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Morning Class

Constitutional Controversies:

Intelligent Design: Not the Intelligent Choice for Science Classrooms

In the small town of Dover, Pennsylvania, school board members Alan Bonsell and Bill Buckingham were feeling discontented with their schools’ science curriculum. Specifically, they took issue with the theory of evolution being presented to high school students. Both Bonsell and Buckingham are Young Earth Creationists, meaning they are Christians who interpret Genesis literally and thus believe that the Earth is less than 10,000 years old. They see Darwin’s Theory of Evolution to be counter to their faith, and in 2004, they decided to do something about it. As the 1987 Supreme Court case Edwards v. Aguillard ruled that Creationism cannot be taught in schools because it advances a particular religion, Bonsell and Buckingham decided to present another belief that might be legal to teach in schools.

That “other belief” took the form of a one-minute statement that the Dover school board required all science teachers to read to their students. This statement presented evolution as much less scientifically solid than it actually is, and suggested a theory called Intelligent Design as an alternative that the students should explore. Intelligent Design posits that life is too complex to have evolved through natural means, and thus life is at least partially, if not entirely, the result of an intelligent designer, a creator. Finally, the statement also directed the students to an Intelligent Design textbook, *Of Pandas and People,* provided by an anonymous donor (*NOVA: Judgment Day*).

The backlash against this move was fast. Teachers refused to tell their students that “The Theory [of Evolution] is not a fact. Gaps in the Theory exist for which there is no evidence...Intelligent design is an explanation of the origin of life that differs from Darwin’s view...” (Kitzmiller v. Dover Area School District). A coalition of parents sued the school board. Things got particularly nasty as the townspeople all chose sides. The resulting case, Kitzmiller v Dover Area School District, went to the District Court and was heard by Judge John E. Jones III. The plaintiffs had to prove that Bonsell and Buckingham were intending to inject their creationist beliefs into a secular classroom under the name of Intelligent Design, and the defendants had to show that Intelligent Design is a valid scientific theory independent of Creationism or any other religious philosophy.

While the majority of the arguments brought before Judge Jones focused on the scientific merit of the two viewpoints (*NOVA: Judgment Day*), there is much to consider in this case from a legal perspective. As Creationism comes from a religion and the prosecution considers Intelligent Design to be a similar belief, this case serves to address a grey area surrounding the issue of the separation of church and state. Is or isn’t Intelligent Design a religious belief? Should or shouldn’t it be considered science? The First Amendment’s Establishment Clause, “Congress shall make no law respecting an establishment of religion,” as it has been defined by the courts, serves as legal basis for siding with Kitzmiller.

The two precedent cases that arguably play the biggest role in defining the Establishment Clause, and thus the biggest role in this case, are Edwards v. Aguillard and Lemon v. Kurtzman. In Edwards v. Aguillard, the Supreme Court ruled that teaching Creationism in schools was a violation of the Establishment Clause as defined by Lemon v. Kurtzman. This precedent ruling means that this is by no means a case where religious freedom is in debate, but indeed an issue of the separation of church and state. Lemon v. Kurtzman created the “Lemon Test” for determining if something violates the Establishment Clause or not. There are three prongs to the Lemon Test. The Purpose Prong states that “the government’s actions must have a secular purpose.” The Effect Prong states that government’s action “must not have the primary effect of advancing or inhibiting a particular religion.” And, finally, the Entanglement Prong says that the government’s action “must not result in excessive government entanglement with religion” (Lemon v Kurtzman). Edwards v. Aguillard found that Creationism in schools violated these prongs. In effect, if the plaintiffs could show that Bonsell and Buckingham’s Intelligent Design was simply “Creationism relabeled,” (*NOVA: Judgment Day),* it was very likely that they would win the case.

As the case went on, two major pieces of evidence came to light for the plaintiffs, both surrounding the history of the *Of Pandas and People* textbook.

