

T O P S I D E

SPECIAL MEMORIAM EDITION DEDICATED TO
OUR FOUNDER, THE LATE WILBERT B. SMITH.



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C A N A D A.

The last ten years of Wilbert's life were devoted to intensive thought and study. Several of his ideas he formulated into a manuscript entitled "The New Science", the publication of which is presently under consideration and will be announced at a later date.

In this issue of "Topside" we have endeavoured to present under one cover the more important writings of Wilbert B. Smith on UFOs and related subjects. It is hoped that the reader will benefit from the perusal of this selection in a manner similar to that which we of the Ottawa Flying Saucer Club have benefitted from our association with a man of great courage, insight and understanding.

FUNERAL SERVICE FOR WILBERT SMITH, B.A., M.SC.

Engineer, Scientist, Philosopher, Canadian Authority on U.F.O.

29th DECEMBER, 1962

by Wallace B. Shute, F.R.C.S.(C.)

TEXT: I Corinthians: 15th Chapter.

It is my honour and painful duty to speak here a last few words over one who waited with impatience and has gone forth upon his last great Adventure. I was his friend, and, I believe an intimate, personal friend. To all here he was at very least an acquaintance, to many a wise and understanding comrade, but to some few of you an adventurous leader into realms of the mind and spirit into which there are no paths and for which there are no precedents in human experience. Almost all of you, he affected more than you will ever realize. For he was, in his own way, a unique soul, made once, never to be forgotten. Seldom does earth take unto itself the human casket of so rare a spirit.

He had supremely a consciousness of intelligence; yet an intelligence guided by the sensitivity of conscience. More than most men I ever have known, he lived by and for his convictions - without faltering or turning aside. More than almost anyone I have known he felt, and lived by his feeling, that he had a mission on this earth and that, if he could, he must fulfill that mission at any cost to himself. Anyone who has ever had a sense of destiny will understand that feeling of purpose, beyond the value of life itself. The Apostle Paul had it, - Shakespeare Milton, Pasteur and Handel had it, each in his own degree. Without its concentration of intent few great lives, chiselled by will-power into enduring spiritual sculpture, could have left imperishable works behind them. Like them he knew with a deep inner conviction that this personal life was unimportant - but that the purpose he served was more precious than his transient hold upon earthly time. More than most men I have known, he confessed that "he was a stranger and pilgrim on the earth, - for he sought a better country, that is, a heavenly".

And he had courage - not the kind which wins medals, but that which moves and lifts the hearts of other men to high purpose. He held to what he deemed to be the truth - and would neither yield it nor hide himself from contumely, derision or the scorn of lesser men. He had the strength to stand alone, knowing that he was judged, not by the opinion of rabble, but by the perception of God.

In his daily work he was kindly, notably sober and industrious, for he was fully aware that he would be brought to account for his stewardship of even this effort. In his life he remembered the proverb: "Seest thou a man diligent in business? He shall stand before kings; he shall not stand before mean men". And so he truly did. The contumely never touched him, and the derision rebounded upon his deriders, for never once, as I knew him, did he bend before the storm or flee from the wrath of uninformed or malevolent opinion.

He belonged to no church on earth, nor had he affiliation with, or real joy in any. He was impatient with the empty platitudes of religious speech. Yet when he encountered the Church of Christ, he recognized it - for it called to his spirit and though he did not answer that summons in this life he was assured, as I am, that he would answer it in the Life to come.

Indeed, he had great love in his spirit for that Eternal God, whose child he was, - and that Son of God, even Christ, whose sworn servant he would be. He was not always right nor did he claim to be a saint. Yet, he wanted desperately to be right and to find those eternal truths, beyond the trivialities of pious phrase, which give power and meaning and sudden illumination to the right words in the right mouth, as they come by the Inspiration of God.

I watched him in his latter illness into what he had never before been - not merely an intellectual, who had intuitive answers beyond ordinary knowledge - but a humble suppliant, waiting for the loving, merciful answer of God. I saw him give himself into those Hands and receive the benediction of that Love and prepare himself in spirit for the absolution of that Mercy. And I feel deeply certain that God, who framed his spirit and gave to it that passion for truth, shall teach him in the World to Come - his present World - that which he, above all else, wished to know better. And he will learn eagerly - for he died with a great yearning for that coming Adventure - which is beyond time and space, sorrow and death, - and is the only true reason and hope for human life upon this earth.

To whom shall I liken him, but to Valiant-for Truth, who when he had understood that the summons had come, called his friends and told them of it. Said he, 'I am going to my Father's; and though with great difficulty I have got hither, I do not repent me of all the troubles I have been at to arrive where I am. My sword I give to him that shall succeed me in my pilgrimage, my courage and skill to him that can get it. My marks and scars I carry with me to be a witness for me that I have fought His battles, Who will be my Rewarder'. So he passed over and all the trumpets sounded for him on the other side.

Yet, my friends, where he now is, we all shall surely be. He is an island, detached forever from the Continent of our conscious life. Each of us must cross those straits and be carried into the unknown Sea beyond. Now, if these were not charted for us, then had we good reason for grief at our passing and fear of the perils that lie ahead. But One went before us and charted that Sea. He walked upon those waters and left His imperishable imprints upon immortality, even as He did upon this life. His footsteps are continuous, consistent, eternally sure.

For, first, He established for us that none should sleep but, that like Himself, all should be resurrected from earthly into heavenly bodies; that there is no escape from our eternal life - the continuity of consciousness for good and evil alike - for the intelligent and hampered the obedient and the wilful, the informed and ignorant. We cannot run away into eternal sleep - for there is no rest which the Voice of God will not quicken nor avenue down which the sentence of His Judgment may not carry. Eternity is no easy thing for us to face, yet, since He died on Calvary for us and was resurrected, to this we have no alternative.

Secondly, He proved that when we die we continue our consciousness not in any state of suspended animation. But we may, if we be worthy be called with the blessed into Paradise, or otherwise be consigned to the Prison of the Eternal. Here we are schooled with learning and correction until we become truly fitted for eternal life. What, indeed, is prison but the deprivation of freedom? Yet, how could we share in eternal life if we have not earned, by obedience to its laws, the right of access to the freedom of His Kingdom? It is not in the justice of God that only a few should be saved and the rest condemned - a few in bliss, the rest in eternal pain. Christ died not to save a few but all men from destruction. Otherwise, would His life and death have been in vain and He, who by every act and word proved that He loved all men, be merely a respecter of persons.

Thus, we are assured that in His Divine Justice and Mercy, there shall be a Second Chance for those who had none upon this earth; and for those, also, for whom improper teaching and representation had failed to remove the veil of prejudice and folly from their eyes so that they might discern the living beauty of His truth.

