

## THE PRIVILEGED PLANET - video critique

*The Privileged Planet* is a very impressive video.  
The graphics are beautiful, and the reasoning is strong.

As a caution, we want to be careful not to insert a supernatural explanation for everything in science that we just don't understand. That will ruin science, and scientists legitimately fear that. However there are three huge discontinuities where science cannot offer a full explanation: The origin of the universe, the origin of life, and the origin of humanity. The debate on these will go on and on.

"We shall not cease from exploration, and the end of all our exploring will be to arrive where we started and know the place for the first time." [1]

I see the "Privileged Planet" primarily as a response to the audacious statement made by Carl Sagan and others: "Our posturings, our imagined self-importance, the delusion that we have some privileged position in the universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark." [2]

Others emphasize that there is absolutely no plan and purpose behind the processes that brought about the earth and human life.

In the extreme, "we are insignificant blobs on an insignificant rock in an insignificant solar system on the spiral arm of an insignificant galaxy among 10 billion other galaxies." [3]  
Doesn't that make you feel good?

Authors Gonzalez and Richards are basically saying- "On what evidence do you make those claims of insignificance and lack of purpose?

We can point to evidence that suggests design,

That the universe was designed.

That the universe was designed for human life

That the universe was designed for humans to measure, study and explore it."

Now can we look at physical material and reason back to purpose?

We do it all the time- it's a forensic approach.

You find someone lying at the bottom of a staircase. The rail above is broken. Did they fall or were they pushed? (an accident or deliberate?)

An archaeologist discovers a triangular stone in an Indian mound. Was it an ancient tool, an arrowhead, or merely a stone?

Military signal intelligence officers are continually monitoring electromagnetic radiation trying to distinguish coded information from random noise.

How do we recognize and identify design?

We're told that "mere improbability is not sufficient to identify design." There is also a need for some complex pattern to be present.

If we saw three trees in a meadow, in a row, exactly 6 feet apart, we might think that the wind had scattered seeds this way. But if we saw 20 trees in a row exactly 6 feet apart, almost everyone would assume that they were planted.

### "Fine Tuning"

This is probably the most impressive evidence in the video.

A small variation in any of several dozen parameters would make life impossible:

- if the earth were closer to the sun, or farther from the sun
- if the tilt or orbit were different
- if the chemical composition were different
- if the physical laws were different.

In the atom we have electromagnetic forces –One keeps the electron tied to the nucleus.

The strong nuclear force holds protons and neutrons together.

The weak nuclear force is responsible for radioactive decay.

And there are physical constants- over 30 of them with zero variation, including:

- speed of light
- charge on an electron
- mass of an electron
- Planck's constant
- gravitational constant
- Boltzmann's constant.

We count on these being constant and use them in our designs.

Furthermore throughout the universe, we understand that everything conforms to physical laws. (including Newton's Laws, Maxwell's equations, Hamilton's equation, Boltzmann's equation, and others.)

This concept of "fine tuning" is so powerful that the major alternative explanation to design is the existence of multiple universes ("many worlds hypothesis"): If there were an infinite number of parallel universes, each slightly different, one of them would have all the conditions necessary for life. We happen to live in the lucky universe- we won the lottery.

Life would exist on thousands of them. Only the one we're sitting on is a different order.

On another, our hair and skin are green. On another, the planet is different.

Every possible variation of everything exists.

Note that the theory of multiple universes was not developed specifically to respond to intelligent design. It arises from the theory of chaotic inflation, an infinite universe containing regions of inflated and expanding universes. Some writers tie it to string theory.

The problem is-

These are not considered potentialities, but existing universes.

If we can't observe them or communicate with them we can't prove their existence.

Major Criticisms of *The Privileged Planet*:

1. “*The Privileged Planet* and intelligent design are a religious concepts cloaked in the language of science.”

-----Not if you stop at the first fence. Does the evidence point toward design?

2. “We are already here observing. It would seem to be more improbable if the constants were actually all wrong for life- that would be greater evidence of a designer.”

----This assumes that improbability alone is the argument for design.

3. “The habitable earth is also habitable for pathogenic bacteria, cancer cells, and the AIDS virus.”

-----This is the argument from apparent imperfection. Somehow, we would have designed it better. We see no explanations for the apparent imperfections.

4. “If the earth is 5 billion years old, then for 99.999% of its age it has been uninhabited by humans capable of making measurements.”

-----This assumes an age for the universe and that it’s inefficient for the universe to exist without human observers.

5. “If the universe were teeming with life, instead of life seeming improbable, Richards and Gonzalez would still claim design.”

----Maybe. The point is that only one planet in our solar system sustains life, and the evidence suggests design.

6. “Reputable scientists do not adhere to design.”

---- But listen to these words from Charles Townes, Nobel Prize winner, developer of the maser and the laser:

“Intelligent design, as one sees it from a scientific point of view, seems to be quite real. This is a very special universe: it's remarkable that it came out just this way. If the laws of physics weren't just the way they are, we couldn't be here at all. The sun couldn't be there, the laws of gravity and nuclear laws and magnetic theory, quantum mechanics, and so on have to be just the way they are for us to be here...” [4]

In conclusion,

I find it disturbing that a number of scientists are looking for extra-terrestrial life and at the same time unwilling to consider design in the universe.

The more we understand about the universe the more amazing it appears.

Even if we can describe with equations what’s happening physically, we still want to be able to look at the eclipse or the myriad of stars or the pictures from the Hubble telescope and say "Wow!" and even "Bravo!" This is a distinctly human response.

## References

1. Quote by T.S. Eliot, used at the start of the film.
2. Sagan, C., *Pale Blue Dot*, Random House, 1994.
3. Paraphrased from Stephen Hawking interview, 1995.
4. From Charles Townes interview, June, 2005.