First, it came out that both Buckingham and Bonsell had lied under oath about the anonymous donor. This “anonymous donor” proved to be anything but: Buckingham gave a speech to his church’s congregation in which he prayed for “the money to come in” (Buckingham, qb *NOVA: Judgment Day)* for the textbooks. These “prayers” were met with $1,100 in donations from his fellow churchgoers. He then gave the check to Alan Bonsell, who gave it to his father. Bonsell’s father then purchased and donated the textbooks, while Bonsell and Buckingham swore in court that they did not know who the donor was or where the money came from (*NOVA: Judgment Day)*.

Secondly, early drafts of the textbook *Of Pandas and People* were unearthed. As it happened, the textbook was written in 1987. A draft of the textbook was completed, using the word “Creationism” to name the viewpoints presented. Then came the Edwards v. Aguillard case, barring Creationism from science classes. The draft of the textbook that was revised after that case had the word “intelligent design” substituted in almost every instance where the word “creationism” had occurred before. The editing was done very sloppily, however. In one notable instance that was brought up before Judge Jones, the word “creationists” had been only partially replaced with the phrase “design proponents.” The resulting garbled phrase in the textbook was “cdesign proponentsists” (*NOVA: Judgment Day).*

Both of these discoveries served to further link Intelligent Design to Creationism. Somewhat ironically, this unearthing of the multiple early drafts that prove Intelligent Design to be the philosophical descendant of Creationism serves as a near-perfect allegory for the way the fossil record proves the theory of evolution. The prosecution spent almost all of the six weeks of testimony bringing in expert after expert to walk Judge Jones through the abundant proof for the theory of evolution, to counter the defense’s claims that evolution is a mere *theory*, not *fact*, that is riddled with gaps.

First of all, the defense’s interpretation of the word “theory” is incorrect. In science, a theory is a well-tested, broad conclusion drawn from a large body of evidence that serves to explain and predict phenomena in the natural world (Rajagopal). The common definition of the word, according to the Merriam-Webster Dictionary, is “an idea that is suggested or presented as possibly true but that is not known or proven to be actually true” (Theory). Any attempts to demean the theory of evolution by pointing out that it is “just” a theory rely on the common definition of the word, and not the scientific one. The theory of evolution is a theory the same way germ theory and the theory of gravity are theories (Chappell; Rajagopal).

Furthermore, as mentioned above, there is ample support for evolution in a variety of areas, but the most compelling proof lies in the fossil record. Good science uses what already is known to accurately predict future discoveries. Evolution, the idea that organisms adapt and change over time in response to pressures, would then logically predict that humans could look at fossils and see such changes over a long period of time in fossils from different eras. This prediction has been proved correct time and time again. In fact, during the Kitzmiller v Dover case, a new critical link in the chain was just in the process of being discovered. The fossilized remains of a 375 million year old, part-fish, part-amphibian creature named Tiktaalik was unearthed in the Arctic in 2004. This creature, with scales and fins but also with legs and a flat head, represents the age-old transition of life from water to land (*NOVA: Judgment Day*). This discovery is representative of many, many others that have been made since Darwin’s prediction. Carbon dating tells us the age of the rock the fossil is trapped in, and the characteristics of the fossil tell us what sort of animal it is. There has never, *ever* been a fossil found in a rock layer out of place, in a spot chronologically inconsistent with the process of evolution. Darwin’s big idea, the idea that all living things exist in an evolutionary tree of life based on common ancestry and change over time, has held up throughout the ages. Evolution is arguably the most well-tested theory in existence (Chappell), as it has faced so many challenges from people like Bonsell and Buckingham.

Intelligent Design, however, cannot predict phenomena. An oft-cited example from the *Of Pandas and People* textbook that is used to explain the logic behind Intelligent Design is as follows: Suppose one, while walking along the beach, comes across the words “John Loves Mary” scrawled into the sand. One would know that such a thing was created by a so-called “intelligent designer” just by virtue of the complexity of the design and the meaning it holds. One would not assume that the wind randomly blew the sand to form those shapes (*NOVA: Judgment Day*). In this example, the recognition of the words as being created by an intelligent designer has much more to do with the way our brains process language. But the general principal of this supposed situation, along with all of Intelligent Design, intentionally ignores many other impacting factors to reach a preconceived notion. Other potential causes are not explored, because Intelligent Design is, from the beginning, operating with the intent of using so-called “evidence” to back up statements already made. The fundamental aim is not to explain and predict, but to rationalize and justify. For, in the end, how *can* such an idea actually predict future discoveries, if it relies on the existence of a supernatural designer that humans cannot understand?