When Christ preached to those in prison since the days of Noah it was the ultimate vindication of this Second Chance. He preached that they might learn and thus prepare themselves for the freedom of Eternal Life. (I Peter - 4:6) "For this cause was the gospel preached, also to them that are dead, that they might be judged according to men in the flesh, and live according to God in Spirit". And to that schooling, if it be God's will, shall our brother go, that he too might live according to God in Spirit.

Thirdly, beyond all this, lies the Judgment - as described so factually and realistically in 'Revelation'. No man can escape the Judgment - whether he has learned of the Church in this life or in the next. Nor is there escape from our punishment or reward. They are each inherent in every act and choice we make, whether for rebellion against or true service to God. Not to many men has it been granted in this life to say with the Apostle Paul: "I have fought a good fight, I have finished my course, I have kept the faith. Henceforth, there is laid up for me a crown of Righteousness, which the Lord the Righteous Judge shall give me at that day, and not to me only but unto all them also that Love His appearing".

As to our friend and brother here, I, personally, know that he loved his Lord and that he waited anxiously for His coming. And into His hands - who is his Lover, his Saviour and his Eternal Judge, we now commend his spirit. Where could he be safer, or more at peace, or capable of such infinite growth?

'Oh, Death, where is thy sting? Oh, Grave, where is thy victory? The sting of death is sin; and the strength of sin is the law. But thanks be to God, which giveth us the victory, through our Lord, Jesus Christ'.

Amen.

WHY I BELIEVE IN THE REALITY OF SPACECRAFT

I have been actively engaged in the investigation of the group phenomenae known as flying saucers for over seven years. During this period I have read most of the available literature on the subject, interviewed a great many people who have seen unusual things in the sky, examined many pictures and physical objects, made observations with scientific instruments and carried on series of communications with intelligences claiming to be extra-terrestrial. I started the investigations out of curiosity and as an extreme skeptic, fully expecting to find the phenomenae to be due to man-made or natural causes.

I am 48 years old, hold a Masters Degree in Electrical Engineering, occupy a responsible position in the Canadian Government, hold a half dozen patents, author of several technical papers, and in general enjoy a background in technical work and science indicating at least an average competence to study and report on phenomenae of a scientific nature. I have tried so far as possible to use conventional and standard methods and equipment and to investigate all possible angles before drawing any conclusions. In other words, I have followed the same general procedures which I would have followed if I had undertaken to study some more prosaic subject, such as radio wave propagation.

The first phase of the work consisted of reading all available literature, collecting as much observational data as possible, and in general getting a fair prospective of the problem. The second phase involved theoretical and laboratory work to find openings in our technology and to establish relevant reference points, and the third phase involved following up the many and varied leads which developed from the first two phases.

I do not intend to dwell on the first phase of this work as my experience was quite parallel with that of other investigators who have provided extensive published reports of their findings. Nor will I dwell on the many dead ends which were explored, which looked promising at first but faded out under careful investigation. Nor will I be able to be as specific as I would like to be with respect to material given to me in confidence or which came to me through "classified" channels. Furthermore, it is not my intention to try and convert anyone to my way of thinking, but merely to state what I believe and why I believe it.

Let us look at a few facts.

- (1) Hundreds of normal honest people have seen lights in the sky which behaved like no light normally seen in the sky ought to behave.
- (2) Hundreds of normal honest people have seen what appear to be solid real objects in the sky which behaved like no object normally seen in the sky ought to behave.
- (3) Hundreds of people have seen objects in the earth's atmosphere at sufficiently close range to see enough detail to enable them to say definitely what the objects were not, even though they could not identify what they were.
- (4) Descriptions of these objects from observers where circumstances virtually preclude collusion, check quite well among themselves and against data received from other sources.

It is not reasonable to assume that hundreds of ordinary normal people whose word we would readily accept under more mundane circumstances, for instance as witnesses to an automobile accident, should suddenly become liars, fools, neurotics, and otherwise quite incompetent observers. I have interviewed many of these people myself and I am convinced that they are sane sober, honest folk who are reporting as best they can something which they really did witness. I will concede that maybe some of these people did not do as good a job of observing as someone who was better trained might have done, but within their limits I believe they did honestly report what they saw.

Let us look at a few more facts.

- (1) There have been several close brushes with these objects and in one case at least the aircraft pilot lost his life as a consequence. (Captain Mantell was reported killed as a result of chasing a flying saucer on January 7, 1947. The incident is described in detail in THE REPORT ON UNIDENTIFIED FLYING OBJECTS by Edward J. Ruppelt, pages 51 to 60.)
- (2) People who have been near these objects have described physical sensations which are unusual to say the least, but which are quite consistent with what is known of the technology under which they operate.

While the foregoing may seem rather incredible, nevertheless there exists quite good records in support of these occurrences. Furthermore, the technology of which we have been able to get a glimpse, namely that of the manipulation of the three basic fields, electric, magnetic and tempic, indicates quite a straight forward answer to an explanation of these phenomena. In Mantell's case the altered field configuration in

the vicinity of the craft reduced the binding forces within the structural members of the aircraft to a value below that of the load which they were expected to carry, so they just came apart. These altered binding forces have been measured by simple instruments by people in my group and have been found to be quite significant. Furthermore, there was probably a substantial reduction in tempic field intensity in the vicinity of the craft which Mantell approached, which would result in an effective rise in temperature of the aircraft and contents. I understand that Mantell's body gave every indication of having been subjected to considerable heat, and not from the outside in.

A rise in temperature in the vicinity of these craft from elsewhere has been reported on many occasions, as has also an apparent alteration in the direction of gravity. Both of these phenomenae are tempic field functions and would be expected if the craft were making use of combinations of fields which involved substantial modifications of the tempic field function.

There have been quite a number of alleged communications with intelligences claiming to be extraterrestrial. I have followed up each such instance which came to my attention to the best of my ability in an effort to (a) establish or disprove the validity of the alleged communication, and (b) to obtain any information which might be available if the contact should prove to be authentic.

As might be expected, many of the contacts provided little or nothing of value, but a few did pay off. Some of the contacts have been the subject of published material, but by far the majority are confidential; and there are a surprising number of these contacts.

The procedure in checking contacts was to ask a number of innocuous but significant questions and compare the answers with the answers to the same questions as obtained through other contacts. Questions were of the type; Do people live on the planet Mars? If so, what is the general shape of their houses? Do people on Mars use coinage money? If so, what does it look like? All together some hundred or more questions were involved. The results were spectacular to say the least. Among the contacts that might be classed as authentic there was almost complete agreement. Among the other alleged contacts there was extremely poor agreement or none at all. Of course where agreement was general but one or two points didn't fit an effort was made to find out the reason for the discrepancy. In each case it was found that someone had injected a terrestrial idea or comment, frequently of a religious nature, instead of transmitting faithfully that which was received.

