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ARE WE ENTERING - OR LEAVING?

by W.B. Smith

With atomic energy we are crossing a threshold, but are we entering or just leaving?

Much has been said and written about the awful devastation which could be caused by an atomic war. It has been suggested, and with just cause, that such a war probably would wipe out civilization, leaving the remnants of the human race in atavistic savagery, if there were any remnants. Dr. Hugh Keenleyside, former Under Secretary of State for External Affairs for Canada estimates that there are in existence at the present time more than 150,000 nuclear devices, many more than required to do the job!

Consider what happens when an atom bomb explodes. The fission process which comprises the explosion releases enormous quantities of energy which originates within even the hottest star. If only ten per cent of the energy available in Uranium 235 or Plutonium were suddenly converted into heat, the temperature of the mass would jump to the order of fifty billion degrees centigrade. Even if the blast were diluted by five hundred times as much inert material as there was active material, the temperature would still be of the order of one hundred million degrees.

Now, the temperature of the sun, as we determine it, is about six thousand degrees on the surface and about ten or twenty million degrees in the interior. It is presumed to derive its energy from the conversion of hydrogen to helium through an intermediate cycle involving carbon, oxygen and nitrogen, which cycle progresses very smoothly at the sun's temperature. If, however, the sun's temperature were much higher the hydrogen could convert directly, first into deuterium, tritium, and helium, without benefit of the time delay and stabilizing action of the carbon-nitrogen-oxygen cycle, and would produce most probably an explosion of increasing magnitude which would continue until it either ran out of hydrogen or the eventual expansion of the gases produced a sufficient drop in temperature to stop the reaction.

Suppose that an atom bomb (either fission or fusion type) landed in a large body of fresh water such as one of our Great Lakes, and furthermore, that it sank to a considerable depth before exploding. The explosion, when it did take place would be confined by walls of water consisting largely of hydrogen, since two thirds of the atoms in water are hydrogen. Before the bubble of hot gases resulting from the explosion could overcome the inertia of the water and rise to the surface, it is almost certain that the water directly in contact with the blast would be heated to temperatures comparable with that of the blast itself, one hundred million degrees or hotter. At such a temperature the hydrogen in the water would be in prime condition to convert directly into helium and would in fact become a "hydrogen bomb" with the release of about the same or greater energy per unit mass as was released in when the active material of the bomb itself. Consequently, a thermo-nuclear chain reaction would probably set in which would be cumulative and self-propagating. Once initiated it would continue increasing in intensity until stopped by either a lack of hydrogen or the eventual drop in temperature of the expanding gases. In any case the reaction would probably persist until most of the available hydrogen had gone up in helium.

Should such a thing happen, even by accident, and an atom bomb explode deep in one of our fresh water lakes, with thousands of tons of hydrogen available, there could result a blast of such intensity that it would envelope the entire planet in a few seconds, vaporizing everything on its surface and maybe even shattering the core, and producing a celestial display visible throughout our galaxy. Unfortunately, we would be in no position to observe it as we would have ceased to exist.

The foregoing is not idle speculation. It is based on the same data, calculations and measurements which produced the atom bomb, and the fact of the bomb is prima testimony to its potentialities. We may well ask ourselves the question - we are crossing the threshold, but are we entering or just leaving?

U. F. O. NEAR OTTAWA, ONTARIO

Described by Mr. L.A. Christink

The object was sighted on the 28th of October, 1960 at approximately 7:15 a.m., west of the city of Ottawa, on the Quebec side of the Ottawa river. The object appeared very high and crossed the river towards Ontario. The sky was getting light and the color of the object was a glowing yellowish orange. The shape of the object, including what appeared as a vapor trail or exhaust, was that of an elongated egg. The shape of the object and the fact that the vapor trail did not linger at all made it appear entirely different from a usual jet aircraft sighting. No sound was heard, due to vehicle noise and possibly the height of the object. The object travelled too fast to have been a weather balloon and was visible for approximately twenty-five minutes. Two persons witnessed this sighting.

About half past ten on the night of April 15th, I was flying an RCAF Harvard Aircraft in an area some fifteen miles east of the city of Ottawa. I had completed a cross-country flight and was just putting in time until eleven o'clock when a very intense flashing blue light caught my attention.

It was a very dark night with no visible horizon and I could not immediately decide whether the light was on the ground or airborne. By its intensity I thought it might possibly be someone operating an electric arc welder. However, at that point a commercial aircraft proceeding east along the airway from Ottawa to Montreal passed below that light and I realized that it must be airborne.

I started towards it and the light moved off towards the east, gradually climbing and flashing on and off at a frequency of about once per second. I followed it to 8000 feet at a point near Vankleek Hill but was unable to close the gap as the light continued to climb and outspace my slow aircraft. Realizing I'd be late checking in at Rockcliffe and that the chase was a bit futile, I broke off and, using my extra height to gain a little speed, set course for base at about 200 knots.

