Teaching Science Amidst Controversy
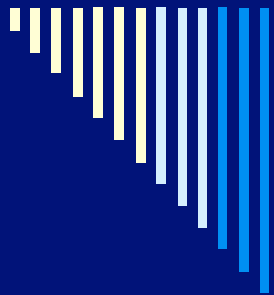
Robert C. Newman
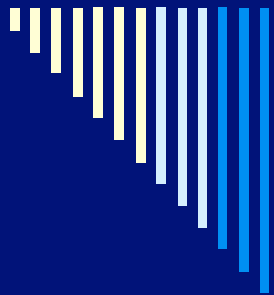
The Controversy

- ☐ There are a number of areas of controversy in science teaching today.
- ☐ Our concern here is the Creation-Evolution dispute.
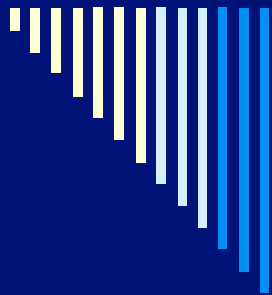
The Controversy

☐ Teachers are typically caught in the middle:

- If they teach evolution, they get flack from evangelical parents.

- If they teach creation, they get flack from some other parents.

- If they teach neither or both, they also get complaints.

☐ What is a teacher to do?
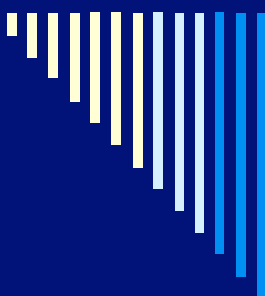
What is Science?

- ☐ Two distinct definitions:
  - ■ Explanation without invoking the supernatural
  - ■ Explanation of how things really are
- ☐ Confusion arises when people:
  - ■ Switch back and forth between these
  - ■ Assume the two definitions are equivalent
- ☐ Part of the debate over whether creation or evolution is scientific comes in here.
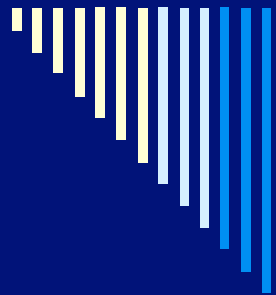
What is Science?

☐ We suggest that the teacher needs to clarify this ambiguity.

☐ Treating the two definitions as equivalent is (in fact) to preach a philosophical or religious view:

■ "The cosmos is all that is, or ever was, or ever will be" – Carl Sagan, *Cosmos*
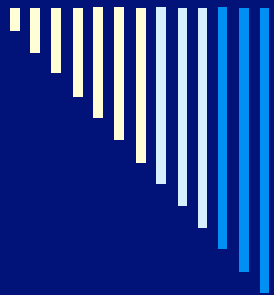
What is Religion?

- ☐ Also various definitions. Consider these:
  - ■ (1) Beliefs regarding ultimate reality.
  - ■ (2) Worship of a supreme being.
- ☐ According to definition (1), religion is already being taught in those classrooms where the worldview "evolutionism" is promoted.
- ☐ According to definition (2), this is not what creationists are asking for in science classes.
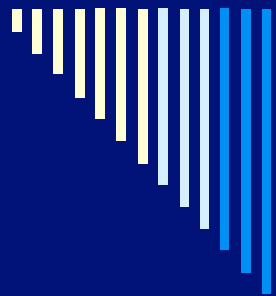
Can We Teach Science in a Publicly-Funded Setting?

☐ Public funding does not remove one's responsibility to teach truth.

☐ But it does raise questions re/ fairness in a pluralistic society.

- Taxpayers are rightly incensed if they feel they are paying the salaries of people who are attacking their worldviews.

☐ Obviously parents can send their children to private schools (& many are).
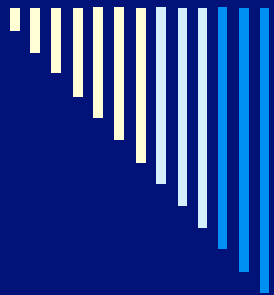
Can We Teach Science in a Publicly-Funded Setting?

□ This still does not alleviate the problem that they are helping finance public education.

□ This raises the question whether the 1st amendment re/ established religion is consistent with public schooling.

□ Perhaps we need to adopt a voucher system as most other western democracies have done.
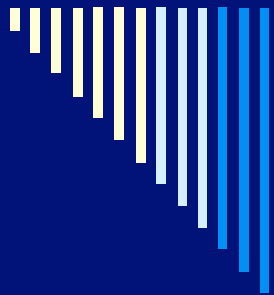
Recognizing the Limits of Science

- Science is empirically based, and operates with a limited data base.
- It does best with mathematical and mechanical models.
- It has problems handling the operation of the intellect.
- So if an intellect was involved in the origin & operation of the universe, we may be missing something.
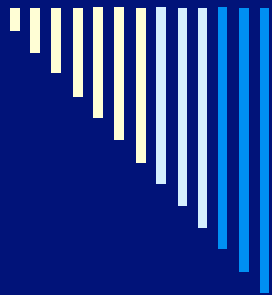
Recognizing the Limits of Science

☐ It would be helpful if students could be shown where science has been mistaken in the past.

☐ For balance, Christians need to recognize where the Bible has been misinterpreted in the past, also.