Additionally, Intelligent Design cannot be accurately tested as a scientific theory. Even many supporters of Intelligent Design do not believe in testing Intelligent Design itself, possibly due to the fact that its roots in Christianity would make testing for the actions of a designer would be tantamount to testing for the existence of God. Instead, they rely on a logical fallacy that shifts their own burden of proof to proponents of evolution. Phillip Johnson, a UC Berkeley professor who is widely considered to be the “father of Intelligent Design,” (McMaster, Aguirre, and Tyson) believes that “the test [of Intelligent Design] is Darwinian evolution. The claim of the evolutionary biologists is that unintelligent causes did the whole job. If they can prove it, then the counter-hypothesis that you need intelligence has been tested, and it has been shown to be false” (Johnson qb McMaster, Aguirre, and Tyson). This belief erroneously shifts the burden of proof from believers Intelligent Design to proponents of evolution, conveniently relieving those who support Intelligent Design of having to substantially defend their ideas.

Similarly, when it comes down to the facts supporters of Intelligent Design such as Johnson are very willing to reject evidence for evolution that does not fit with their worldview. When asked about the huge body of evidence of change over time that lies in the fossil record, Johnson, while simultaneously claiming to understand basic genetics, questioned why evolution necessarily needs to happen over a long period of time. “…the answer [supporters of evolution] will always give is ‘Well, it’s done very gradually’ and ‘This takes enormous amounts of time, millions of years, whereas we only live to be 100 if we’re very long-lived, so it is quite impossible for the evolutionary change to occur within our time limits…’. But there is another possibility for why we don’t see it. The other possibility is that it doesn’t happen…that’s where the truth is” (Johnson, qb McMasters, Aguirre, and Tyson). Johnson, like many of his fellow Intelligent Design supporters and despite his many years of education on the subject, falls back on a fundamental misunderstanding of the science behind evolution and so wrongly discounts its findings.

The great flaw of Intelligent Design lies in the way it totally rejects the scientific method, the process of testing and questioning hypothesis by which scientists have been approaching reality for hundreds of years. Intelligent Design cannot predict phenomena, and it cannot be tested. It rejects and accepts scientific fact based on preconceived notions. It, like Creationism, explains life in a way that cannot and refuses to be critically examined. Contrary to the claims of Bonsell, Buckingham, and their allies, Intelligent Design is simply *not* science. Science does not get to disregard evidence that has been proven and tested. Science does not get to reach conclusions with evidence that is cherry-picked from a large body of information. Science does *not* get to explain things by hand-waving at some supernatural phenomenon. Intelligent Design is flat-out *inadequate* as a scientific theory. Additionally, the prosecution’s discoveries with respect to the *Of Pandas and People* textbook clearly proves that Intelligent Design is a thinly-veiled attempt to bring creationist teachings into public schools. This is a gross violation of the First Amendment, and should certainly not be tolerated. Bonsell and Buckingham do not seem to care that their actions are unconstitutional. They don’t care if a Hindu student is required to listen to their specific Christian beliefs in a public school setting, because in the end, they think that they are *right.* The school board’s actions represent the attempt of the government to unconstitutionally advance one religious belief over all others. This absolutely should not be allowed.

Judge Jones’ final 139 page decision gave a resounding victory to the Kitzmiller side. Bonsell and Buckingham were voted out of office at the next election, making an appeal from their side impossible. Judge Jones was so angry about their lying under oath that he formally recommended that the district attorney prosecute them for perjury (*NOVA: Judgment Day)*. In the end, it was decided that Intelligent Design is just another name for Creationism, and is an unconstitutional attempt to use the workings of government to impose a particular religious belief on the general public. The theory of evolution was found to be a valid scientific theory, to which Intelligent Design is not a legitimate challenge. The legal battle ended there, but the implications of the case still are in effect today. There have been no subsequent major challenges to Judge Jones’ conclusions about intelligent design. It was a victory for the scientific method over superstition, and for science education in America.

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