About ten miles out and at a thousand foot altitude I called the tower and received landing instructions. Turning to join the traffic pattern I glanced over my shoulder and was rather startled to see the flashing light just behind my aircraft.

I lost sight of the UFO during the landing procedure and on taxiing in could not again locate it. I could not judge its size or distance although it appeared to be quite close during most of the chase. No structure nor physical detail was visible at any time.

NEW PRINCIPLES IN QUANTUM MECHANICS, A REVIEW

W.B. Smith

Dr. H. C. Dudley, Chief of the Radio-Isotopes Laboratory at the U.S. Naval Hospital in St. Albans, N. Y., has had the courage to challenge the orthodoxy of modern science in his new book, NEW PRINCIPLES IN QUANTUM MECHANICS, Exposition Press, New York. The following extracts will do more than any reviewer to set forth this challenge.

"The key to how scientists have misled themselves, and therefore the rest of mankind, is in the wedding of Mathematics and Philosophy, and their adoption of the infant Science circa 1800. In the following four chapters is given an analysis of the mental processes which have led us to conclusions that are so firmly embedded in our consciousness as to be considered "scientific truths". Yet these truths have never been observed by any man. Strange creatures, *Me Homo sapiens!*

"There were some men who lived during the development of the basic postulates of modern theories who doubted the logic on which they rest. Moreover, these men resented the use of the promotional methods of the market place, which were blatantly used to fasten on the minds of men, at all levels of culture, what many considered to be a false scientific doctrine. Certain of these men, having the courage of their convictions, published books reporting on various aspects of the situation as they saw it at first hand.

"To dismiss all such publications as the work of crack-pots, as the railings of "cranks rebelling against an father-image of established authority", is to belittle the work of technically trained men of high renown, respected in their fields of specialization. In order that students of the physical sciences may know that there were (and are now!) other views in fundamental physical theories than are presented in recent physics texts, there follow reviews of the more pertinent of these works.

"Because scientists, mathematicians, and philosophers have for centuries wrestled with the idea of an absolute, mathematicians have mesmerized themselves into believing that by setting up two frames of reference they have in some way eliminated the need for an absolute plane or point of reference. But by the system of two frames of reference they establish the most unstable of points of reference, man his-self. Such egotism!

"If there is, or ever was, such as a device of the devil it is the mathematical concept of two frames of reference. For in following this Pied Piper mathematician and theoreticians actually describe two entirely new planes of existence, worlds built of imaginary geometries and mental aberrations. They have thus indeed deluded themselves into believing that "man is the measure of all things, and there is no other measure".

"Thus again we see how the minds of men, be they scientists, mathematicians, or philosophers, can be swayed by emphasis and selected data. The techniques of modern advertising and propaganda are centuries old, and under any other name are especially effective if their devotees are convinced they are right.

"In reading the popularized histories of relativity, one notes that when the Theory of Relativity was first propounded, only a dozen or so persons had the mental stature to understand the theory. Tacitly, and subtly, it brought out that these intellectual giants were so far removed from the garden variety of scientists who objected to the theory that the criticism was but like the babbling of children. It is here that we see the beginnings of the most successful and sustained application of the "big lie" propagganda technique that man has ever foisted upon himself. Repeat! Repeat! Repeat! Ignore or belittle criticism. Those who do not agree will pass. And a scientific "fact", a "truth", becomes fastened in the minds of men at all levels of culture.

"Consider also that the eminent German mathematician Hilbert once defined mathematics as a game played, according to certain rules, with meaningless marks on paper. The following is addressed to the professional mathematicians: You have developed many complex games, played with many unintelligible marks on paper. You have invented many new games utilizing many "markers", "checkers", or "men". You have changed the rules of the game at will, and often in the middle of the game. You, the professionally trained mathematicians, are the only men who really understand what you are doing, and for that reason most men stand in awe. Your vanity is tickled, and you have found the answer for that human urge, a feeling of superiority. You have acquired "status",

"There are some of you who doubt where you are heading, but the great, great majority are convinced that your course is correctly plotted. Are you prepared to accept the responsibility, should your navigation prove faulty? The experimenter, too busy being a high-level technician and gadgeteer has entrusted his leadership to your hands. He is dealing not with marks on pieces of paper, but with forces that are beyond your comprehension, unless you have actually observed a nuclear explosion. Are you and your craft prepared to stand before the bar of history and defend your present position?"

Part two of Dr. Dudley's book deals with the consequences of the postulation of a particulate universe and the fact that such a universe would be quite consistent with that within which we live, and incidently, not nearly such a mathematical monstrosity.

It is unfortunate that Dr. Dudley, did not understand, or was not prepared to accept the fact of the field nature of Time, because this concept combined with the excellent work set forth in this book would have rounded out the picture and offered a very much simpler, more readily understandable, and probably more realistic representation of the universe in which we live.

For anyone who has sufficient scientific background to appreciate these things, this book is highly recommended. It is most disturbing, but may be we ought to be disturbed.