Distinguishing Known from Unknown, Fact from Theory
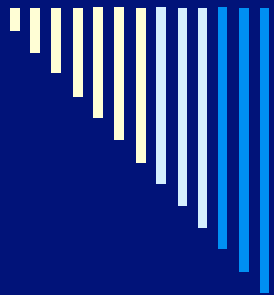
- Science teaching in elementary school, high school, often even college, does not clearly distinguish data from theory.
    - Daily life of Piltdown man
- Creationists have often been sloppy here as well.
    - Speculation re/ tidal waves during Flood

Some Suggestions
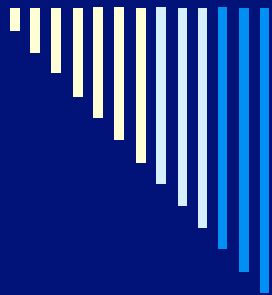
These are drawn from the ASA booklet, *Teaching Science in a Climate of Controversy*.

□ Discussing Open Questions re/ Origins

□ Handling the Controversy in the Classroom
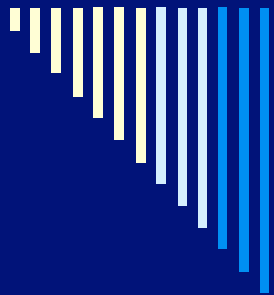
Discussing Open Questions

- □ (1) Did the universe have a beginning?
- □ (2) Did life arise by chance?
- □ (3) Where did the first animals come from?
- □ (4) Do we humans share ancestry with the apes?

Handling Controversy

☐ (1) Don't avoid the subject; use it as an opportunity to discuss science on a topic in which most students are naturally interested.

☐ (2) Try to keep the discussion within boundaries.

☐ (3) Show respect for opposing views.
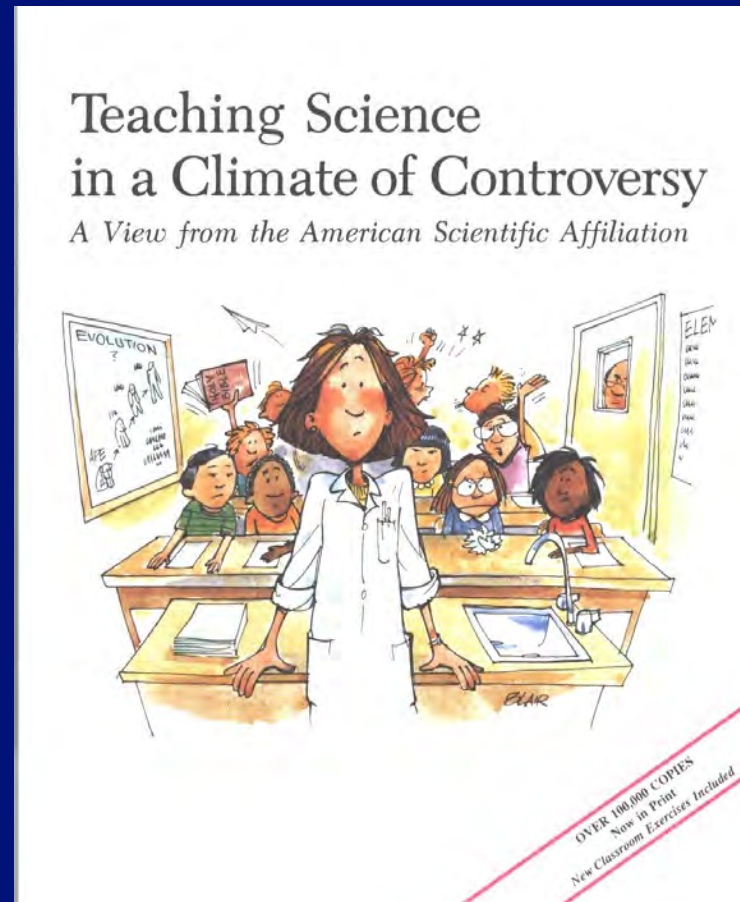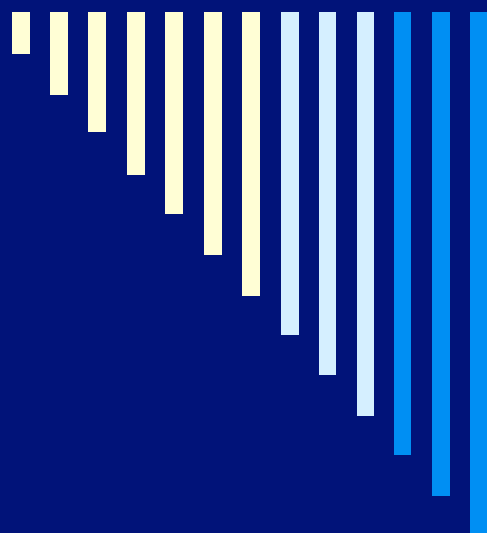
Handling Controversy

☐ (4) Consider the whole spectrum of opinion.

☐ (5) Seek common ground.

☐ (6) Watch your language.

☐ (7) Keep asking questions.

For Further Reading

Available from the
American Scientific
Affiliation; see their
website at
www.asa3.org

Teaching Science
in a Climate of Controversy
A View from the American Scientific Affiliation

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The End…

… but not of the controversy, not for a long time!