

EXHIBIT "A"

AFFIDAVIT OF SARAH L. PALLAS, Ph.D.

AFFIDAVIT OF DR. SARAH L. PALLAS, Ph.D.

BEFORE ME the undersigned authorized to administer oaths, appeared Dr. Sarah L. Pallas, Ph.D. who, after first being duly sworn, deposes and states as follows:

1.

My name is Dr. Sarah L. Pallas, Ph.D. I am over the age of 18 years and otherwise competent to give this affidavit.

2.

I am an Associate Professor in the Biology Department at Georgia State University. I teach several undergraduate and graduate classes in Biology which incorporate evolution as a theme. My area of research is brain development and evolution.

3.

I received my B.S. in Biology, summa cum laude, from the University of Minnesota in 1977. My M.S. in Zoology was granted by Iowa State University in 1980. In 1981 I completed the Neural Sciences and Behavior summer course at the Marine Biological Lab in Woods Hole, Massachusetts. I obtained my Ph.D. in Neurobiology and Behavior at Cornell University in 1987. I received postdoctoral training in Brain and Cognitive Sciences at the Massachusetts Institute of Technology from 1987 until 1992, at which point I took my first faculty position as an Assistant Professor of Neuroscience and Developmental Biology at Baylor College of Medicine in Houston, Texas. In 1997 I began my appointment as an Associate Professor of Biology at Georgia State University as a member of the Graduate Program in Neurobiology and Behavior .

4.

I have taught Biology and Biology-related courses for 23 years.

5.

Attached is my curriculum vitae.

6.

I have published 30 peer-reviewed journal articles in 15 different journals including AAAS' Science, Nature London, and Proceedings of the National Academy of Sciences USA, and have presented over 50 papers on neuroscience at scientific conferences. I have been awarded 13 research grants over my 11 years of employment as a faculty member, from federal agencies and private foundations, for a total of \$1,573,724.00.

7.

I have studied the methods and arguments of creationism, "creation science" and more recently "Intelligent Design" over the last 24 years. I have spoken on Evolution and "Intelligent Design" in the classroom, to groups of laypeople, and to the National Center for Science Education's activist meeting. I have written an Op-Ed on Evolution and "Intelligent Design" for the Atlanta Journal- Constitution. I have been interviewed about Evolution and "Intelligent Design" by the Atlanta Journal- Constitution, the Marietta Daily Journal, Creative Loafing, and AAAS Science magazine.

8.

In science class and in the practice of science, science is defined as a way of knowing about the natural world and the universe that is uniquely objective and distinctly different from other ways of knowing such as faith or philosophy. Scientific knowledge is not gained through opinion polls, politics or assessment of community standards. Although the Intelligent Design movement has expressed a strong desire to redefine science so that it does not rely solely on observable, material phenomena but incorporates immaterial, supernatural explanations.. Phillip

Johnson, an attorney who is one of Intelligent Design's principal proponents wrote, "If we understand our own times, we will know that we should affirm the reality of God by challenging the domination of materialism and naturalism in the world of the mind. With the assistance of many friends I have developed a strategy for doing this....We call our strategy the 'wedge.'" Defeating Darwinism by Opening Minds, Pages 91, 92, 1997. Such a change would actually take us back to the days of alchemy and spontaneous generation.

Science relies by definition on natural causes; it has no tools for measuring supernatural explanations of our world. Supernaturally-based ideas are argued by philosophers and theologians, using different intellectual tools. Science must remain silent on the supernatural; it has nothing to say in either positive or negative terms about God, angels or devils, because religious faith is not subject to empirical testing. Such intelligent agents may indeed exist, and a majority of Americans have faith that they do, but there can be no scientific evidence one way or the other. Science works through testing and observation. Religious faith is belief in the absence of observation or tests. The idea common to many Cobb citizens that a supernatural, intelligent being created dogs and cats and humans in their present form requires faith, simply because there is no, and cannot be any, scientific proof of the supernatural.

9.

