

An Outline of a lecture entitled, “Intelligent Design is not Science” given by John G. Wise in the Spring Semester of 2007:

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Why...

... do humans have so much trouble with wisdom teeth?

... is childbirth so dangerous and painful?

Because a big, thinking brain is an advantage, and evolution is imperfect.

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Charles Darwin’s Revolutionary Idea

His book changed the world.

All life forms on this planet are related to each other through “Descent with modification over generations from a common ancestor”.

Natural processes fully explain the biological connections between all life on the planet.

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Darwin’s Idea is Dangerous (from the book of the same title by Daniel Dennett)

If we have evolution, we no longer need a Creator to create each and every species.

Darwinism is dangerous because it infers that God did not directly and purposefully create us.

It simply states that we evolved.

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Intelligent Design Attempts to Counter Darwin

“Intelligent Design” has been proposed as way out of this dilemma.

– Phillip Johnson, William Dembski, and Michael Behe (to name a few).

They attempt to redefine science to encompass the supernatural as well as the natural world.

They accept Darwin’s evolution, if an Intelligent Designer is (sometimes) substituted for natural selection.

Design arguments are not new:

- 1250 - St. Thomas Aquinas - first design argument
- 1802 - Natural Theology - William Paley – perhaps the best(?) design argument

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What is Science?

A specific way of understanding the natural world.

Based on the idea that our senses give us accurate information about the Universe.

Science is validated by its great usefulness.

– Medicine, technology, engineering, your cell phone

Science cannot tell us anything about the supernatural.

Neither can it help us with questions of Good vs. Evil, Ethics, Morality, or whether or not there is a God.

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What is Intelligent Design?

Theists, by definition, believe in a transcendent intelligence, sometimes expressed as a view that there is an intelligent design to the universe. This is not what is meant by ID in the context of this controversy.

ID is the proposition that “design,” in the form of outside intelligent intervention, is required to account

for the origins of living things. This makes ID a doctrine of special creation.

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What's the Big Deal?

Play fair! – Let them have their say. – Give 'em equal time.

There are serious consequences to allowing pseudoscience to be portrayed as real science.

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What does the law have to say?

In 2004, the Dover, PA Board of Education mandated the teaching of ID in biology classes.

The teachers refused on 2 grounds:

– They'd need certification in ID.

– They would break an oath never to willfully teach a student something they know to be false.

The Board sent administrators into the classes and read a disclaimer that Evolution is “just a theory”.

– Tammy Kitzmiller (and other parents) sued the Board.

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ID Professor: “Astrology is also Science!”

During the trial, Prof. Michael Behe – a leading proponent of Intelligent Design, stated under oath that “under the broad definition of science that ID proponents prefer, astrology also qualifies as science”.

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Goodness Gracious! Why would he say such a thing?

... because ID, like astrology, is not real science.

ID's expert witnesses confirmed that a supernatural designer is a hallmark of Intelligent Design:

• Professor Behe:

– “not designed by the laws of nature,”

and that it is “implausible that the designer is a natural entity.”

(P-647 at 193; P-718 at 696, 700).

• Professor Minnich

– “for ID to be considered science, the ground rules of science have to be broadened so that supernatural forces can be considered”

(38:97 (Minnich))

• Professor Fuller

– “it is ID's project to change the ground rules of science to include the supernatural”

(Trial Tr. vol. 28, Fuller Test., 20-24, Oct. 24, 2005).

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Be very afraid of this pseudoscience...

What is discovered in the natural world, works in the natural world. If we dilute the effectiveness of science, it will undermine the effectiveness of very important things.

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Be afraid - be very, very afraid...

- If science is blurred with magic and the supernatural, be afraid when you bring your children to an emergency room. They might not get treated by scientific medicine, but instead by superstition and unproven methods and medicines.

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What is at stake is science in America

Science and technology are arguably America's leading domestic product. It should not be weakened by dilution with non-science.

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For the sake of arguments, let's do a little "critical analysis" of ID anyway.

What is it?

- ID is the hypothesis that outside intelligent intervention, is required to account for the origins and complexity of living things.
- This intelligence has been stipulated to be a supernatural intelligence by the proponents of ID.
 - This automatically makes ID a non-scientific hypothesis.
- The ID proponents claim to have evidence for this "design".
- Let's be fair and look at the "evidence" for ID.