Having located what seemed to be channels of communication between ourselves and these extraterrestrial intelligences, the next and obvious step was to try and get as much information as possible. As may be expected, this effort was at first directed towards science and technology, but it soon became apparent that there was a very real and quite large gap between this alien science and that in which I had been trained. Certain crucial experiments were suggested and carried out, and in each case the results confirmed the validity of the alien science. Beyond this point the alien science just seemed to be incomprehensible.

There followed a period of soul searching during which many doubts were raised. We felt that we had established the reality of the craft from elsewhere, and of the intelligences associated with them, and while we were able to establish that these people all told the same story, was that story the truth? There existed some pretty good evidence to support their statements, and precious little with which to disprove them, but we did not overlook the possibility that there might be some other more conventional explanation. We looked carefully at every conventional explanation we could find, but they all fell quite short of the mark. If the whole thing were a delusion, then quite a large number of people must be suffering from the same delusion, and an externalized delusion into the bargain. If it were a hoax, then it was by far the most gigantic hoax the world had ever known, and to what end, and by whom perpetrated, and who was putting up the money because some of the "evidence" must have cost a pretty penny to produce.

The inevitable conclusion was that it was all real enough, and that these people from elsewhere were probably just what they claimed to be. The science however was definitely alien and possibly forever beyond our comprehension. So another approach was tried, the philosophical, and here the answer was found in all its grandeur! I will not go into detail on the many revisions in ideas and basic thinking which had to be undergone, beyond stating that there were indeed, many. The people from "elsewhere" displayed great patience and understanding in helping me to overcome many of the prejudices and stores of misinformation which I had spent many years accumulating. I began for the first time in my life to realize the basic "ONENESS" of the Universe and all that is in it. Science, philosophy, religion, substance, and energy are all facets of the same jewel, and before any one facet of the jewel can really be appreciated the form of the jewel itself must be perceived.

One of the most important things I had to realize was that we are not alone. The human race in the form of MAN extends throughout the universe, and is incredibly ancient. Also, its appearance in physical form is but one of its many manifestations along the path of progress. Our civilization here on this earth is only one of many that have come and gone. This planet has been colonized many times by people from elsewhere, and our present human race are blood brothers of these people. Is it any wonder that they are interested in us? To orthodox thinkers this may seem strange, but not nearly so strange as our ideas on evolution!

The question might be asked, "If these people really are our brothers and are interested in our welfare, why do they remain so aloof?" We have been given the answer. There is a basic law of the universe which grants each and every individual independence and freedom of choice, so that he may experience and learn from his experiences. No one has the right to interfere in the affairs of others. In fact, our Ten Commandments are directives against interference. If we disregard this law we must suffer the consequences, and a little thought will show that the present deplorable world state is directly attributable to violation of this principle.

These people from elsewhere have much greater knowledge than we have regarding the sequences which must not be altered, and while they may have every desire in the world to help us, they may not do so at this time without running the risk of altering significantly sequences which are very necessary to our development. Therefore, while they stand by ready, able and willing to help us, they may not do so until a propitious time of which they will be informed in due course. The dividing line between help and interference is very delicate indeed and sometimes hard to perceive, but it is a mark of individual and collective progress how well we can be guided by it.

I am told that one of our difficulties is that we do not recognize a sufficient number of dimensions and make use of them in our science. Furthermore, we do not recognize the true nature of dimensions or their place in the universe. I am told that so far as we are concerned there are twelve dimensions, and these provide the necessary and sufficient structure for the entire universe. Our concepts of dimensions are most inadequate and restrictive and so long as we persist in them we can never transcend the world of mechanical processes which we have conjured up.

In science we have an established procedure always to tie a new discovery or observation to that which we already know, even though to do so requires extensive "patchwork" and "perturbation" factors to be applied to our existing knowledge to make the new knowledge fit. We invariably assume that the new knowledge must somehow be closely related to the old and we are most zealous in tying the two together. As a consequence we bend and warp our units of knowledge so that we can fasten them together whether or not they belong together, until we have fabricated quite a structure which is almost completely closed on itself. Consequently, when we do find knowledge which should, but just won't fit our structure we don't quite know what to do with it, so we usually reject it.

I am informed that science is really much more simple than we imagine, and all the component parts fit together perfectly without any corrections. Possibly, we should start over again and reassemble our knowledge in a different pattern, and this time fit the pieces of the jigsaw puzzle together properly without trimming the pieces. I feel sure that if we were to do this, and accept the philosophy upon which this new approach must of necessity be based, we will be able to enjoy the technology and the way of life which is demonstrated to us by the presence of the spacecraft and our brothers from elsewhere.

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WE ARE NOT ALONE

A.B. SUTHER

Our Universe is a very large place, much larger than our minds are capable of understanding. There are several billions of stars in our own Milky Way Galaxy alone, and there are millions of similar galaxies scattered throughout space and within range of our large telescopes. The Universe is also incredibly old. Our earth alone is estimated to be several billion years old, and it is presumed that the stars are much older. Maybe the universe doesn't even have an age; that it is eternal and ever passing through the cycle of energy to matter and matter to energy. The episode of Man on this planet, so far as we can determine, is relatively an extremely small portion of the larger time that the universe has existed, and the period of recorded history is relatively even shorter.

We consider the race of Man to be native to this planet and to have evolved here from lower life forms. We look upon our present civilization with pride and realize that we have accomplished much, particularly in the last few centuries. Even in the past few decades we have made tremendous progress in certain directions. Therefore, it is only natural that we should be egotistical about our position in the Universe. But are we alone? Are there not others in the Universe who, also, have progressed? The Universe is very large and has been here a long time.

In the past few years we have taken our first faltering steps out into the vastness of space, first through the Sputniks and now through manned space flight. There is no doubt that we can do it, and if we can refrain from blowing ourselves to glory with atom bombs, we most certainly will do it. In the light of our present technology, and not allowing for any basic new discoveries, our timetable calls for interplanetary space travel well before the year 2,000, and a good possibility of inter-stellar trips being initiated shortly thereafter.

Our space travel plans include exploration, exploitation and colonization, of the other planets, so far as this may be possible, and there is no doubt that this thinking will be extended to the planets attached to other stars as soon as we can arrange to get there. Mankind has always been an adventuresome creature, exploring, conquering, colonizing and exploiting, and there is little reason to think that his future actions will be much different from those in his past.

Our large telescopes indicate low order perturbations in the positions of several of the nearer stars, such as could be accounted for by the presence of large planets, and if there are large ones there will probably be smaller ones also. In fact, it is generally agreed now that planets attached to stars are more probably the rule than the exception, and that we will eventually find the heavens filled with all sorts of primary and secondary bodies.