In science class and in science practice, the scientific method consists of five generally recognized steps: 1) observations are made, 2) a question arises from the observations, 3) a hypothesis (tentative explanation which can be tested) is formulated, 4) a prediction, often in the form of an "if...then" statement, is made, and 5) the hypothesis is tested by making further observations or conducting experiments. After this process, a determination is made about whether the test results support or refute the hypothesis, and the process is repeated on a

modified, more detailed, or completely different hypothesis. The methods of disseminating scientific knowledge and theories to the public involve "peer review". Anonymous scientific experts are requested to assess each paper submitted to a scientific journal for publication. The experts review the logic, experimental design, methods, data, and conclusions in a critical fashion. Only papers that meet the approval of at least two reviewers are published. There are no peer-reviewed scientific papers published to support ID or creation science. Some ID proponents claim that there is a conspiracy to suppress their ideas. That claim is without merit. ID proponents such as William Dembski have stated that they have no intention of submitting their work for peer evaluation. Further, though anyone can present a paper at most scientific meetings without prior judgement of its quality, ID proponents have not done so. Michael Behe has stated with some vagueness that he does not think a scientific meeting is an appropriate forum. He is right, because his work is not science. Although he has published his biochemistry research in scientific journals, his articles about ID are published in theology and philosophy journals, where they properly belong. We do not teach theology and philosophy as science in science class.

10.

For purposes of scientific education and practicing scientists, "theory" means a thoroughly tested and well-substantiated scientific explanation that can be used to make predictions and hypotheses, and that can incorporate other observations, laws, and hypotheses. Scientific theories, unlike hunches about future stock performance or race results, must have 3 essential characteristics. They must be testable (the existence of, for example, ghosts or demons is not testable), based on natural and not supernatural phenomena (because we cannot test supernatural phenomena), and capable of being falsified if it is indeed false (theories gain support by consistent failure to disprove them as well as by collecting evidence which supports them). In

McLean vs. Arkansas Board of Education in 1982, creation science was determined to be a non-scientific, faith-based approach because it refuses to change its conclusions regardless of contrary evidence. The same is true of "Intelligent Design". The foregone conclusion and answer to questions is that God did it. The goal of IDers is to argue using political rather than scientific methods that this is true, and not to try to prove it false.

11.

I am familiar with the disclaimer placed in those Cobb County School science textbooks that contain information on evolution, including the new Biology textbooks.

12.

I am aware that no other theory is disclaimed in these texts.

13.

The supporting scientific evidence for evolutionary theory is on a par with that for other scientific theories such as the theory of gravity, the germ theory of disease, cell theory, Newtonian physics, Galilean heliocentrism, plate tectonics, and atomic theory. There is no scientific evidence that evolution does not occur, and there is a tremendous amount of active research into the details of how it occurs and how it can be applied for the human good. As a parallel example, there is no evidence that the earth is flat, yet there are interest groups that claim it is and want flat earth ideas taught in science class. We would not consider teaching that the earth is round and also the alternative yet baseless idea that the earth is flat just to be "fair" or "complete" or "unbiased". There is no valid supporting evidence for Intelligent Design.

14.

Apparently, the Cobb County School Board wants its students to think critically only about evolutionary theory and not about any other theories presented in their textbooks.

15.

Based on the disclaimer text, the logical inference is that the Cobb County School Board wants its students to approach only evolutionary theory with an open mind, and not question any of the other theories.

16.

The Cobb County School Board does not disclaim any other theories as 'only theories'. The statement "evolution is only a theory" is itself invalid, since evolution itself is not a theory but something known to occur, a theory is the strongest explanation available to scientists, and evolutionary theory, which is the explanation of how evolution works, is one of the best supported theories in all of science. The wording of the disclaimer reveals that the motivation behind the disclaimers is non-scientific. The only other credible motivation is a religious one, especially since the groups backing the stickers are known to object to the teaching of evolution.

17.

