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File Référence

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2 October, 1987

To - Mr. Grant Cameron
649 Silverstone Ave.
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Dear Mr. Cameron:-

With reference to your letter of 3 September, 1987, I have not neglected it but absence from my office during much of September has made it impossible to reply until now. It is unfortunate that you gave me no telephone number by which I could reach you. As I have no secretary in my present position I rely a great deal on personal contacts by the telephone. Bell could not help me in your case.

Let me summarize a few general points. You credit me with having discussed the question of UFOs on many occasions when the subject never came up. Certainly I knew personally many of the names you mention. For example, C.J. MacKenzie, Tuzo Wilson, James Wait, Paul Hellyer, Bill Petrie, Bob Aldwinckle and George Garland, but I have no recollection of any conversation with any of the above where UFOs were even mentioned. Omond Solandt, Dick Rettie and Wilbert Smith are exceptions. In setting up the Second Storey Committee, Omond explained to me that the chief interest of the Canadian Government was whether or not the UFOs posed a threat to national security. Dick Rettie asked me if I thought the United Nations should be heavily involved in UFO research and my opinion was "no". Wilbert was a good friend of mine and we often discussed many things. However, I did not agree with his statement on page 12 of Project Magnet Report, nor did any other members of the Second Storey Committee, as far as I am aware. Please note that the terms of reference for Project Magnet were entirely in the field of certain esoteric studies of the electro-magnetic forces in and around the earth (see Appendix D, pages 1-5 of your letter). When this Project developed into an effort to explain UFOs it became "a spare-time activity" as stated in my note of 9 May, 1968 (see Appendix A of your letter), a quote directly from my conversations with the senior officials in DOT. Smith's primary value on the Second Storey Committee was his assistance in drawing up instructions for those interviewing observers of strange events. We were trying to get the real objective facts of these observations and to remove, as far as possible, the subjective opinions and enthusiasms of each individual observer. Our committee was not asked to carry out any general study of all the previously reported incidents.

I would like to make one further general observation. Smith's report on his Washington visit in 1950 over-emphasized the importance of the UFO problem. Since I spent the last three years of my active service in the RCAF (1943-1946) working full-time as a liaison officer in operational research at both our headquarters in London England and in Ottawa, I was very

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familiar with the handling of large masses of top-secret material. There was, in the post-war period just before 1950, a tendency to over-emphasize the search for new sources of energy and new, secret weapons. For many years I have fought against the military classification of the facts of basic science. When I agreed to take over the UFO file from DND in 1968 at the request of our Minister, the Hon. C.M. Drury, it was on the understanding that I would not be required to handle classified material. Government classification of reports in this field has only created misunderstanding and the idea that various countries are hiding some strange secret about UFOs. In my estimation this belief is completely incorrect and without foundation. What senior officials of all governments want to hide is how little any of them really know about the so-called UFOs. I have kept a watching brief on the sky for over 60 years as a professional astronomer, and I should just love to be able to say that I had found definite scientific evidence of the existence in the universe of an alien intelligence apart from that on earth. My name would go down in history. I am enclosing two of my published statements on this subject from 1975 and 1980, and since then I have seen no reason to alter what I said on those occasions.

Now, let me deal with your specific questions as far as I can:-

- (1) a. I have no recollection of ever seeing either the original memo from W.B.Smith, dated 21 Nov. 1950, nor a copy of the letter from R.S.Rettie to W.H.Barton, dated 30 June 1967, until I received your letter in September, 1987 (copies of the two documents noted above were appendices "D" and "B" to your letter). As a purely personal footnote I would never use the word "nonsense" when describing a subject which has puzzled and worried numbers of people living in various countries over the world. See also my comments in the introductory paragraphs above re your appendices "A" and "D".
- (1) b. See answer to (1) a.
- (1) c. I had never seen the code word "Coldcode" until I received your letter.
- (1) d. Naturally, I have no idea.
- (2) a. If you can explain every statement made by officials in any department of the Government, you are a better man than I am. Also, see above my opinion on classification.
- (2) b. The only studies relating to Project Magnet which I have seen or know about are those submitted by W. B. Smith to the Second Storey Committee and made available to the public when I was head of Upper Atmosphere Research Section at NRC.
- (2) c. I have no knowledge of the answers to any parts of this question. As the Chairman of the Second Storey Committee I hold a signed copy of the report Smith made to the Committee, referred to in (2) b.
- (3) a. Solandt did not consult me concerning the make-up of the Second Storey except that we agreed it should be completely inter-departmental as far as possible. Garland did not attend a single meeting of the Committee, nor do I remember discussing UFOs with him. As I have already noted I made continued efforts to have all material in this field declassified.

