



ARI SACHER

ROCKET SCIENTIST, IRON DOME DEVELOPMENT TEAM

Ari Sacher is a rocket scientist who has worked on the design and development of missiles for over thirty years. He has held senior engineering roles in ground-breaking anti-missile programs including the Iron Dome and David's Sling. He has briefed hundreds of U.S. lawmakers on Israeli Missile Defense and Israeli-U.S. Defense collaboration, including multiple briefings on Capitol Hill at the invitation of the House Majority Leader and the Israeli Ambassador to the U.S. Ari is a highly requested speaker, enabling even the layman to understand the intricacies of "rocket science." Ari has appeared on CNN, Fox News, i24news, and The Discovery Channel.

Since 2000, Ari has been publishing an essay on the weekly portion (parashat hashavua). These essays, which Ari calls "Rocket Torah," appear on the Times of Israel blog and are circulated in synagogues around the globe

Ari came on aliya from the USA in 1982. He, his wife, children and many grandchildren live in Moreshet, a town in the Western Galilee that he helped to found. He currently works in the Land and Naval Warfare Division at RAFAEL, where he dabbles in Program Management and International Business Development and other topics that he is not at liberty to discuss.

Choosing to See God

ARI SACHER

Disclaimer: I do not believe that it is possible to prove that God exists, no matter how many words I use. I *do* believe that it is possible to explain why I believe in God in a way that my fellow passengers on the elevator will not find incongruous with my thirty-year history as a rocket scientist.

We must first explain the meaning of the word "belief." We often hear statements like "scientists believe that computers will become smarter than humans in our lifetime." This "belief " is synonymous with the word "estimate." Given the speed with which technology is advancing, scientists *estimate* that there is a high probability that computers will eclipse human intelligence. My "belief " in God is something more deep-seated.

Kurt Gödel, a twentieth century mathematician, published his "Incompleteness Theorem" in 1931. I can incompletely summarize this theorem as follows: Any system complex enough to be useful must rely upon unprovable axioms, defined as "statements or propositions that are regarded as being established, accepted, or self-evidently true." One example is Euclidean geometry in a two-dimensional plane. Everyone who rides elevators "knows" that the shortest distance between two points is a straight line. Anyone who suggested that the shortest distance from the first floor to the second floor goes through the third floor would be laughed out of the elevator. And yet, this statement is unprovable. There might exist some singular case in which the shortest distance between two points is some fantastically curved line. We do not *know* for a fact that the shortest distance between two points is a straight line – we *believe* this to be true and unchanging. By accepting this belief, we can access the wonderful edifice of geometry that allows us to build bridges and shoot down rockets. I *believe* that God created the universe and gave the Torah at Mount Sinai to the Jewish People. Accepting this belief grants me access to the wonderful edifice of Judaism that infuses my life with meaning and purpose.

Once we accept the axiom of the existence of God as the source of belief, we can supercharge that belief with the "Confirmation Bias," which the psychologist, Peter Wason, first described in 1960. In a nutshell, the Confirmation Bias asserts that humans have a tendency to interpret facts in a way that confirms their pre-existing views or beliefs. People who support gun- control see every shooting as proof positive that firearms need to be regulated, while opponents look at the same shooting and suggest that had there been more gun-carrying citizens in the vicinity of the shooting, they would have neutralized the shooter earlier. My beliefs enable me to see the world through the lens of God's existence. When I see a missile defense system intercept 4,000 rockets at a success rate of greater than 90%, I see the Hand of God. Others see intelligent engineers and robust planning. Neither hypothesis can be proved or disproved. But I guarantee that the first one is infinitely more fulfilling.