanations of evolution

- homology proves common design by the creator
- the orderliness of the universe proves god's participation

attacks against a scientific origin of life

- probability ("tornado in a junkyard")
- thermodynamics (again)
- "intelligent design"
- all hypotheses speculative

what accounts for the success of creationists?

- creationism makes few scientifically challengeable claims
- skilled debaters vs. obscure scientists
- ignorance of the general public

"if i had to chose i would prefer to be the descendant of a humble monkey rather than of a man who employs his knowledge and eloquence in **misrepresenting** those who are wearing out their lives in the search for truth."

- thomas henry huxley

"no science requires the force of **law** to fight for it. if creationism were really science, it would stand or fall on the merits of its theories and research."

- douglas futuyma, *science on trial*, 1982

conclusion

- creationism is not science.
- scientific creationists distort science.
- evolution is not religion.
- religious and science serve different but useful functions
- compatibility is possible if sought

the end

what do i believe?

- the bible was written in the language of a culture without science; therefore, one should not look for science within.
- science is the study of the relationships between our perceptions. it is entirely possible (and in my opinion, probable) that something exists beyond our perceptions.
- religious faith in fields that cannot be studied scientifically gives me a sense of purpose which i need to be happy.