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Problems with Intelligent Design: Fossil transitions

Fossil transitions are an evolutionary pattern – the succession of one variation to the next.

It is seen in the fossil record dozens and dozens of times.

Dinosaurs with feathers,
Birds with teeth,
Whales with legs, hips,
and arm bones.
Even whale ears evolve.
Evidence as hard as stone.

Is the Intelligent Designer a deceiver?

Why so willfully mimic evolution?

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Intelligent Design: There are no fossil transitions

In Darwin on Trial Phillip Johnson disputes the evidence for vertebrate evolution.

– (1991, Washington, D.C., Regener Gateway)

- Lobe-finned fish to amphibians: Johnson's criticism:
 - no indication of the transition between water-based fish and land-based amphibians in their soft tissues and internal organs.

But alas ... there is so much evidence to the contrary

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Fossil transitions

1991 – *Acanthostega gunnari* is discovered (fish-like tetrapod)

- one specimen is so well preserved it has internal gills!

1998 – A Devonian fish discovered in Pennsylvania

- the fossilized fin had soft tissue so well preserved, one can count the eight fingers common to the earliest of tetrapods!

2004 – A 375 million year old *Tiktaalik roseae* found in Greenland

- has the thin, fish-like bones AND the tetrapod arm bones in the same structure!

Fish with fingers! Tetrapods with gills! Transitions and succession everywhere one looks.

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Darwin – descent from a common ancestor

"What could be more curious than that the hand of man, formed for grasping, that of a mole, for digging, the leg of a horse, the paddle of a porpoise, and the wing of a bat, should all be constructed on the same pattern, and should include the same bones, in the same relative positions?"

Charles Darwin in *The Origin of Species* 1859

All vertebrates descended from a common ancestor.

Why would an intelligent designer use the same bones for running, swimming, flying and writing?

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Poster Child of ID - Irreducible Complexity

Michael Behe's "irreducible complexity":

- "a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning."

If a system requires all of its parts to function, and natural selection only works by selecting final functions, how can natural selection account for the evolution of all the parts that individually have no function?

Let's look more closely at how natural selection actually works. It works, because there *are* functions for the individual parts.

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Irreducible Complexity

The eukaryotic cilium: a whip like structure found in most eukaryotes.

- Very complex
- 9+2 microtubule arrangement
- Many additional protein parts
- Used for movement and locomotion
- Take away a part, and Prof Behe says there is no function.
- But alas... look closely...

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Irreducible Complexity Fails fails this test

Evolutionary simpler forms of the cilia found in many different organisms:

Proof that simpler can easily be functional.

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Irreducible Complexity Fails again

Bacterial Flagellum

- 50 parts
- Very complex
- Acid powered rotor
- Irreducible?? NO!. There are functions for the subparts

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Irreducible Complexity Fails Blood Clotting Test

Again... functions for the subparts

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Irreducible Complexity Fails Blood Clotting Test
more details

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ID Professor Behe says Darwinian Explanations are Doomed; The Immune System is too complex to be understood.

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Immune System Evolution is explained in the scientific literature

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Irreducible Complexity Fails Again
more details

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Darwin's Answer: Complexity Evolves through Intermediates

In 1859, Charles Darwin wrote, "reason tells me, that if numerous gradations from a perfect and complex eye to one very imperfect and simple ... can be shown to exist, ... then the difficulty of believing that a perfect and complex eye could be formed by natural selection ... can hardly be considered a real difficulty."

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Complexity can evolve through intermediates

Examples using the eye:

Five different eye forms found in mollusks are shown.

The forms are real examples of "gradations from complex to very imperfect and simple".

Lens material is composed of "house-keeping enzymes that are used for other functions!

An evolutionary pathway from a simple light absorbing pigment to a complex camera-like eye is not difficult to conceive. We can see all the examples in living organisms!

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Design Isn't Intelligent – it is imperfect. In fact sometimes it is down-right Un-Intelligent!

Recurrent laryngeal nerve

– One of the cranial nerves

– Goes from the brain through a tube near the heart to the larynx.

• Direct route in fish.

• Detour of ~ 1-2 feet in humans.

• 10 to 15 feet of extra nerve in giraffes.

Why?

Because evolution and natural selection operates in the short term, with each step taking place as a modification of what is already present.