- (3) b,c,d. The answer to all of these questions is no.
- (3) e. I haven't the slightest idea.
- (3) f. Members of the Second Storey Committee had not seen, as far as I am aware, the exact wording of Smith's memo of 21 Nov. 1950, but if they had I believe their reaction would have been quite similar to my remarks in my third introductory paragraph above. Smith talked a lot but certainly none of us felt he had made a major revelation, to use your wording.
- (3) g. As far as I know, there were no reports of the type you mention made by the people you list. If there were, I am sure they would have been brought to attention of our Committee.
- (3) h. There was little direct liaison between Canada and U.S.A. on this subject. We noted the reports of Project Blue Book, and at our last meeting tentative plans were made to have Capt. Ruppelt come to Ottawa to discuss his investigations with our Committee, but these fell through. The above comments refer to the period 1950-1953. Much later, during the investigations of the Condon Committee in 1966-1968 when I was head of the Upper Atmosphere Research section of NRC, we had relatively frequent consultations with the scientific UFO investigators in the USA. As noted above, we at NRC took over the UFO files from DND in 1968, and from that time on all reports on these files have been made available to the general public. At present, reports older than one year are on file with the National Archives of Canada at 395 Wellington St., Ottawa, Ontario, K1A 0N3. The recent reports are in the Planetary Sciences section, Herzberg Institute of Astrophysics, National Research Council, Ottawa, Ontario, K1A 0R6.
- (4) a. I was amazed to read the clipping from the Winnipeg Free Press, a daily newspaper I never see (your appendix F2). I certainly had heard vague rumours about some attempt to build a UFO landing site in western Canada, but that was absolutely all I knew about it. I used to see Paul Hellyer regularly at church on Sundays, as we were both attending Southminster United Church in Ottawa. As I have noted above we never discussed the subject of UFOs. If any such landing site was ever built, either officially or unofficially, I am not one bit surprised that no UFO ever landed on it. I certainly cannot tell the DND side of the story, since I was discharged from the RCAF in July, 1946.
- (4) b,c,d,e,f,g,h,i. Impossible for me to answer any of these questions since I knew nothing about the "so-called" project.
- (5) a,b,c. Apart from vague ramblings about the great importance of the all-out investigations of UFOs the only material Wilbert ever transmitted to me in writing was his report to the Second Storey Committee, which our group here has made available to the public. I was not involved in any of the hypothetical discussions you refer to in these questions.

Sincerely yours *Peter M. Millman*

Enclosures:- "Seven Maxims of
UFOs", 1975.

Peter M. Millman, Researcher Emeritus

"Position Statement" from Encyclopedia of UFOs, 1980.

For the benefit of this group, therefore, I would like to make one thing totally clear. All papers submitted or solicited for consideration for publication in this JOURNAL are fully refereed to the most exacting standards to be expected of a journal of our international stature. The usual number of referees chosen is two, though it may be one, or, in some cases, I have even sought the advice of as many as five. Referees are chosen within Canada if there are obvious experts in the field. But the primary consideration is close familiarity with the subject of the paper, and therefore, where appropriate, referees may be, and frequently are, chosen from outside the country or the North American continent.

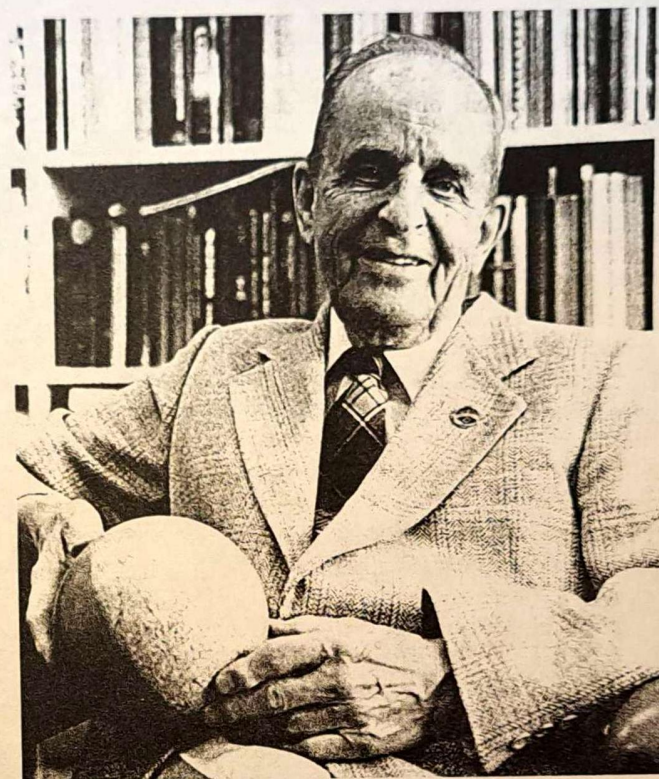
This statement of refereeing policy is not intended to discourage non-professional authors. On the contrary, the referees are there to help you. But it is intended to reassure professional astronomers that this is a fully refereed journal and you may safely say so in your *curriculum vitae* or your grant applications. We would be disappointed if you did not do so.

JEREMY B. TATUM

PETER MACKENZIE MILLMAN, 1906–1990

BY IAN HALLIDAY

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PETER MACKENZIE MILLMAN died in an Ottawa hospital on December 11, 1990, after a brief illness. He will be greatly missed by his friends and colleagues throughout the entire astronomical community but the loss will be shared by many whose lives he touched through his numerous activities in other areas of life. Peter Millman was a special friend to all who had the privilege of knowing him well.

The eldest of the four sons of Robert M. Millman and Edith (Middleton) Millman, Peter was born in Toronto but moved to Japan at the age of two, when his parents became missionaries for the Anglican Church of Canada. Most of the next seventeen years were spent in Japan, where he absorbed a great deal of the local

culture. He became fluent in Japanese and retained this ability throughout his life by conversing in Japanese whenever the opportunity existed. His lifelong interest in mountain climbing can be traced to his youth in Japan where his family also encouraged a deep interest in nature. The great earthquake of September 1, 1923, struck while the family were at a summer home in the country and left a lasting impression on the teen-aged Peter Millman of the immense power of natural forces. Peter's astronomical interests developed while he was still a secondary student at the Canadian Academy in Kobe. His first published paper was an account of his observations of Mars in Japan during 1924, published in this JOURNAL in 1926.

