

The Demon-Haunted World

Prepared for

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In 1996 a book was introduced, written by one of the great minds of contemporary time. This man was Carl Sagan, and the book was "*The Demon Haunted World, Science as a candle in the dark.*" Carl Sagan who was also awarded the Pulitzer Prize in 1978 for his work with "*The Dragons of Eden*". The Demon Haunted World takes an in-depth look at today's pseudosciences and introduces his "baloney detections kit". This tool kit is the key to unlocking a greater understanding. Focusing on all questions and problems that may come in everyday life. Then turning to the 'why of pseudo science as the later part of the book on educating our young. Pointing out the problems that are leading Americans down to the bottom of the worldwide education testing scores. It has been said "This book should be required reading before kids can graduate from high school. 1"

Science is not a perfect explanation to everything; it is in fact prone to errors. Every hypothesis is setup in a way to be proven wrong. This is its ideology, to explain things with the use of logic and scrutiny. In many pseudo sciences the hypothesis are setup to be improvable, to in fact be used as the ends instead of the means. Science understands that the human mind is not perfect, that errors occur all the time that nothing is certain in the eyes of science. "Science is far from a perfect instrument of knowledge. It's just the best we have." pg27

Carl begins with an explanation of the pseudo sciences and what constitutes pseudo science and new age thinking. Such as alien abductions, channeling, superstitions, tradition, etc. While attempting to cover as many of these areas as he can, each with an unbiased opinion. He begins his journey of examining the evidence on each side by asking questions when evidence is unavailable or lacking. For example on the subject of

alien abductions he ask, "why should beings so advanced in physics and engineering-crossing vast interstellar distances, walking like ghosts through walls-be so backwards when it comes to biology." pg65

Upon beginning his discussion on the nature of things he offers many incites from others. As John Michel writes in his "Natural Likeness" 1979 "Their mystery remains essentially untouched, a constant source of wonder, delight and speculation. All we know for sure is that nature created them and at the same time gave us the apparatus to perceive them and minds to appreciate their endless fascination. For the greatest profit, and enjoyment that should be viewed as nature intended, with the eye of innocence, unclouded by theories and preconceptions, with the manifold vision, innate in all of us, that enriches and dignifies human life, rather than with the cultivated single vision of the dull and opinionated."

Mr. Sagan shows how the scientific method can be put to practical use. Carl poked and prodded his way through some of today's most popular claims. By introducing the claims and showing how to ask questions that matter. In addition to the evidence that is presented, he begins to ask questions about the evidence. Once the evidence and cross-examination is done, you go in for another round to make sure nothing was left out. When emerging from the experience one would feel a sense of satisfaction with what was realized. He tells of other authors that have had some of the most profound influences to the past 3000 years. Calling upon past evidence from as early as 1000 BC making no mistake to leave anything out. As he finishes the chapters dealing with the scrutiny of pseudo science he opens up for what others think of what he has said. Publishing the First 7 chapters in parade magazine on march 7, 1993. He then dedicates an entire chapter of the book to the letters people wrote him in response to these chapters of the book. Going over nearly every issue covered. He offers virtually every side of the issue with the letters. "Sagan refuses to take seriously the witnesses' reports of anything that twentieth-century science can't explain." writes one person. Another writes "Science has become the "magic that works." the UFOlogists are heretics to be excommunicated or burned at the stake." the letters show a vast number of differing opinions, used to help the reader see as many differing vantage points as possible.

After discussing the pseudo sciences he turns the book around, asking where did we go wrong. Why such claims are so readily believed and so passionately sought after. He Talks of his own personal experiences in these areas. "My parents died years ago.... Theirs a part of me-no matter how childish it sounds-that wonders how they are. "Is everything all right?" I want to ask. The last words I found myself saying to my father, at the moment of his death, were "take care." pg203 Talking of the human condition to long for visitation or communications with loved ones of passed. This longing is not what is on trial, rather the claims of others to fulfill it. Clement of Alexandria wrote around 190ad in dismissing pagan beliefs. "Far indeed are we from allowing grown men to listen to such tales. Even to our own children, when they are crying their hearts out, as the saying goes, we are not in the habit of telling fabulous stories to soothe them."

He then presents his baloney detection tool kit to be used on new ideas that are offered for consideration. Acumen's razor is one example that should be included in this kit. Which urges us when faced with two hypotheses that explain the data equally well to

choose the simpler one. Taking time to first introduce his tool kit then to explain how it is used. Then going over some of the argument types that are used in discussing new ideas and data. A few examples of the argument types such as, *ad hominem* Latin-"to the man" attacking the arguer and not the argument. *Begging the question* also called assuming the answer. E.g. "we must institute the death penalty to discourage violent crime." *Appeal to ignorance*-The claim that whatever has not been proved false must be true, and vice versa." absence of evidence is not evidence of absence." *Post hoc, ergo propter hoc*-Latin for "it happened after, so it was caused by" for example before women got to vote, there were no nuclear weapons. He shows how they are applied in every day life. From buying a used car to the most complicated issues of modern science.

Spending a bit of time explaining the true position of science and not the view that many advocate. Putting to rest the plagues that science is against religion or the minimalists view that they are said to pose. Showing that science is simply a tool to teach of the world around us. Talking about each new view with the same level of care and humanity as the last.

"This combustible mixture of ignorance and power is going to blow up in our faces" Carl Sagan *the demon-haunted world*, 1996

Then with an open eye he delves into the meat of the book. Which talks about the stimuli that society is putting on children. The question that begins this portion of the book is one that should have been asked a long time ago. "Why should so many people find science hard to learn and hard to teach?" it has become a matter of peer pressure not to excel (except in sports.) As if one would need an example of this, nerd geeks, etc. He suggests that maybe it is because as young adults we are given role models that are athletes very few that are scientists or philosophers or any other area of academia. Imagination is some times lost in today's schools giving way to routine and society expectations. Of course raising the questions is not enough for Sagan, he also gives some methods for helping this situation. Each and every chapter is an exciting experience of self-discovery. Understanding the problem is 90 percent of the challenge. With a strong understanding one can make better decisions using the knowledge and experiences as the backbone of the decision.

As he progresses through the book, he compiles a mountain of data and work done by others, all the while asking for the reader to evaluate the evidence presented and to make their own decision. All and all the book covers a lot of ground from the simplest notion that the earth is flat to the hardest for even the most brilliant minds of human history with the Quantum mechanics of tomorrow. Never before has so many of today's issues been presented in such an understanding way. Carl Sagan knows that to explain complex situations you must think back to the time when you were learning the very same ideas. In this way he simplifies things to the point where it becomes understandable to nearly any one reading the book. This book is quite educational and at the same time very inspirational. Opening so many new doors with the ideas presented.

"Nothing is so wonderful to be true." Michael Faraday (1791-1867)

So what exploded in Hiroshima? Was it a huge government scam? Was Einstein's

theory of the nature of atoms wrong? If so then that is what must have happened. When you turn on your computer it must be the mice running on the wheel and not quantum mechanics at work. Where does this over simplification stop? At what point do we realize that the world around us is filled with science. Yet every day we are told that science is wrong and that it is a tool for atheistic. To understand science does not disprove religion, wouldn't a 'God' create a universe that was mathematically perfect, or a nature that seemingly inherently knows what works and what doesn't? Being skeptical about claims from the religious sect does not mean you are against religion. At one point in time the world was believed to be flat. Those who thought other wise were deemed evil or a heretic. Couldn't it be said that religion and science are looking for the same things, meaning in the world around us.