It is generally accepted by biologists that the processes leading to microevolution (meaning a change in gene frequency over time within a species) can also lead to macroevolution (change over time that has led to the formation of a new species). The very active field of "evo-devo" is increasingly showing how small genetic alterations in body patterning genes or their regulation can lead to profound changes in phenotype that could result in speciation.

18.

There is no scientific dispute over whether evolution exists. Even Young Earth Creationists now acknowledge that evolution occurs and is observable.

19.

There is no scientific dispute over whether evolution is a fact. Evolution as a process is

considered a fact because changes in gene frequency in a population over time are easily observed in rapidly reproducing animals and have been observed even in some more slowly reproducing animals. Speciation (macroevolution) has been observed in a few species even though speciation as a rule can take millions of years.

20.

No credible scientist in any biological research field disputes that evolution is a fact.

21.

The argument contained in the disclaimer that evolution is only a theory and not a fact comes directly from similar disclaimers promoted and rejected in other states, and comes solely from Intelligent Design/Creationism proponents and not from scientific knowledge.

22.

The argument that microevolution occurred/occurs but that macroevolution requires supernatural intervention comes solely from Intelligent Design/Creationism, not from scientific knowledge.

23.

Intelligent Design/Creationism is not science because its theories are not testable or falsifiable and rely on immaterial, supernatural causes.

24.

Intelligent Design/Creationism is a religion doctrine. Any cursory investigation of the history of the movements will instantly reveal this. The Discovery Institute, which has bankrolled the state-by-state attacks on science education including the one in Cobb, changed their logo in 1999 so that it would appear non-religious, but President Bruce Chapman stated: Bruce Chapman (goals of the Discovery Institute's CRSC) To defeat scientific materialism and its destructive

moral, cultural and political legacies. To replace materialistic explanations with the theistic understanding that nature and human beings are created by God. Date: Oct. 1999 Source: Discovery Institute web page, CRSC The ID movement's "Wedge Strategy" to drive a wedge in the wall of church-state separation was developed by Philip Johnson. Quotes from his speeches are revealing: Phillip Johnson This isn't really, and never has been a debate about science. Its about religion and philosophy. Date: November 30, 1996 Source: World Magazine Phillip Johnson Our strategy has been to change the subject a bit so that we can get the issue of intelligent design, which really means the reality of God, before the academic world and into the schools. Date: January 10, 2003 Source: American Family Radio Phillip Johnson "The objective [of the Wedge Strategy] is to convince people that Darwinism is inherently atheistic, thus shifting the debate from creationism vs. evolution to the existence of God vs. the non-existence of God. From there people are introduced to 'the truth' of the Bible and then 'the question of sin' and finally 'introduced to Jesus.'" Date: April, 1999 Source: "Missionary Man", Church & State Magazine

25.

Intelligent Design/Creationism is a religion doctrine because it depends on faith in a supernatural Creator. Evolution is science, not a religious doctrine, because it depends only on the methods of science. Only scientific theories, and not religious explanations, can legally be promoted in science class under the Establishment clause.

FURTHER AFFIANT SAYETH NOT


DR. SARAH L. PALLAS, Ph.D.

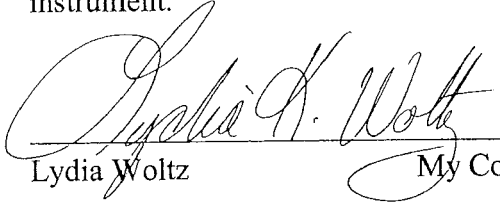
Sworn to and subscribed
before me this 12th day of
August, 2003.

Sandra H. Wolff
NOTARY PUBLIC

Notary Public, Fulton County, Georgia
My Commission Expires

3-6-07

On August 12, 2003 Sarah L. Pallas personally appeared before me, whom I know to be the person(s) who signed the attached document while under oath, and is the person(s) whose name is subscribed to the above instrument and he or she proved he or she signed the instrument.

 3-6-07
Lydia Woltz My Commission Expires

