

Research Poll and the fact that 76% of the respondents do not believe that the government has released all it knows about UFOs. Talk about credibility gaps!!

I should stress that many times some government people are also unaware of what others in the government know, have done, etc. Consider the position of the late Adlai Stevenson at the United Nations just before the Bay of Pigs fiasco - totally left out of the information circuit so that he made a fool out of himself. The left hand not only doesn't always know what the right hand is doing but isn't always aware of the activities of its own fingers.

MYTH: "No astronaut has observed a UFO."

Many newspaper editorials and other articles have stated that no sightings have been made by astronauts. The aerospace writer for the LA Times asked me what I can only call an illogical question "How come no astronaut has seen a UFO?". It isn't logical because one in general works with the information on hand, not with the information one does not have available. Much more important is the fact that Chapter 6 of the Condon report includes detailed descriptions of three sightings by orbiting astronauts which have still not been explained - all from the Gemini series. This chapter by Dr. Franklin Roach is one of the better chapters of the Condon report, though Condon's summary fails to give adequate attention to these observations.

It should be noted that the Apollo flights, about which there have been many rumors concerning UFOs, employ a different approach to communications between the astronauts and the ground. The radio signals are sent directly back to Houston and then rebroadcast with Houston having the option of deleting whatever they choose to delete with essentially no one outside NASA able to monitor the broadcasts. During the earlier Gemini and Mercury flights the talk was "in the open" - readily monitored by ham equipment.

I did once spend over two hours discussing UFOs with one of the Apollo astronauts who was extremely interested in what I had to say, bought four hard-to-get UFO documents but would give me no information at all - not even that which turned up in the Condon report - about astronaut sightings.

For those who have never worked on classified programs I should stress that the classification guides for such programs are normally also classified so it is, practically speaking, impossible to even determine what fraction of the astronauts' observations of the earth and space is classified. Contrary to some comments I have heard much NASA data is secret. The penalties for breaking security are extremely rigorous and it is often necessary to lie as a cover story. I believe I can guarantee as a result of working under security for 14 years that the government and its employees can indeed keep secrets - despite the fact that some secrets have been inadvertently revealed.

MYTH: "UFOs violate the law of physics."

As a physicist this myth has irked me ever since the first time I heard it over a decade ago. It is an excuse for not thinking creatively or scientifically. It is often accompanied by the statement that some aspect or other of reported UFO behavior "is impossible". In both cases what we scientists should be saying is that we don't either know how to duplicate the reported maneuvers and actions and/or that we don't understand how they were performed. Each generation of eminent, typically elderly scientists has told society very solemnly

all the things that were impossible, only to have those objectives achieved within short order by people with more humility and a better understanding of the open-endedness of the laws of physics and of the fact that all of the laws of physics have certain limited realms within which they apply. The test of the laws is not their theoretical elegance or mathematical complexity but whether or not they describe the real world rather than the idealized world of the theoretician.

One can say that the laws of biology and physics prevent a person's loudest shouts from being heard more than a certain distance away from the shouter. That doesn't mean that a megaphone or radio transmitter or laser broadcasting system can't be used to have his voice "heard" very much farther away. The laws of physics tell us that the intensity of light from a normal light source such as a light bulb is reduced as the square of the distance from the light bulb. This does not mean that the intensity of the light from a laser or searchlight directed in a very, very narrow beam decreases with the square of the distance from these sources. One can say that a good explosive releases the maximum amount of energy available in chemical substances . . . so long as one carefully neglects the nuclear energy also present which just happens to be at least a million times greater if one picks the right substances and learns the secrets (new laws) of nature that enable one to release that energy.

One can say that, if UFOs were really vehicles going at speeds of many thousands of miles per hour in the atmosphere, then we would have to hear a sonic boom. We don't usually hear one when UFOs are observed so UFOs must not be real because they would violate the laws of physics relating to sonic boom production. What the true scientist ought to say confronted with this paradox is somebody has cleverly figured out a way to eliminate the production of sonic booms by a supersonic vehicle in the atmosphere. The true scientist might then re-examine the comparisons between UFOs and our supersonic airplanes. He would note that the shapes are drastically different and that it is evident that the mode of propulsion must be different since UFOs don't seem to be putting out an exhaust, move relatively silently, don't seem to depend upon lift from wings, don't seem to be restricted to flight along the direction of an engine's thrust, and seem able to hover and move vertically as well as to change direction "instantaneously". Airplanes on the other hand don't normally create colorful glows in their vicinity, seem invariably to have wings, poor lift to drag ratios at low speeds, are designed for motion in one direction only, have many sharp streamlined rather than blunt surfaces, and are quite noisy. They are also much less symmetric than most reportedly round UFOs and have very large maximum dimensions in comparison with the actual dimensions of the payload as well as maximum surface-to-volume ratios.

The glow and a little knowledge of plasma physics might suggest that the UFOs somehow modify the flow of the air around them at high speed especially since the color of the glow changes with changes in velocity. We know that if the air were electrically conducting (ionized) it could be diverted around the high speed craft without pileup of shock wave or heating of the craft - another problem we have in high speed flight. The reason making the air electrically conducting - which incidentally we usually try to avoid but actually do know how to do - is useful, in that an electrically conducting fluid (an air plasma, or seawater, or a liquid metal such as mercury, sodium, lithium, etc.) can be acted on at a distance by electric and magnetic forces without physical contact (drag and friction) between the body (within which one produces the electrical and magnetic fields) and the fluid itself. Physicists are doing this (pushing without touching) every time they crank up a particle accelerator such as a cyclotron. The amount of energy actually imparted to the accelerated particles is usually quite small though