In 1925 Peter Millman returned to Canada to enroll at the University of Toronto where he graduated in 1929 with a B.A. degree, specializing in astronomy. His long association with the Royal Astronomical Society of Canada (R.A.S.C.) began as a student, when he joined the Toronto Centre in 1925, and he received the Society's Gold Medal upon graduation in 1929. He considered himself fortunate to obtain summer employment from 1927 to 1929 at the Dominion Astrophysical Observatory in Victoria, not so much for the salary, which paid little more than his travel and living expenses, but for the opportunity to learn the observational side of astronomy from astronomers such as Dr Joseph A. Pearce, whom he considered to be his mentor.

Graduate training in astronomy was not available in Canada in 1929. Peter began an eventful four years at Harvard University where, at the suggestion of the Director, Dr Harlow Shapley, he undertook a systematic study of several spectra of meteors that had been secured by chance on other programmes at Harvard. Thus began his lifelong interest in meteoric science and, although he became involved in all aspects of the field, meteor spectroscopy always remained his special interest. In 1931 he received the A.M. degree from Harvard, and a year later his Ph.D. for his pioneering study of meteor spectra. He continued with post-doctoral studies as an Agassiz Scholar in 1932-33. During his years at Harvard he formed lasting friendships with many other students who were later to rise to positions of prominence in international astronomy. Of far greater importance to Peter, however, was his marriage in 1931 to Margaret B. Gray, a nurse from Nova Scotia whom he met during a brief stay in the Harvard Infirmary. Their partnership was to last nearly 60 years. In his later years Peter frequently remarked that he had been fortunate in many aspects of his scientific and personal life but by far his greatest good fortune was his choice of a lifelong companion.

The David Dunlap Observatory (D.D.O.) of the University of Toronto opened in 1935, but, for several years prior to the opening, the senior staff members, Dr C.A. Chant and Dr R.K. Young, were much occupied with planning the Observatory and supervision of construction of the 74-inch reflector. It was natural that Dr Chant should seize the opportunity to recruit his former student, Peter

Millman, as a staff member in 1933, to assist with preparations and to help with the teaching load in the Department of Astronomy. During his seven active years at D.D.O., Peter participated in the Observatory's main programme of stellar radial velocities but he also began a systematic programme of meteor observations, with emphasis on spectroscopy. His regular pages of *Meteor News* first appeared in this JOURNAL in 1934. More than 120 issues eventually appeared, covering all aspects of meteor astronomy throughout the world.

Dr Millman's career at the D.D.O. was interrupted early in 1941 when he enlisted in the Royal Canadian Air Force. Initially he was one of numerous scientists teaching aerial navigation to air crew trainees in Canada, followed by active duty in England as an Operational Research Officer. In 1946 he retired with the rank of Squadron Leader and resumed his scientific career with the Dominion Observatory in Ottawa.

While still in the Air Force, Dr Millman organized a flight to observe the total solar eclipse of July 9, 1945, flying in a Mitchell bomber over southern Saskatchewan. This was the first of six airborne expeditions in which Peter Millman participated, three for total solar eclipses (1945, 1954, 1963) and three to observe meteor showers (1946 Giacobinids, 1972 Giacobinids, 1976 Quadrantids). The most significant of these ventures proved to be the 1946 expedition to observe the brief but spectacular shower of the Giacobinids (also called Draconids) on October 9. When poor weather was predicted for Ottawa, Peter used his Air Force connections to secure a military aircraft with permission to land anywhere in Canada. Clear weather was encountered near North Bay, Ontario, and the observations were made from the ground at the airport. The significance of the photographic spectra secured was not fully apparent until laboratory data on collisional excitation efficiencies became available many years later. Dr Millman was able to use these data to deduce relative abundances of four important elements in the fragile Giacobinid particles. The Giacobinids are an unusually slow shower - hence the spectra are not complicated by significant ionization. In the non-equilibrium conditions of meteor flight, the correction for ionization is precarious, so the Giacobinid data published by Millman in 1972 remain the most acceptable relative abundances from meteor spectroscopy.

As Chief of the Stellar Physics Division at the Dominion Observatory, Dr Millman had administrative responsibility for a small group of astronomers involved in solar physics, stellar spectroscopy and theoretical astrophysics in addition to his personal interest in building a comprehensive programme of meteor research. The meteor programme quickly became a cooperative venture with the National Research Council, where D.W.R. McKinley and his co-workers were among the first to apply radar to the study of meteors. Combined observations by radar, visual, photographic and spectroscopic techniques proved very effective and were conducted for many years. Another major project at the same time was

the creation of the Meanook and Newbrook Meteor Observatories in northern Alberta in 1951. Two of the specially designed Baker Super-Schmidt meteor cameras were installed at the observatories in an effort to use meteors as a tool to compare upper atmosphere densities in Alberta and New Mexico, where Harvard-Smithsonian astronomers operated the other four Super-Schmidts. Meteors proved to be unsuitable for solving this particular problem but the Alberta Observatories produced excellent meteor spectra for two decades.

The meteorite crater programme of the Dominion Observatory has received well deserved acclaim. It may not be well known that Peter Millman had a decisive influence on this programme, in addition to active participation in its early years. It was he who brought Ralph B. Baldwin's book *The Face of the Moon* to the attention of C.S. Beals, the Dominion Astronomer, and together they decided it should be possible to locate in Canada some traces of the meteoritic bombardment that shaped the lunar surface.