There was no intelligent design for the giraffe.

The giraffe's ancient ancestors many millions and millions of years ago were fish!

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Intelligent Design Isn't Intelligent

You'd think the elephant would be a perfect example of intelligent design:

- The massive skull counterbalancing the mass of the trunk.
- The thickened bones to support its weight.

This great animal must appear out of no where – designed de novo, fully formed and perfect in its conclusion.

But alas... look closely at the evidence!

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Elephants

There have been 22 new species in the last 6 million years.

20 of them are extinct.

In the last 4 million years there have been 10 successive species of Indian elephants alone.

Did it really take so much practice for the designer to get it right?

No. It took time and evolution to create these imperfect solutions to the “elephant” that mostly have gone extinct.

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Judge Jones’ Dover Decision

Issuing Rebuke, Judge Rejects Teaching of Intelligent Design

By LAURIE GOODSTEIN - Published December 21, 2005 in the New York Times:

“A federal judge ruled on Tuesday that it was unconstitutional for a Pennsylvania school district to present intelligent design as an alternative to evolution in high school biology courses because it is a religious viewpoint that advances "a particular version of Christianity."”

“In the nation's first case to test the legal merits of intelligent design, the judge, John E. Jones III, issued a broad, stinging rebuke to its advocates and provided strong support for scientists who have fought to bar intelligent design from the science curriculum.

“Judge Jones also excoriated members of the Dover, Pa., school board, who he said lied to cover up their religious motives, made a decision of "breathtaking inanity" and "dragged" their community into "this legal maelstrom with its resulting utter waste of monetary and personal resources."

“Judge Jones, a Republican appointed by President Bush, concluded that intelligent design was not science, and that in order to claim that it is, its proponents admit they must change the very definition of science to include supernatural explanations.

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Judge Jones’ Decision – a summary

- Intelligent Design is a religious view, a mere relabeling of creationism.
- Intelligent Design is not science.

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Ken Miller’s Accurate Textbook Disclaimer

“This textbook contains material on science. Science is built around theories, which are strongly supported by factual evidence. Everything in science should be approached with an open mind, studied carefully and critically considered.”

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It’s still happening in a neighborhood near you

Science Standards were changed in Kansas 2005:
– ID proponents have re-written the definition of science.
Many more examples...

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So what can we prove?

Can anyone prove that an Intelligent Designer did not create the perfect design for a complex eye, the complex cilium, and in a snap of supernatural fingers, deliver all of the amazing structures to us, complete with their “design errors”?

We cannot.

Did the Intelligent Designer also include the evidence for our evolutionary ancestry as some kind of “deception” or “trick”?

Many of us, as Ken Miller has pointed out, prefer to believe He did not deliberately deceive us by planting false evidence.

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The laws of nature work for biology

The laws of physics, chemistry and biology and the mechanisms of natural selection are sufficient for the evolution of all of the unbelievably beautiful and varied forms of life on this planet.

There is also a place in many scientists’ world view for a Creator of the Universe and Evolution.

– Many religious people think that evolution is the natural mechanism which enabled creation to proceed.

We really don’t need an Intelligent Designer to give us our sometimes flawed, works-in-progress.

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“I am a creationist and an evolutionist.” - Theodosius Dobzhansky:

“It is wrong to hold creation and evolution as mutually exclusive alternatives. I am a creationist and an evolutionist. Evolution is God's, or Nature's, method of Creation.”

– from "Nothing in biology makes sense except in the light of evolution" (Am. Biol. Teach. 35, 125–129; 1973)

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Rejecting God because of Science

Dawkins argues that belief in a supernatural creator qualifies as a delusion.

He has no more hard evidence that God does not exist than others have scientific evidence that God does exist.

Each conclusion ultimately comes down a leap of faith.

This leap takes you out of the natural world and science altogether and brings you into a matter of faith and belief.

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Accepting both God and Science

For many people of many beliefs, science and religion are very compatible with one another.

Dr. Francis Collins, the director of the Human Genome Research Institute, is an evangelical Christian biologist.

Last year he was quoted as saying, “the evidence that we are all descended from a common ancestor is overwhelming. Some might wish that not to be so. It is so. Does this conflict with Genesis 1 and 2? I don't believe it does.”

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Acknowledgments

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Charles Darwin's Revolutionary Idea has changed the world.