When we consider the extent, the age, and the opportunity of the Universe, and the fact that we do have intelligent life here on this planet, it is only reasonable to speculate that somewhere else in the vastness of space and the eternity of time, other intelligent life could have blossomed forth. Since we have made such rapid progress towards space travel in such a short time, a differential of only a few hundred or at the most a few thousand years between the development on some other planet and ours could easily have resulted in a race capable of doing right now what we plan to do in the near future. Furthermore, it is quite possible that such a race may have reached this critical point cons ago, and to them space travel is as commonplace as the wheeled vehicle is to us.

Now, if this should be the case, and this alien race were anything like us, they would probably set forth to explore and colonize as rapidly as their means would permit. It is rather obvious that, even with the speeds of travel available to us, it would be much quicker to colonize the universe than to wait for Nature to evolve separate races in each and every favourable environment. In fact, intelligent races might even set about accelerating environmental conditions to their liking, seeding and stocking planets with appropriate life forms, and watching over them while they develop.

The foregoing is not just idle speculation, since we have a great deal of evidence that something like this is actually happening. The Darwinian theory of evolution shows certain relationships between the various life forms which inhabit this planet, but there is very little evidence to indicate that they all evolved here. Maybe some of them did, but a more reasonable explanation is that they were brought here when the planet was in suitable condition to receive them. Recent spectroscopic observations of the reflected light from Mars shows the presence of vegetation which synthesizes sugar, thus making it closely related to much terrestrial vegetation. Radio telescopes are picking up all sorts of radio noises from the sky, many of which are so systematic as to preclude natural origin. Peculiar markings, light flashes, and cloud or dust formations have been seen on Mars and our moon. And, most significant of all, the craft of these alien beings have been seen near, and on, this earth!

Legends and history abound in stories of visits to this earth by beings from the sky; beings which came in strange craft capable of the most extraordinary performance, and who themselves possessed great powers or had at their command strange forces, much beyond the understanding of the simple folk who witnessed these things. There is much evidence that this has gone on all through the ages, and is going on right now. With excellent news gathering and dissemination means at our disposal, very little happens anywhere in the world which is not reported, and, if it is of sufficient interest, gets wide publicity. During the last ten years or more there has been much publicity about "Flying Saucers" and thousands of reports have been made of sightings of these strange objects in our skies. But this is not an exclusively recent phenomenon; only the publicity is recent. Ever since we have had newspapers there have been similar reports, but the absence of news services until recent times usually confined the details to a few local papers, and searches of old newspapers files confirm that flying saucers are old stuff.

The tense international situation in recent years has made everyone jittery and anything in the skies which could not be established as known and friendly was regarded with suspicion. Consequently, procedures, projects, and publicity combined to make the whole subject of flying saucers appear quite out of perspective. Instead of recognizing them for what they probably really were, they became a ward of the Military, and since the Military are charged only with the defense of a country, their interests waned when they had established the fact that the saucers apparently were not hostile. But in order to arrive at this conclusion they collected much data, classified it, and buried it effectively that no one else could get at it, and those who might have been able to sort the matter out found themselves deprived of the basic data and had to content themselves with the bit which escaped the clutches of the Military. However, on the basis of this material some rather startling conclusions have been reached.

Thousands of people have seen lights and apparently solid objects in the sky which behaved as no light or object normally seen in the sky ought to behave. Thousands have seen these objects under circumstances which enabled them to say definitely what they were not, even though they were unable to say what they were. Reliable photographs and movies have been taken, and bits of "hardware" collected which cannot be explained away without challenging the integrity of many witnesses. Simultaneous visual sightings and radar fixes exist in a great many cases, and there is quite a bit of evidence of physical contact with these strange craft.

In several instances reliable people have reported seeing the beings who ride about on these craft, and they say they look just like us. There are quite a number of reported contacts between these people from "elsewhere" and people of this earth, and although this latter point may be hard to prove it is equally hard to disprove, and the rest of these contacts are remarkably consistent and enlightening. At the present time there are quite a number of books, magazines and bulletins devoted to the study of flying saucers, and anyone who wishes to establish for himself the validity of these things will find no dearth of material.

At this point we may summarize the position somewhat as follows. There is virtually no doubt that alien craft are visiting this earth, and that the beings who operate them are very much like us, probably our distant relatives. Considering the age and extent of the Universe, it is reasonable that space travel, exploration and colonization, may be quite commonplace among races of mankind more advanced than we are. Information obtained through alleged "contacts" confirm the general nature of the picture as presented herewith, together with quite a bit of interesting side-lighting on the technology, customs, way-of-life, and philosophy of these people from "elsewhere". It would appear that we are well along the way to becoming truly civilized, and if we can refrain from committing racial suicide and learn to respect the dignity, divinity and brotherhood of man, we can expect eventually to be welcomed into the great cosmic fraternity of advanced races that inhabit the regions beyond the limits of this little planet.

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PROJECT MAGNET
THE CANADIAN FLYING SAUCER STUDY

W.B. SMITH

Project Magnet was authorized in December 1950, following a request made to the Canadian Department of Transport by W.B. Smith, for permission to make use of the Department's laboratory and field facilities in a study of unidentified flying objects and physical principles which might appear to be involved.

The program consisted of two parts. The first part was the collecting of as much high quality data as possible, analysing it, and where possible drawing conclusions from it. The second part consisted of a systematic questioning of all our basic concepts in the hopes of turning up a discrepancy which might prove to be the key to a new technology.

Unfortunately, the program was plagued by well meaning but misguided journalists who were looking for spectacular copy, or copy which could be turned to political account, to such an extent that both those who were working on the project and the Department of Transport found themselves in an embarrassed position. Consequently, when the Project Magnet Report was made and permission sought to extend the scope of the investigation through Federal financial support, the decision was finally made in 1954 that this would not be advisable in the face of the publicity from which the whole project had suffered.

Project Magnet was officially dropped by the Department of Transport in October 1954, although the Department indicated its willingness to permit the continued use of laboratory facilities, provided that this could be done at no cost to the public treasury. The project has been continuing under these conditions, and to this extent may be said to have gone underground. The Government of Canada are not participant in the project and not in any way responsible for its conclusions.

Size is an important point and here the manner of reporting is vital. "As big as a dinner plate" is interesting but useless for evaluation because it is obvious that a dinner plate 100 or so feet away looks as big as the full moon! A much more accurate method of reporting is to state the apparent size of the object in relation to the full moon, which is quite familiar to us all (if we are not too old). Another method is to poke a few holes through a piece of dark coloured paper with a pencil ranging in size from the point to the full pencil diameter and then holding this paper at arms length, compare the bright area of a suitable hole with the apparent size of what was seen. The diameter of the hole held at arm's length will give the investigator a very good idea of its subtended size.