Early in 1955 Millman transferred from the Observatory to the National Research Council where McKinley was assuming a heavy administrative load and the future of the Council's meteor programme was in doubt. The writer took over the meteor programme at the Observatory and the Ottawa observations continued much as before. As Head of the Upper Atmosphere Research Section, Millman used the advent of increased observational activity for the International Geophysical Year (I.G.Y.) to build the Springhill Meteor Observatory south of the city, away from light pollution. This fine installation secured first-rate meteor data for nearly three decades and was also an auroral observatory during I.G.Y. and later years. Post-doctoral fellows from Czechoslovakia and India added an international flavour to its activities as did Dr Millman's continuing partnership with Dr A.F. Cook of the Harvard-Smithsonian Observatories. With the advent of electronic observing techniques, particularly vidicon and orthicon instruments, other partnerships developed with the Dudley Observatory in Albany, New York, and with the National Aeronautics and Space Administration Marshall Space Flight Center in Huntsville, Alabama.

Peter Millman was intensely interested in all members of the solar system, large or small. Meteor spectroscopy was confined to moderately large meteoroids because only bright objects could be observed spectroscopically, but direct photography and particularly radar observations extended the range to much smaller particles. Peter became an expert on the size distribution of interplanetary matter over a huge range of mass. He was personally involved in the recovery of three Canadian meteorites and spent some time collecting specimens at the Barringer (Meteor) Crater in Arizona. The revelations from space missions to the Moon, the inner solar system, the comet missions in the mid 1980s and the Voyager missions to the outer planets always brought an enthusiastic response from Peter.

Many stories could be told to illustrate Peter's endless enthusiasm for astronomy. My favourite dates back to 1967 when we both attended a symposium in Honolulu. My wife was with me on what was our first visit to the tropics, but Peter was alone on this occasion. Following a field trip to the zodiacal light observatory atop the extinct volcano of Haleakala on Maui, we all spent a few days exploring the island. One day we arranged to meet Peter for dinner at a hotel, which we approached in rented cars from opposite directions. My wife and I stopped to watch the Sun disappear below a perfect sea horizon and we were rewarded with an excellent view of the green flash. Peter had done the same thing and we were comparing notes as we chose a dinner table with a view of the sea and the western sky. Noticing that Peter was seated with his back toward the small restaurant stage, the head waiter rushed over to warn him he would miss the evening show unless he changed seats. Pointing out the window to the sky, Peter responded in all seriousness, "Oh no, the show's out there! You see, there's Mercury near the horizon, that's Venus just above it and up there is Saturn". The waiter looked confused, but Peter was right, of course. The hotel's song-and-dance show was no match for the beauty of the tropical evening sky.

Throughout his career, Peter Millman played an important role in scientific organizations. He was a dedicated member of the R.A.S.C. for 65 years and served as Librarian (1936–46), President of the Ottawa Centre (1945–50), National President (1960–62), Honorary President (1981–85) and as a member or chairman of numerous committees. He was also President of the Meteoritical Society (1962–66), President of Commission 22 on Meteors and Meteorites of the International Astronomical Union (I.A.U.) (1964–67) and Chairman of the I.A.U. Working Group for Planetary System Nomenclature (1973–82). The task of selecting names for the features revealed by space exploration of planets and satellites is a large one and Peter's diplomatic skills were well tested in steering the group through some ticklish international differences of opinion. He also served terms on the councils of the Royal Society of Canada, American Astronomical Society, Canadian Aeronautics and Space Institute, and for six years (1966–72) on the Council of the Smithsonian Institution in Washington. When the Canadian Astronomical Society was formed, Peter served as its first Secretary from 1971–77. Among the national committees of which he was a member, special mention should be made of the National Research Council (N.R.C.) Associate Committee on Meteorites of which he was a member for a continuous 30 years, from its inception in 1960.

A distinguished scientific career brought its share of honours to Peter Millman. His excellent academic record earned graduate fellowships for him at Harvard. A lifetime of research on the solar system was recognized by the award of the J. Lawrence Smith Medal of the U.S. National Academy of Sciences in 1954, by the dedication of I.A.U. Symposium 90 "Solid Particles in the Solar System" in

his honour (1979), by the Gold Medal of the Czechoslovak Academy of Sciences (1980), and by the naming in 1984 of minor planet 2904 as "Millman". He was particularly pleased with this last recognition and we can expect to see the name Millman applied to some suitable lunar crater once the mandatory three years have passed after the death of the person to be honoured. In 1986 Dr Millman was one of the first of a small number of retired N.R.C. scientists to be granted the title of Researcher Emeritus.

Even a lengthy summary of a scientific career fails to convey an appreciation of the person involved. Peter Millman had an exceptionally broad range of interests and talents. He was an excellent lecturer on scientific subjects with a rare ability to convey science to the public, an expertise he developed by writing a weekly newspaper column on astronomy for many years. He particularly enjoyed teaching children, whether it was the senior Bible Class at his Church or in frequent visits to school classes. Peter was much involved in activities at the Church, including an annual travel lecture that he presented to raise funds for its work. These events not only demonstrated his skill as a lecturer and a photographer, but Peter also used them to stress his belief in the need for greater understanding among nations and cultures, a theme that developed naturally from his youth in Japan.

The recreational activities of Peter Millman included support of both amateur and professional music programmes, an extensive wildflower garden and a multitude of collections. The latter involved postage stamps, coins, sea shells, books, magazines and other items. Once, in his mid-seventies, Peter discovered that his high-school baseball glove had been donated to a bazaar at the Church so he proceeded to support the Church and maintain his collections by buying it back. His intense love of nature was most evident at his summer cottage, part of an extensive property acquired by Dr Millman's parents in the Haliburton district of Ontario where each of the sons developed a family summer home.

