

Good Evening Brethren:

After reasonable observation and consideration of the magnitude of the universe, could there be any doubt of the existence of a Creator and Architect of the universe?

On Saturday, July 4th, 1981, the Hamilton Spectator, our local newspaper, published an article by Anthony Barbieri Jr. The subject of this article was the “Rubik’s Cube.” He described the cube as beautiful in its perfect geometric simplicity, a cube, each of its six faces a different colour, each face made up of nine smaller squares, each representing one face of a smaller cube. This cube has an ingenious mechanism inside which enables you to twist and turn the facets and parts of facets and rows of cubes within cubes to jumble the colours.

Dr. Erno Rubik, a young professor of architectural and design engineering at the Academy of Applied Arts in Budapest, Hungary invented the cube in 1974. About the same time as Mr. Rubik applied for his patent, on the other side of the world, a Japanese engineer by the name of Terutoshi Ishige also applied for a patent on what I believe was an identical cube.

In 1981 after reading the newspaper article, I purchased a Rubik's Cube and ended up working on it for almost forty (40) hours straight. Towards the end of that period, I had the cube solved, with all the same colour smaller cubes on each of the facets of the larger cube. That is, with the exception of two diagonally opposite cubes. Now all I had to do was exchange the position of those two cubes and the torment was over. I reasoned correctly that the out-of-place cubes had to exchange their positions and that in moving the one cube across and up to the other position would cause great chaos to the other cubes that were currently not only in their right position but properly orientated. I further reasoned that the secret was to move the second displaced cube to its proper position in such a manner as to undo the chaos caused by the first set of moves.

As I twisted and turned the sides of the cube, I was careful to keep an exact record of my moves so, if necessary, I could retrace my steps back to my original position. One morning while working on this strategy, I suddenly realized that I couldn't locate the two remaining scrambled cubes.

To my delight, the cube was **SOLVED!** Yes I was lucky but there was a bit of skill and determination thrown in.

A note concerning the construction of the Rubik's Cube. The external movement of the smaller cubes by the rotation of the six faces of the cube is fascinating but even more fascinating is the internal mechanism of the cube. I won't attempt to explain it at this time but if you were to remove one of the smaller cubes by prying it gently off with a small screwdriver, the whole structure falls apart. The small cubes hold each other in place and thereby the structure as a whole is intact. A remarkable feat! Sound familiar?

Now what does the Rubik's Cube have to do with the universe, or for that matter, the Great Architect of the Universe?

Please consider this, the age of the universe is approximately five (5) quintillion seconds.

The number of moves or different states on the Rubik's Cube is about Forty-three (43) quintillion. Write down the number Forty-three (43) and after it write eighteen (18) zeros. That, give or take a few hundred billion, is the number of possible combinations or states. Therefore, if some patient soul wanted to twist the cube from one state to the next state at the rate of eight (8) or nine (9) moves per second, it would take him or her from the beginning of time since our universe came into existence via "The Big Bang" to the present to display every state or combination.

An interesting point is with all those possible states, apparently it has now been mathematically proven that you can never be more than nineteen (19) moves away from one state to another. Thus theoretically, any cube, no matter how scrambled could be returned to its pristine state in nineteen (19) moves.

In my mind, the beauty, symmetry and almost inconceivable complexity of the cube reminds me of the wonder of the universe and of our own earth in particular. Our home is a beautiful tiny blue marble orbiting around a medium size star, our Sun. Our Sun located on one of the arms or spirals of a little galaxy called the Milky Way which is adrift, as Dr. Carl Sagan of PBS Cosmos fame most certainly would have described it, as in the midst of millions and millions and millions of other galaxies. Scientists claim that someone moving at the speed of light, one hundred and eighty-six thousand miles per second (186,000 miles/second) would take over twelve (12) billion years to approach the furthest reaches of the universe. Twelve point five (12.5) billion years is roughly the estimated age of the universe.

All of this extraordinary wonder crafted and designed by the Grand Geometrician of the Universe. Finally, all of us, his creatures placed here by Him to enjoy and cherish His work.

Thank you for your kind attention.