The position of a stationary object, or the path of a moving one should be carefully reported by reference to background or reference points that can be located. If the observer has a GOOD knowledge of the star constellations, this is probably the best method of describing position and trajectory, but knowledge of the general areas of constellations is of little value. Probably the best method for the amateur is to note its position as above some particular landmark, estimating the angle above the horizon, and then identifying the landmark on a map (such as a road map) together with his own position. The angle above the horizon can be reported easily by threading a string through a sheet of paper, attaching a weight to the end of the string and looking along the top edge of the paper and noting the position of the string. A line on the paper where the string lay can subsequently be scaled off with a protractor. It is quite permissible to do this little job sometime after the actual sighting, provided that it is soon, and the details are still fresh in mind.

If two people separated by a modest distance both report seeing the same object at the same time, and provide the minimal data set out above, the following information with regard to the object can easily be determined. (1) Where the object was in relation to a fixed ground location. (2) How high it was. (3) How big it was in actual size. (4) How fast it was moving, if at all, in miles per hour. (5) Relationships with respect to such things as airplanes, balloons, beacons, etc., which might have been visible at that time.

Specific data are very difficult to shoot down, but casual data can be explained quite easily. It is far more important to have a few facts all tied down than a whole sheaf of opinions which cannot be supported by fact. It is often more effective to identify what an object was not (and why) than to try to identify what it was. The identification of obscure objects is really a job for the expert, but the amateur can be of the utmost assistance in providing the necessary facts upon which the expert can base his analysis.

SPUTNIKS, SAUCERS, AND SPACECRAFTW.B. SMITH

This paper was given as a talk to the
Illuminating Engineering Society,
Canadian Regional Conference, at a
luncheon on 11 June 1959 in Ottawa.

On October 3, 1957, the Russians astonished the world by placing an artificial satellite called a Sputnik, in orbit around the earth. To most of the world artificial satellites were things which might happen sometime in the dim and distant future, but to have a satellite actually aloft brought home the fact that space travel was about to become a reality. There were official announcements that the Sputnik was there and many people managed to get glimpses of it as it raced across the sky. Because it was announced officially it was considered quite proper for people to admit having seen it.

With an artificial satellite aloft and people looking skyward there were an increasing number of reports of objects being seen which were not sputniks. Many of these objects were confused with the sputniks and this confusion would have persisted except for the fact that the sputnik orbit was known and predictable. Many of these objects were recognized by their viewers as definitely not sputniks, and since it was now considered polite to admit having seen things in the sky, many of these reports came forward and were added to the already thick files of flying saucer sightings.

The fact of the first sputnik, and the many more which follow made it quite apparent that our race was upon the threshold of space travel, and had actually taken the first step into the great outside. With this realization came also the realization that space travel was not really quite so fantastic as it had seemed at first, and that it was quite within the realm of possibility that some other race elsewhere might be a bit ahead of us and actually be doing it, and that maybe there was something to all the stories about flying saucers after all. However, officialdom was not yet quite ready to admit the reality of the saucers, probably because they were not yet ready with all the answers to the questions which would be asked.

During the past ten years I have made a serious and extensive study of the phenomenon of flying saucers. I have covered every aspect that I could come to grips with, and have arrived at some conclusions, which, I might say, are entirely my own and do not represent any views which might be held officially or unofficially by the Canadian Government. I think that many of these objects are spacecraft, and that they come from "elsewhere" than on this planet; that they are built and operated by things very much like us, but who are more advanced in the business of living than we are, and that the saucers represent a technology which is much ahead of ours. I do not propose to wade through the mass of material upon which these conclusions are based, since this is practically all available in the current literature. I propose only to summarize this material.

Many thousands of people have seen lights in the sky which behaved as no light normally seen in the sky ought to behave. Many thousands of people have seen what appear to be solid objects in the sky which behaved as no solid object normally seen in the sky ought to behave. Many people have seen objects at close enough range to be able to say definitely what these objects were not, even though they could not say what they were. Many scientific observations and pictures exist with respect to these objects which just can't be explained away without challenging the honesty of the observers.

I have interviewed many people who claimed to have seen a flying saucer, and I am convinced that they are normal honest folk who are reporting as best they can something which they actually did witness. We would be happy to accept the statements of these same people in a court of law as witnesses to something more mundane, such as an automobile accident, so why should we doubt them when they tell about having seen a flying saucer. I do not think that these people are liars, fools, neurotics and hoaxers. Even if the sighting evidence were all we had I would still be inclined to accept it as fairly well establishing the reality of spacecraft from elsewhere.

However, we have in addition to visual evidence a variety of confirmation in other forms. Many sightings have been confirmed by radar with identical positions being established. Physical evidence of witnessed landings, such as imprints in soft ground, broken bushes, withered vegetation, etc., is plentiful and well confirmed. Various items of "hardware" are known to exist, but are usually promptly clapped into security and therefore are not available to the general public. Substances such as "angel hair" and molten tin, etc. have been observed to drop from these craft, and have been gathered up and analysed. Strong magnetic disturbances have been observed in the vicinity of these craft. In fact, I would say that many more people have more evidence supporting the reality of flying saucers than evidence for the reality of atom bombs. But atom bombs bear the stamp of official disclosure.

It is a well known fact that our science consists of a few basic facts and a large amount of conjecture, cemented together with great numbers of "correction factors" and "perturbation factors". We have many anomalies in our science, but instead of heeding them as Nature's warning that there was something wrong with our concepts, we shoved them into the background and turned our thoughts to those things which appeared to be more self consistent. Consequently, I am convinced, we have missed the boat on many occasions, and now when we have before us the magnificent fact that space travel through other means than on the business end of a rocket is possible, we are unable to cope with the situation, and instead of learning from these beings who come to us from elsewhere in flying saucers, we deny them, ignore them, and hope that they will go away.

I think that there is too much evidence to ignore, that the saucers are real and are extra-terrestrial spacecraft, and since their behaviour cannot adequately be explained by our science, we are forced to the conclusion that this alien science transcends ours, and may even be beyond our reach.

For, intensely, a few serious investigators had the moral courage to face up to this problem in spite of the cries of "heresy" from orthodox science, and reasoned that if some other race could do these things, so could we. I will not dwell on the many dead ends which were investigated or the theories which were developed and discarded, because this is typical of any and all scientific progress. Suffice it to say that many of our basic physical concepts were tested and found wanting. Many things which we have held sacred in science were found to be valid only under specific conditions, or are special cases of a more general concept. My own group has concentrated on problems associated with gravity, refusing to believe that Newton's Law that "every particle in the universe attracts every other particle with a force which is equal to the product of the two masses and a universal gravitational constant divided by the square of the distance between the two masses" was the alpha and omega of gravity. Since flying saucers demonstrated what appeared to be gravity control, it certainly seemed logical to assume that such control could be established. Furthermore, certain aspects of the behavior of these craft gave us valuable clues to the real nature of the universe, and its elegant simplicity.