Peter Millman was a devoted husband, father and grandparent. He is survived by his wife, Peggy, their two children, Barry and Cynthia (Floyd) and by nine grandchildren and two great-grandchildren. Peter was proud of the achievements of his children, both of whom hold academic positions at Canadian universities, and also of the progress made by his grandchildren. The Royal Astronomical Society of Canada conveys its sympathy to all members of the family, with whom we share a common sense of loss. A floral tribute at the funeral was composed entirely of wildflowers while the service illustrated the theme that "All of life was a joy to Peter".

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BIBLIOGRAPHY OF PETER M. MILLMAN

1. Observing Mars in Japan. *J. Roy. Astron. Soc. Canada* **20**, 198–200, 1926.
2. The spectroscopic orbit of HD 176819 and a note on HD 185936. *Publ. Dom. Astrophys. Obs.* **4**, 97–101, 1928.
3. Orbit of the spectroscopic binary HR 7200. *J. Roy. Astron. Soc. Canada* **22**, 143–144, 1928.
4. The quality of the light of the eclipsed Moon. *J. Roy. Astron. Soc. Canada* **23**, 201–207, 1929.
5. Note on the magnitudes of photographed meteors. (with G.W. Wheelwright) *Harvard Coll. Obs. Bull.* No. 872, 3–5, 1930.
6. A new Cepheid variable star in Scorpio. *Harvard Coll. Obs. Bull.* No. 881, 19, 1931.
7. An investigation of the errors of objective prism radial velocities. *Harvard Coll. Obs. Circular* No. 357, 1931.
8. Objective prism radial velocities. *J. Roy. Astron. Soc. Canada* **25**, 281–293, 1931.
9. Second note on the magnitude of photographed meteors. *Harvard Coll. Obs. Bull.* No. 885, 18–20, 1931.
10. An analysis of meteor spectra. *Harvard Annals* **82**, 113–146, 1932.
11. The theoretical frequency distribution of photographic meteors. *Proc. Nat. Acad. Sci.* **19**, 34–39, 1933.
12. Note on meteor spectrum photography in 1932. *Harvard Coll. Obs. Bull.* No. 891, 6–8, 1933.
13. The spectra of meteors. *J. Roy. Astron. Soc. Canada* **27**, 150–154, 1933.
14. Spectrum of a fireball, Feb. 26, 1933. *J. Roy. Astron. Soc. Canada* **27**, 353–354, 1933.
15. Amateur meteor photography. *Popular Astronomy* **41**, 298–305, 1933.
16. The what and why of shooting stars. *Harvard Alumni Bull.* **35**, 722–725, 1933.
17. The Texas observers. *J. Roy. Astron. Soc. Canada* **28**, 161–164, 1934.
18. Canada's third large observatory. *The Telescope* **1**, 58–65, 1934.
19. Meteor news, 1934. *J. Roy. Astron. Soc. Canada* **28**, 35–36, 84–86, 137–142, 175–179, 223–227, 279–282, 329–332, 377–379, 417–430, 453–456; 1934.
20. An analysis of meteor spectra, second paper. *Harvard Annals* **82**, 149–177, 1935.
21. Meteor news, 1935. *J. Roy. Astron. Soc. Canada* **29**, 25–29, 74–76, 115–117, 167–168, 209–212, 241–242, 329–336, 363–367, 407–410; 1935.
22. The frequency distribution of the time intervals between meteors. *J. Roy. Astron. Soc. Canada* **30**, 338–342, 1936.
23. The David Dunlap Observatory. *Popular Astronomy* **44**, 349–353, 1936.
24. Photography of meteor spectra. *Scientific Monthly* **42**, 384–386, 1936.
25. Meteor news, 1936. *J. Roy. Astron. Soc. Canada* **30**, 25–30, 57–60, 101–104, 139–142, 192–196, 249–252, 293–295, 369–371, 416–418; 1936.
26. Meteor photography. *Amateur Telescope Making, Advanced*, p. 544, 1937. Reprinted, *J. Roy. Astron. Soc. Canada* **31**, 295–310, 1937.
27. General instructions for meteor observing. *J. Roy. Astron. Soc. Canada* **31**, 255–272, 1937.
28. A study of meteor photographs taken through a rotating shutter. (with D. Hoffleit) *Harvard Annals* **105**, 601–621, 1937.
29. Meteor news, 1937. *J. Roy. Astron. Soc. Canada* **31**, 43–52, 93–96, 137–140, 181–183, 225–226, 279–280, 317–318, 363–366, 398–399, 433–440; 1937.
30. An ancient Chinese sun-dial. (with W.C. White) *J. Roy. Astron. Soc. Canada* **32**, 417–430, 1938.
31. Meteorite statistics. *J. Roy. Astron. Soc. Canada* **32**, 201–206, 1938.
32. Meteor news, 1938. *J. Roy. Astron. Soc. Canada* **32**, 34–37, 91–94, 153–154, 195–206, 265–266, 304–308, 357–358, 391–395, 431–432, 457–460; 1938.
33. Is there vegetation on Mars? *The Sky* **3**, no. 10, 10–11, 1939.
34. Meteor news, 1939. *J. Roy. Astron. Soc. Canada* **33**, 17–25, 51–66, 113–114, 162–163, 217–221, 260–261, 301–309, 387–391, 439–444; 1939.

