

## A Call for Integrity in Science Education

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During the last week in August the New Mexico State Department of Education (SDE) will submit the 2003 Revised Science Education Standards to the State Board of Education with a recommendation for adoption, thus concluding a yearlong revision process by educators, scientists, and the SDE.

The SDE is to be commended for its work. These are good Standards. The principles and methods of scientific inquiry are carefully stated and faithfully reflected in benchmark and performance standards that set a high mark for student knowledge in all areas of scientific inquiry...except one...biological evolution.

Language in the 2003 Revised Science Standards in the area of biological evolution compromises the integrity of science. This is evident through the insistence by the SDE that macroevolution, in violation of the most basic principles of scientific inquiry, be presented as *fact*. The benchmark and performance standards have been written to conform to this assertion. The result...given the nature of the evidence that bears on macroevolutionary theory...is mangled reasoning that makes a mockery of critical thinking.

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The basis of scientific inquiry is evidence derived from observations made in the natural world and from experiments designed to test hypotheses proposed to explain those observations. It is through this process of observation and experiment that science establishes certainty in its findings.

In the area of biological evolution, the most significant finding from over 140 years of scientific research is that macroevolution has never been observed...not in nature and not in the laboratory. That does not mean that it did not happen or is not happening. It just has never been observed. Yet in the 2003 Revised Standards macroevolution is presented in benchmark and performance standards as *fact*.

These Standards muddle the distinction between the historical and experimental sciences and fail to point out the difficulties scientists face when attempting to form conclusions about hypothesized events and processes of the remote past. They lead students to believe that reliable conclusions can be reached on the basis of circumstantial evidence alone without evidence derived from observation and experiment. They imply that the macroevolutionary theory can explain all aspects of biology but fail to mention the widespread acknowledgement in science that there is no known or even remotely conceivable mechanism for generating the machinery and highly regulated processes of living cells.

These Standards require that students be taught that molecular and fossil evidence supports the macroevolutionary theory while the mainstream scientific literature openly discusses deep and pervasive problems with both. They disgracefully misrepresent directly observable well-known contradictory physical evidence such as the abrupt appearance of the phyla in the Cambrian strata of the fossil record and the general lack of transitions between major groupings.

They fail to mention that macroevolutionary claims are enormously detached from any observed variation in nature or in the laboratory and ignore the inability of science to account for the entire history of life based on extrapolation of micro-evolutionary processes. They draw conclusions about what *is* observed on the basis of that which *is not* observed.

While macroevolution is presented dogmatically in the Standards, we find that the other historical sciences, the earth and space sciences, are treated objectively, preserve scientific integrity, and are a model for how the historical sciences should be presented in the Standards. It appears that special rules are imposed when it comes to the teaching of macroevolution.

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Of all areas of scientific inquiry it is the study of biological origins where science touches most directly on religious matters. Regardless of the theory that is advanced by public education to explain biological origins, it will have religious and philosophical implications. But science as a discipline (as opposed to science as an institution) cares nothing for ideological beliefs...religious or otherwise. The challenge in public education is to preserve the integrity of science in an atmosphere of intense religious, philosophical, and political controversy. Those on each side of this controversy, regardless of their philosophical differences, should agree on what constitutes integrity in science and commit to preserving that integrity in our Science Standards.

But this is not happening. And the reason it is not happening is related to the fact that the importance of macroevolutionary theory goes far beyond the role it plays in science as an explanation for the history and diversity of life. Far more important is the foundation it provides to the philosophy of naturalism and its central dogma, *natural causation*.

The *intellectual* standing of naturalism as a philosophy rests squarely on the *scientific* standing of macroevolution as a theory of biological origins. If the scientific standing of macroevolution is portrayed in public education as anything other than *fact*, then the central dogma of naturalism comes into question, and along with it, naturalism itself.

So, in states where naturalism dominates science education, which appears to be the case in New Mexico, any evidence or theory that challenges the status of macroevolution as scientific *fact*, will be systematically excluded from science curriculum. The dogmatic "evolution-only" language of the 2003 Revised Science Standards testifies to this covert policy, betrays an underlying naturalistic ideology, and sacrifices the integrity of science to promote that ideology.

To seek out and to discover natural causes is the work of science. To say that there are no causes other than natural causes is a dogma of naturalism. Those who are involved in this debate should be careful to make this distinction.

The scientific and educational establishments can believe anything they want to believe. But in America, under Constitutional law, neither science nor public education can use the classroom to impose their beliefs on schoolchildren.

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To present macroevolution as *fact*; to exclude contradictory evidence; to teach students that they can draw reliable scientific conclusions based on circumstantial evidence; and to deliberately misrepresent fossil and molecular evidence, all for the purpose of promoting macroevolution as *fact*, compromises the integrity of science and makes a mockery of critical thinking. To do so for the purpose of protecting and promoting a naturalistic ideology, violates the Constitutional requirement for religious and philosophical neutrality in public education and betrays the special trust that parents place in public education that the classroom will not be used for indoctrination of schoolchildren into any kind of religious or philosophical belief.

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What matters to science education in New Mexico is protecting the integrity of science, respecting the First Amendment requirement for religious and philosophical neutrality, and honoring the special trust that parents place in public education concerning their children and personal beliefs. These are the things with which the State Board of Education should be concerned when they decide on the contested language in the 2003 Revised Science Standards during the last week in August.

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IDnet-NM has submitted a proposal for alternative language. That proposal may be seen at the IDnet-NM web site at [www.nmidnet.org](http://www.nmidnet.org). Click on [[Proposed Language](#)].