At the present time we do not have all the answers. Nor do we have anything like an integrated theory. All we have is a collection of facts based on observation and the results of a number of experiments but we feel that this foundation is considerably more secure than that of our current orthodox science, for in it there are no anomalies. We know that gravity is not at all what Newton visualized. Far from being a basic force in Nature, it is really a derived function, and is the consequence of a dynamic condition, not a static one. We know what goes into its makeup; we know its "formula" and we have a pretty good idea of how to go about bringing it under control. We have conducted experiments that show that it is possible to create artificial gravity (not centrifugal force) and to alter the gravitational field of the earth. This we have done. It is fact. The next step is to learn the rules and do the engineering necessary to convert a principle into workable hardware.

So far, this work on gravity has been carried on . . . entirely as a personal project, privately financed at a cost which is minute compared with the cost of the current rocket program, and with the volunteer assistance of a few people who are sincerely interested enough to put in long hours after their normal working day, and face the criticism leveled at anyone who dare to think differently. I am sure that if even a small fraction of the money being spent on rockets were spent on proper research looking toward gravity control, with the example of the flying saucers before us, and with the possible help from these people from elsewhere, we could join them in space much sooner, more safely, and more economically than we will ever be able to do on the business end of a rocket.

THE PHILOSOPHY OF THE SAUCERS

BY

Wilbert B. Smith

Possibly One of the most interesting aspects of the study of flying saucers, beyond the realisation that they are real and extra-terrestrial, is their philosophy. What manner of creatures build and fly them? What do they look like? How do they think? Are their ideas and ideals similar to ours? Could we understand them? All these and many other questions plague the serious investigator.

If we are to rely on sighting data alone we are bound to get a rather one-sided idea of these creatures. For example, we see saucers travelling at terrific speeds and then suddenly stop or change direction. Under our concepts of physics no creature of flesh, blood and bone could withstand the terrific forces which would be associated with such actions. Therefore, we are likely to assume that the Saucerians must be either some manner of robot or a creature the like of which we have never encountered.

IF TABLES REVERSED

Again, it is hard to understand why any race of creatures having the tremendous power at their disposal which we see demonstrated by the saucers, should be content to fly rather aimlessly over our globe, without doing something more definite. If the tables were reversed, we most certainly would. After a very brief reconnaissance we would land and announce to the natives that we were taking over. The fact that the Saucerians have made no such move appears to indicate that they must regard us in the same general category as the other flora and fauna native to this planet, and to them our civilisation is so primitive as to be indistinguishable from that of the lower animals and insects.

We could go on speculating in this manner for quite a while without coming anywhere near the truth. Fortunately the people who come to us from elsewhere in flying saucers have seen fit to make contact with people of earth, and to impart as much information and understanding as the contacts were capable of assimilating or passing along to others. There have been many published instances of contacts between these people from outside and people of earth, and a very great many more which have not been published. As is always the case in any new and romantic field, there are those who exaggerate, but it is not too difficult to establish that the vast majority are honest and authentic. For instance, when a dozen or so independent contacts having no common connection, and each alone believing that he or she has been favoured above all others to receive this message, all tell the same message, even to names and descriptions which tally perfectly, one has little choice but to believe that they are telling the truth.

MAGNIFICENT PHILOSOPHY

Furthermore, when the material given to us through the many channels is all assembled and analysed, it adds up to a complete and

elegant philosophy which makes our efforts sound like the beating of jungle drums. These people tell us of a magnificent Cosmic Plan, of which we are a part, which transcends the lifetime of a single person or a nation, or a civilisation, or even a planet or solar system. We are not merely told that there is something beyond our immediate experience; we are told what it is, why it is, and our relation thereto. Many of our most vexing problems are solved with a few words; at least we are told of the solutions if we have the understanding and fortitude to apply them. We are told of the inadequacies of our science and we have been given the basic grounding for a new science which is at once simpler and yet more embracing than the mathematical monstrosity which we have conjured up. We have been told of a way of life which is utopian beyond our dreams, and the means of attaining it. Can it be that such a self-consistent, magnificent philosophy is the figment of the imaginations of a number of misguided morons? I do not think so.

If the only evidence we had was philosophical, we might justifiably suspect it, but when coupled with the reality of the observations, thousands of them, we cannot dismiss it so easily. This is especially true when we consider that the science which has been passed to us from these people from elsewhere explains in a manner which we have been quite unable to do why the saucers behave as they do, and how it is that they can do things which to us are virtually impossible. The science and the performance check perfectly!

Again, we have been told where our scientific ideas are wrong, or inadequate, and experiments have been suggested and carried out, and in every case the alien science has been vindicated.

YOU CANNOT MAKE HIM DRINK

We may ask, if all this is known, why has it not been publicised, why are not these matters being studied instead of atom bombs? The answer: it has been publicised. Books have been written and hundreds and thousands of copies sold. There are available many periodicals containing this material which may be had for quite a nominal sum. Reports have been prepared by serious investigators and presented "through the proper channels." But it is truly said that one can lead a horse to water but one cannot make him drink! Those who are in control of our society are satisfied with it the way it is and will resist any attempt to change anything which is likely to disturb the equanimity of their lives. There are those who can't be bothered to get the facts and make up their own minds; they would rather dismiss the whole matter as nonsense, because someone who holds their respect says it is nonsense. There are those who fear for their social security, and will therefore have no part of anything which might place it in jeopardy. There are those who say our science works and gives us many things which we would not otherwise have. What is wrong with that? Why discard it? There are probably as many private reasons for not facing up to the facts as there are people who refuse to do so. However, it is consoling to realise that, through the humble and often criticised comic strip and science fiction stories, the younger generation is being conditioned to accept the reality of people from elsewhere, and when given the opportunity to do so avidly assimilate all they can get on flying saucers and the people who fly them.

THE FUTURE

The question may well be asked, what of the future? This question has been posed many times, and to the people from outside. The answer; we don't know for sure but we are aware of trends. We ourselves are also aware of trends, but considering our limited means for gathering data we must of necessity do a vastly inferior job of predicting events. Our experience has been that when they choose to do so, the people from outside can be quite accurate in their prediction.

We may summarize the entire flying saucer picture as follows. We have arrived at a time in our development when we must make a final choice between right and wrong. The people from elsewhere are much concerned about the choice which we will make, partly because it will have its repercussions on them and partly because we are their blood brothers and are truly concerned with our welfare. There is a cosmic law against interfering in the affairs of others, so they are not allowed to help us directly even though they could easily do so. We must make our own choice of our own free will. Present trends indicate a series of events which may require the help of these people and they stand by ready and willing to render that help. In fact, they have already helped us a great deal, along lines which do not interfere with our freedom of choice. In time, when certain events have transpired and we are so oriented that we can accept these people from elsewhere, they will meet us freely on the common ground of mutual understanding and trust, and we will be able to learn from them and bring about the Golden Age all men everywhere desire deep within their hearts.