35. The Perseid meteor shower, 1939. *J. Roy. Astron. Soc. Canada* **34**, 117–129, 1940.
36. Photographing the recent grouping of the planets. *J. Roy. Astron. Soc. Canada* **34**, 87–88, 1940.
37. The Perseid meteor shower, 1940. *J. Roy. Astron. Soc. Canada* **34**, 469–479, 1940.
38. The falling of the stars. *The Telescope* **7**, 57–64, 1940.
39. Meteor news, 1940. *J. Roy. Astron. Soc. Canada* **34**, 29–30, 261–266, 386–389, 425–432; 1940.
40. R.C.A.F. Operation Eclipse. *Sky and Telescope* **4**, no. 11, 3–4, 1945.
41. Giacobinid meteor spectra. *HCO Announcement Card* 782, 1946.
42. Winter Exercise Musk-Ox. *J. Roy. Astron. Soc. Canada* **40**, 17–22, 1946.
43. Combined radar, photographic and visual observations of the Perseid meteor shower of 1947. (with D.W.R. McKinley and M.S. Burland) *Nature*, **161**, 278–280, 1948.
44. A note on four complex radar echoes from meteors. (with D.W.R. McKinley) *J. Roy. Astron. Soc. Canada* **42**, 121–130, 1948.
45. A phenomenological theory of radar echoes from meteors. (with D.W.R. McKinley) *Proc. I.R.E.* **37**, 364–375, 1949.
46. Three-station radar and visual triangulation of meteors. (with D.W.R. McKinley) *Sky and Telescope* **8**, 114–116, 1949.
47. Determination of the elements of meteor paths from radar observations. (with D.W.R. McKinley) *Can. J. Res. Sec. A*, **27**, 53–67, 1949.
48. A photographic study of the Draconid meteor shower of 1946. (with L.G. Jacchia and Z. Kopal) *Astrophys. J.* **111**, 104–133, 1950.
49. Spectrum of a meteor train. *Nature* **165**, 1013–1014, 1950.
50. Meteoric ionization. *J. Roy. Astron. Soc. Canada* **44**, 209–220, 1950.
51. Meteor velocities. (with D.W.R. McKinley) *Observatory* **70**, 156–158, 1950.
52. Meteor news, 1952. *J. Roy. Astron. Soc. Canada* **46**, 35–37, 79–82, 121–125, 155–157, 234–238; 1952.
53. Long duration echoes from aurora, meteors and ionospheric back-scatter. (with D.W.R. McKinley) *Can. J. Phys.* **31**, 171–181, 1953.
54. Canadian meteorites. *J. Roy. Astron. Soc. Canada* **47**, 29–33, 92–94, 162–165; 1953.
55. The typical Perseid meteor spectrum. *Nature* **172**, 853–854, 1953.
56. Meteor news, 1953. *J. Roy. Astron. Soc. Canada* **47**, 217–219, 253–254, 1953.
57. The Quadrantid meteor shower. (with D.W.R. McKinley) *J. Roy. Astron. Soc. Canada* **47**, 237–246, 1953.
58. Radio observations of meteors. *Science* **120**, 325–328, 1954.
59. Photometric analysis of a spectrogram of a Perseid meteor. (with A.F. Cook) *Astrophys. J.* **121**, 250–270, 1955; **124**, 476–477, 1956.
60. Meteor news, 1954. *J. Roy. Astron. Soc. Canada* **48**, 117–120, 193–195, 225–227; 1954.
61. Meteor news, 1955. *J. Roy. Astron. Soc. Canada* **49**, 31–32, 117–118, 169–172, 205–206; 1955.
62. Meteor echo durations and visual magnitudes. (with D.W.R. McKinley) *Can. J. Phys.* **34**, 50–61, 1956.
63. A profile study of the New Quebec Crater. *Publ. Dom. Obs.* **18**, 59–82, 1956.
64. The physics of meteors. *Phys. in Canada* **12**, no. 2, 7–26, 1956.
65. A complex Perseid meteor spectrum. *Sky and Telescope* **15**, 445–448, 1956.
66. Meteor news, 1956. *J. Roy. Astron. Soc. Canada* **50**, 30–34, 90–94, 133–134, 181–183, 217–218, 262–266; 1956.
67. The visibility of stars during twilight. *J. Institute of Navigation* **10**, 11–16, 1957.
68. An I.G.Y. program of meteor observing for amateurs. *Sky and Telescope* **16**, 317–319, 1957.
69. Mars at the 1956 opposition. *J. Roy. Astron. Soc. Canada* **51**, 129–132, 1957.

