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### An ever Evolving Debate

Kansas along with approximately 10 other states are presently debating how to teach the subject of human origins and the development of life. In particular the issue revolves around how to teach the theory of evolution that was originally proposed by Charles Darwin in 1858.

The citizens of these states are hearing conflicting views about what Should and should not be taught to high school students regarding the subject of evolution. There appears to be nearly unanimous agreement that students should learn about evolutionary theory; what appears to be in jeopardy is the ability for students to critically examine evolution and discuss within the biology classroom, what it can presently explain and what it can not.

The state of Ohio recently went through this same issue- discussing and debating this subject for over two years. Throughout this process the board received tens of thousands of letters from concerned citizens, and scientific scholars, many whom encouraged the board to teach evolution but to teach it more honestly and openly using a "teach the controversy" approach.

In the end the nineteen member Ohio Board of Education unanimously agreed that 10th grade science students should be required to learn in depth the theory of evolution, but also be required to critically analyze it. Board Member Jim Turner, a distinguished member of the business community, appointed by Governor Bob Taft, called the new standards the "most pro-evolution standards in the country".

As a result of testimony from many highly qualified scientific scholars, including Chris Williams, Ph.D, a research biochemist/geneticist and state university biology professors Dan Ely, Ph.D., and Glenn Needham Ph.D., among others, the board voted unanimously to also require that 10th grade science students "Describe how scientists continue to investigate and critically analyze aspects of evolutionary theory , [while noting] the intent of this indicator does not mandate the testing or teaching of intelligent design".

This led to development of a state endorsed critical analysis of evolution model lesson plan (approved March, 2004) which had scientific citations on both sides of the evolution

debate. For example the lesson asks students to research and debate the scientific evidence on whether small scale micro-evolutionary changes, such as mutations of fruit flies can be used as evidence for macro-evolutionary changes, such as molecules to man evolution .

So you see that what is now being proposed in Kansas, and other states is not so radical. Indeed it is in line with how evolution is being taught in other states, such as Ohio, which did not cave in to the evolutionary dogmatist. Indeed the efforts of many in the self designated elite scientific community have been to preach chemical and biological evolution as the total explanation for everything. This is one of the central issues in this controversy.

These same dogmatists will likely use their scare tactics in Kansas, and elsewhere just as they did in Ohio. They will try and tell you that challenging any aspect of evolution will lead to turning the science classroom into a bible study on Genesis. They will contend that it will make states appear backward, and companies will flee, along with much needed investments in science and technology.

Rest assured that virtually none of this has happened in Ohio.

What has happened is the teaching of evolution has been expanded. Students are learning more about evolution than ever before, and they are learning that as in most areas of science, there are more questions than answers. As one Ohio newspaper stated " We should teach the best of what we do know- which in this case is clearly evolution- but also teach students to keep questioning and wondering" (*The Cincinnati Enquirer, Again teach the best science*, March 4, 2004).

The real damage to good science education occurs when we silence criticism and open inquiry, on the basis of name calling and so called "majority rule". Ohioans had the ability to see through the scare tactics of the evolutionary dogmatists.

Other states would do well to add a critical analysis of evolution lesson plan - for the sake of good science, and good education.