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THE FIVE FACES OF MANW.B. SMITH

When we enter this physical universe we find that there are five relationships to which we are subject. An understanding of these relationships is necessary for a successful sojourn here and progress to higher planes. Not only do the majority of us remain in ignorance of these relationships, but many of us do not even recognize their existence. It is true that there are certain ones which are of interest to us and we do a little lip service there for purely selfish reasons, but there is almost no recognition of the essential nature of these five relationships.

The first relationship is Religion, which is the relationship of a being to its Creator. Here we have a hodge-podge of superstition dressed up in pageantry giving lip service to something in which few people actually believe, and practically no one knows anything about. Every great religion says "LOVE THY GOD" but how many understand what this means? We think we know family love, love of country, love of things, but do we know love of God?

Love Thy God as Thyself! This is something a bit nearer to our understanding because we are all pretty selfish creatures, but

again do we really know what it means? Do those of us who abuse our bodies and minds with the many and varied malpractices have any understanding of what it means to love ourselves.

Give Thy God with all Thy Heart, with all Thy Soul and with all Thy Mind! It is again we are urged to a course of definite action which is spelled out rather clearly, and again we do little or nothing about it. We must learn to know our hearts, our souls and our minds; to know their capacity and then to use this capacity. There is a tremendous potential here if we but understand it.

The Hierarchy is the relationship of a Being to others not of its kind. In this universe we know very little about the hierarchy beyond the few other living things which share this planet with us, and which we regard with disdain as being of little or no consequence. We have little knowledge of the vast realms of beings of higher evolution than ourselves and when we do experience a little impact from them, we ignore and suppress it and hope that it will go away because it embarrasses us. There are very few people on this earth who do not feel that somehow they are the Acme of Creation and there are none who feel, except possibly a vague and nebulous Deity with whom we have little or nothing in common. And yet, knowledge of the hierarchy is obviously necessary if we are to progress in it; for we are a part of it whether we realize it or not.

Civilization is the relationship of Beings with others of the same kind. This is something about which we know a little, but we know very much. We have a civilization of sorts but it isn't very good, not nearly so good as the civilizations developed by the Ants and the Bees. We have a general idea of what a civilization ought to be and we all have dreams of a Utopia, but we have not yet mastered even the basic principles upon which a successful civilization must be based.

Many ideologies and 'isms are all attempts to develop a more satisfactory civilization and each must be regarded as a step along a road which leads towards the ultimate. As long as there is disagreement about how civilization should be set up, just that long will it continue to evolve. When people on this planet are satisfied with their civilization it will crystalize as has the civilization of the Ants and the Bees, and further evolution will rest entirely with the individuals. Because of the basic restless nature of our branch of mankind we will probably not settle for a civilization pattern in the near future, and our ultimate civilization will bear little resemblance to what we have now. But the important thing is to realize that what we have isn't very good and the ultimate is still far off, and we should work towards it.

Science is the relationship of a Being to the physical world in which it exists. We have evolved a science of sorts by observing Nature and guessing at the causes of the phenomena which we observe. When we have guessed a plausible explanation we test it by asking Nature a few experimental questions and then fitting the answers into our hypothesis. If they can be made to fit we assume

that our original guess was right and we then proceed gleefully on to the next guess. By following this method we have built up a most magnificent concept of this universe in which we live, all beautifully supported by mathematical analyses, and almost entirely self-consistent.

Although it is not generally admitted in scientific circles, there is a prime Cause for this universe, called the Creator, and this universe was established from and within Nothing-At-All. What we observe is the end product of this creation, or at least that stage of it which involves us. What we do not see is the mechanism by which this all came about and so long as we insist on inspecting it from our rather limited point of view we are not likely to find out very much about its inherent structure. However, if we follow the path trodden by the Creator and start as He did, from Nothing-At-All and follow up the logical sequences, FROM THE BOTTOM UP, checking with Nature by experiment every so often we can get quite a different view of this universe which is ever so much simpler and probably much more accurate than that of our conventional science. By definition Science is the relationship of a Being with the physical world in which it exists, so it is fairly obvious that the viewpoint should be that of the Being, i.e. an emanation of the Creator following the path set by the Creator.

The relationship of the Being to the physical vehicle which it occupies is the Tallus, and this is an area where understanding is most conspicuous by its absence. Unfortunately, many, many people do not even recognize that there is such a relationship, believing that the physical vehicle IS the Being, in spite of the vast amount of evidence which is apparent to all that the Being is quite apart, though intimately associated with the physical vehicle. The subtraction of limbs or organs does not detract from a Being and the retirement of a Being from its physical vehicle is not necessarily related too closely with such subtractions. The transcendental nature of Awareness and impossibility of localizing it within a physical structure indicates that it is something separate.

We are accustomed to living in our physical bodies and to us it feels "normal" and any deviation from this condition results in feelings and sensations which are unique. If our thresholds are depressed as in sleep or under anesthetic we can alter the relationships of our Beings to our vehicles without undue disturbance, but on the other hand, if our thresholds are raised any such alteration becomes more apparent. These are the Tallic sensations or experiences, and are an essential part of our experience here. Drugs, excitement and many other stimuli simultaneously raise our thresholds and allow alteration of the Tallus relationship. The group of experiences involving sex, birth, death and mediumship all involve closely related physical sensations caused by the partial (or complete) withdrawal of the Being from the physical vehicle, and some rearrangement in relation thereto.

These then, are the five relationships which make up the experience of a Being in a physical environment. They are part and parcel of our lives and their understanding is an essential part of our evolvment. We have but a scanty appreciation of these relationships, and even to many they do not exist except as philosophies or superstitions. However, we have only to look at what little is apparent of our Brothers from Elsewhere to appreciate the results of Better understanding of these basic relationships; and they tell us that they too, have a long way to go!

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BINDING FORCES

W.B. SMITH

Matter, as we know it, is held together by "forces" the nature of which we do not clearly understand. We have developed some very elegant theories to explain most of the observed phenomena, and we add sufficient "correction factors" to make the theory fit the rest. But every now and then we come face to face with something which our theory just will not explain, and rather than admit that our theory is inadequate, discard it and start over again. We just can't bring ourselves to throw out such an elegant mathematical masterpiece, so we usually just turn our backs on the new fact and refuse to recognize it. This is well demonstrated in the matter of binding forces.