70. A visual aurora program for the I.G.Y. *J. Roy. Astron. Soc. Canada* **51**, 186–188, 1957.
71. The upper atmosphere and current research. *J. Roy. Astron. Soc. Canada* **51**, 334–340, 1957.
72. Meteor news, 1957. *J. Roy. Astron. Soc. Canada* **51**, 113–115, 161–164, 263–265; 1957.
73. Satellite periods and velocities. *J. Roy. Astron. Soc. Canada* **52**, 60–64, 1958.
74. Meteor news, 1958. *J. Roy. Astron. Soc. Canada* **52**, 29–33, 181–184, 230–232, 275–276; 1958.
75. The Meanook-Newbrook Meteor Observatories. *J. Roy. Astron. Soc. Canada* **53**, 15–33, 1959.
76. Photometric analysis of a spectrogram of a very slow meteor. (with A.F. Cook) *Astrophys. J.* **130**, 648–662, 1959.
77. The contents of space near the Earth. *Can. Aeronautical J.* **5**, 358–362, 1959.
78. Visual and photographic observations of meteors and noctilucent clouds. *J. Geophys. Res.* **64**, 2122–2128, 1959.
79. Note on some observational characteristics of meteor radar echoes. *J. Geophys. Res.* **64**, 2192–2194, 1959.
80. Meteor news, 1959. *J. Roy. Astron. Soc. Canada* **53**, 137–141, 181–183, 271–276; 1959.
81. The Brent Crater. (with B.A. Liberty, J.F. Clark, P.L. Willmore and M.J.S. Innes) *Publ. Dom. Obs.* **24**, 1–43, 1960.
82. Space astronomy. *J. Roy. Astron. Soc. Canada* **54**, 216–221, 1960.
83. Astronomy. *Encyclopedia Canadiana* **1**, 235, 1960.
84. Meteor news, 1960. *J. Roy. Astron. Soc. Canada* **54**, 39–41, 189–192, 247–248; 1960.
85. The near-infrared spectrum of meteors. (with I. Halliday) *Planetary and Space Sci.* **5**, 137–140, 1961.
86. This Universe of Space. CBC Publications Dept., Toronto, pp. 1–119, 1961.
87. Meteor news, 1961. *J. Roy. Astron. Soc. Canada* **55**, 137–140, 195–196, 229–231, 265–267; 1961.
88. The meteor radar echo – an observational survey. *Astron. J.* **67**, 235–240, 1962.
89. Meteor. *Collier's Encyclopedia* **16**, 35–38, 1962.
90. 22b Sous-commission pour normaliser la terminologie et les notations concernant les météores. *Trans. I.A.U.* **11A**, 228–230; **11B**, 272–273; 1962.
91. Find a falling star. *The Roundel* **14**, No. 6, 16–20, 1962.
92. The frontiers of space. *J. Roy. Astron. Soc. Canada* **56**, 89–104, 1962.
93. Meteor news, 1962. *J. Roy. Astron. Soc. Canada* **56**, 226–228, 263–267; 1962.
94. Survey of observations of meteor trails. *American Inst. Aeronautics and Astronautics J.* **1**, 1028–1033, 1963.
95. A preliminary report on radar meteor counts. (with B.A. McIntosh) *Smithsonian Contr. Astrophys.* **7**, 45–51, 1963.
96. A general survey of meteor spectra. *Smithsonian Contr. Astrophys.* **7**, 119–127, 1963.
97. Terminology in meteoric astronomy. *Meteoritics* **2**, 7–11, 1963.
98. Meteors. (with D.W.R. McKinley) *The Solar System IV* ed. B.M. Middlehurst and G.P. Kuiper, Univ. Chicago Press, 674–773, 1963.
99. Meteor, meteor crater, meteorite. *Harper Encyclopedia of Science* **3**, 756–768, 1963.
100. Meteor counting. *J. Roy. Astron. Soc. Canada* **57**, 266–267, 1963.
101. Meteor news, 1963. *J. Roy. Astron. Soc. Canada* **57**, 89–92, 137–139, 181–183; 1963.
102. Visual auroral observing for North America in the I.Q.S.Y. (with C.W. Gartlein) *J. Roy. Astron. Soc. Canada* **58**, 1–2, 1964.
103. Meteor radar statistics. I. (with B.A. McIntosh) *Can. J. Phys.* **42**, 1730–1742, 1964.
104. Meteor radar counts – anomalous increase during 1963. (with B.A. McIntosh) *Science* **146**, 1457–1458, 1964.
105. Meteor news, 1964. *J. Roy. Astron. Soc. Canada* **58**, 41–45, 179–182, 229–231; 1964.

106. The I.A.U. meets in Hamburg. *J. Roy. Astron. Soc. Canada* 59, 3–5, 1965.
107. Meteor news, 1965. *J. Roy. Astron. Soc. Canada* 59, 39–42, 143–146; 1965.
108. North America aurora visoplots. (with C.W. Gartlein and G.C. Sprague) WDC-A Auroral Data Center, Cornell Univ., Ithaca, N.Y., October 1965.
109. Meteor radar statistics. II. (with B.A. McIntosh) *Can. J. Phys.* 44, 1593–1602, 1966.
110. Big gun on Barbados. *Sky and Telescope* 32, 64–67, 1966.
111. Craters. *Meteoritics* 3, 55–57, 1966.
112. Meteor news, 1966. *J. Roy. Astron. Soc. Canada* 60, 151–152, 242–244; 1966.
113. Some characteristics of the major meteor showers. *Smithsonian Contr. Astrophys.* 11, 105–108, 1967.
114. Radar meteor echoes. *Smithsonian Contr. Astrophys.* 11, 151–155, 1967.
115. Stars fall over Canada, (with D.W.R. McKinley) *J. Roy. Astron. Soc. Canada* 61, 277–294, 1967.
116. Award of the Leonard Medal to Dr C.S. Beals. *J. Roy. Astron. Soc. Canada* 61, 53–55, 1967.
117. Presidential report for the 1962–1966 term of the Meteoritical Society – Lines and squares. *Meteoritics* 3, 89–96, 1967.
118. Meteor news, 1967. *J. Roy. Astron. Soc. Canada* 61, 89–92, 151–153; 1967.
119. Observational evidence of the meteoritic complex. *The Zodiacal Light and the Interplanetary Medium* ed. J.L. Weinberg, NASA SP-150, Washington, D.C., 399–407, 1967.
120. Reports on Astronomy, I.A.U. Commission 22, Météores et Météorites. *Trans. I.A.U.* 13A, 429–443, 1967.
121. The radar meteor echo. *Physics and Dynamics of Meteors* ed. L. Kresak and P.M. Millman, D. Reidel Publ. Co., Dordrecht, 3–13, 1968.
122. A brief survey of upper-air spectra. *Physics and Dynamics of Meteors* ed. L. Kresak and P.M. Millman, D. Reidel Publ. Co., Dordrecht, 84–90, 1968.
123. *Physics and Dynamics of Meteors*. (editor, with L. Kresak) D. Reidel Publ. Co., Dordrecht, pp. xiv + 525, 1968.
124. Meteor news, 1968. *J. Roy. Astron. Soc. Canada* 62, 387–390, 1968.
125. The Canadian visual auroral program. *Ann. de Géophys.* 24, 513–516, 1968.
126. Astronomical information on meteorite orbits. *Meteorite Research* ed. P.M. Millman, D. Reidel Publ. Co., Dordrecht, 541–551, 1969.
127. Conjugate-point auroral studies at Byrd and Great Whale stations. *Antarctic J. United States* 4, 231–232, 1969.
128. The effects of observational errors on the determination of meteorite orbits. (abstract) *Meteoritics* 4, 197–198, 1969.
129. *Meteorite Research*. (editor) D. Reidel Publ. Co., Dordrecht, pp. xvi + 941, 1969.
130. The Leonids by radar. (with B.A. McIntosh) *Meteoritics* 5, 1–18, 1970.
131. Meteor showers and interplanetary dust. *Space Research* 10, 260–265, 1970.
132. Canadian craters on the Moon. *J. Roy. Astron. Soc. Canada* 64, 375–376, 1970.
133. Relative heights of various features in meteor spectra. (abstract) *Meteoritics* 5, 212, 1970.
134. Meteor news, 1970. *J. Roy. Astron. Soc. Canada* 64, 55–59, 114–116, 187–190, 251–253, 371–372; 1970.
135. Spectroscopy of Perseid meteors with an image orthicon, (with A.F. Cook and C.L. Hemenway) *Can. J. Phys.* 49, 1365–1373, 1971.
136. Photometric analysis of spectrograms of two Perseid meteors. (with A.F. Cook and I. Halliday) *Can. J. Phys.* 49, 1738–1749, 1971.
137. The space scars of Earth. *Nature* 232, 161–164, 1971.
138. The meteoritic hazard of interplanetary travel. *American Scientist* 59, 700–705, 1971.