Some years ago, following some rather bad aeroplane crashes for which there was no satisfactory explanation, the people from "elsewhere" were asked through "contacts" if these crashes were possibly due to our craft flying too close to their craft. We were informed that while a very few of our craft had suffered in this manner much greater care was now being exercised by the saucer pilots so that this cause was virtually eliminated. We were informed, however, that our pilots flew around in complete disregard of the regions of reduced binding with which this planet is afflicted, and very often their craft were not designed with a sufficient factor of safety and came apart.

A Counter Argument

When we countered by saying that we knew nothing of such regions, we were informed that means for detecting them were easily within our technology and that we should build suitable instruments and then pay attention to what they registered. They also passed a few uncomplimentary remarks about our propensity for shooting off atomic bombs which actually created a pair of such "vortices" with each explosion.

The principle of the "Binding Meter" was then explained to us, and we were left to work out its detailed design. The principle is quite simple: all matter is held together by the relative configuration of the three basic fields of nature, tempic, electric and magnetic.

These configurations are characteristic of what we call the molecular structure, and the interactions of these fields is NOT linear. Therefore, since the fields interactions are the sums of the local fields, and the background fields, such interaction can be used to indicate certain characteristics of the background, through this very non-linearity.

Structurally the binding meter consists of a nylon fibre which is stressed close to its elastic limit (after having been over-stressed to establish stability) pulling against a steel spring which is stressed well below its elastic limit. The nylon fibre is wound around a spindle which carries a pointer so that any longitudinal movement of the fibre will cause the spindle to turn and the pointer to move across an arbitrary scale. In setting up the instrument nylon fishing leader was used and pre-stressed to the breaking point and this point noted. The instrument was then threaded and one end fastened to the spring and the other placed under tension to 75 percent of the previously noted breaking stress, and the end clamped under a friction washer which was somewhat softer than the nylon to grip it slightly without deforming the nylon. The whole instrument was then set aside for a few days to make sure that it was stable, after which the pointer was slipped to mid scale and the instrument was considered ready for service.

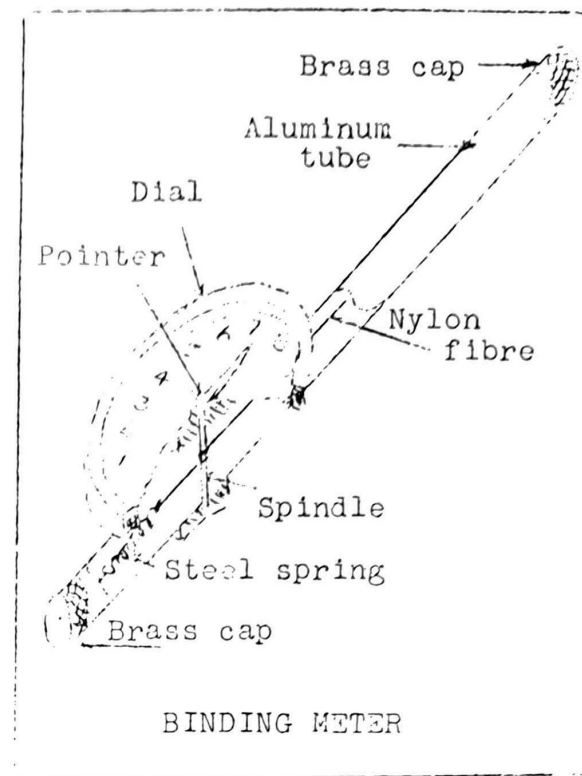
Many Successful Instruments

By making the body of the instrument of aluminium tubing about $\frac{1}{2}$ inch diameter and 10 inches long, the combination gives very good temperature compensation, and a range of temperature of 100 F. makes less than $\frac{1}{2}$ division on an arbitrary scale of 12. There is no perceptible change over the complete range of humidity and no barometric sensitivity was observed. Dimensions apparently are not critical, and successful instruments have been made with quite a variety of parameters. Unfortunately, we have no way of calibrating these instruments at the present time, and the best we can do is use them for qualitative indication.

My colleagues and I have investigated the general areas through which aircraft have flown just prior to unexplained crashes and we have found several regions of reduced binding, the meters showing several scale divisions change. These regions seem to be roughly circular and about 1,000 ft. in diameter, and probably extend upward quite a distance. A few have been detected by air when planes have flown through them, but fortunately in these cases the craft were strong enough to remain intact.

Whether this is generally true or not we cannot say, but it does appear that things are somewhat stronger in the northern latitudes than they are farther south, and certain areas seem to be perennially afflicted with reduced binding. We do not know if the regions of reduced binding move about or just fade away, but we do know that when we looked for several of them after three or four months we could find no trace of them.

It would therefore appear that this business of reduced binding would stand quite a bit of further serious investigation. Unfortunately, because of the unorthodox source of this information, efforts so far to obtain official recognition have resulted only in more letters being added to the "crank file".



ARE WE ENTERING - OR LEAVING?

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 would 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 Keenlyside, 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 from 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 grim testimony to its potentialities. We may well ask ourselves the question - we are crossing the threshold, but are we entering or just leaving?



THE HISTORY OF THE

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OF THE EAST
BY THE AUTHOR OF THE HISTORY OF THE
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THE HISTORY OF THE

The Committee is made up of distinguished and experienced engineers. Wilbert Smith served himself as a member of that Committee at various times in the past.

"The Committee is not compelled by the terms of its reference to make the Award every year. In some years, in fact, it has not been made since in the opinion of the Committee there had not been, during the course of that year, any achievement, development, invention or service of sufficient importance to merit the Award. As you will readily see, it is by no manner of means given lightly and this is one of the reasons that it is so highly prized.

"In the case of Wilbert B. Smith, the Award was made in recognition of a lifetime of dedicated and distinguished service to the advancement of technical knowledge in the Canadian broadcasting industry, the improvement of its techniques, the protection of its interests, of an example of diligence and integrity and in consideration of the universal respect and regard that Wilbert's efforts had earned throughout the broadcasting industry, in the Government of Canada, and in other areas.

"All of us who have knowledge of the circumstances and of the work done by Wilbert Smith and the manner in which he did it, are agreed that this Award has never been better deserved. Wilbert remains in our memories as an outstanding Canadian, a gentleman we were all proud to know. That memory, like his distinguished lifetime record, should be and I am sure is, a source of great pride to you all."

We are indeed all very proud and vastly pleased that this splendid tribute has been paid to the memory of Wilbert B. Smith, and it seems very fitting that after a lifetime of dedicated service in the technical field of radio communications, the honour of this particular Award has been made to him. As a member of the C.A.B. Judging Committee, it was Wilbert's honour and pleasure to present this same trophy to other Canadians distinguished in the same field of endeavour, and it was no secret that he hoped one day to earn this Award. We, in the Ottawa New Sciences Club, have continued to feel the presence of Wilbert B. Smith among us, and we feel sure that he is equally pleased to have been awarded this prized trophy.

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