139. Cometary meteoroids. *From Plasma to Planet* ed. A. Elvius, Nobel Symposium 21, Almqvist and Wiksell, Stockholm, 157–168, 1971.
140. Recent advances in meteor spectroscopy. (abstract) *Meteoritics* 6, 293, 1971.
141. Meteor news, 1971. *J. Roy. Astron. Soc. Canada* 65, 37–38, 85–89, 165–166; 1971.
142. Visual auroral observations in Canada, February–March, 1970. *Data on Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970* compiled by J.V. Lincoln and D.B. Bucknam, Rep. UAG-12, Boulder, 307, 1971.
143. Conjugate-point auroral studies at Byrd and Great Whale Stations, 1970. *Antarctic J. United States* 6, 224–225, 1971.
144. Giacobinid meteor spectra. *J. Roy. Astron. Soc. Canada* 66, 201–211, 1972.
145. Ernst Öpik and meteoritics. *Irish Astron. J.* 10, special issue, 46–49, 1972.
146. A tribute to Simon Newcomb – July 9, 1972. *J. Roy. Astron. Soc. Canada* 66, 277–278, 1972.
147. Planetology. (editor, with M.R. Dence) Sect. 15, Internat. Geological Congress, 24th session, Montreal. pp. xii + 170, 1972.
148. The observational evidence for mass distribution in the meteoritic complex. *The Moon* 8, 228–240, 1973.
149. Image-orthicon spectra of Geminids in 1969. (with A.F. Cook and C.L. Hemenway) *Evolutionary and Physical Properties of Meteoroids* ed. C.L. Hemenway, P.M. Millman and A.F. Cook, NASA SP-319, Washington, D.C., 147–151, 1973.
150. An unusual meteor spectrum. (with A.F. Cook, C.L. Hemenway and A. Swider) *Evolutionary and Physical Properties of Meteoroids* ed. C.L. Hemenway, P.M. Millman and A.F. Cook, NASA SP-319, Washington, D.C., 153–159, 1973.
151. Spectroscopy of Project Fire, April 14, 1964. *Evolutionary and Physical Properties of Meteoroids* ed. C.L. Hemenway, P.M. Millman and A.F. Cook, NASA SP-319, Washington, D.C., 161–167, 1973.
152. *Evolutionary and Physical Properties of Meteoroids*. (editor, with C.L. Hemenway and A.F. Cook) NASA SP-319, Washington, D.C. pp. vi + 378, 1973.
153. Personal equations and errors in visual magnitude estimates of meteors. (with J. Stohl) *Bull. Astron. Inst. Czechoslovakia* 24, 321–330, 1973.
154. Airborne observations of the 1972 Giacobinids. *J. Roy. Astron. Soc. Canada* 67, 35–38, 1973.
155. The traditional features of Mars compared with the geologic map of the planet. *J. Roy. Astron. Soc. Canada* 67, 115–122, 1973.
156. Interplanetary material. *J. Roy. Astron. Soc. Canada* 68, 13–22, 1974.
157. Meteor. *Encyclopaedia Britannica*, 15th ed. *Macropaedia* 12, 36–39, 1974.
158. The fourth annual meeting of the AAS Division for Planetary Sciences, Tucson, Arizona, March 20–23, 1973. *Icarus* 20, 346–354, 1973; Erratum, *Icarus* 22, 401, 1974.
159. Dust in the solar system. *The Dusty Universe* ed. G.B. Field and A.G.W. Cameron, Neale Watson Academic Publ. Inc., New York, 185–209, 1975.
160. SEC vidicon spectra of Geminid meteors, 1972. (with K.S. Clifton) *Can. J. Phys.* 53, 1939–1947, 1975.
161. Seven maxims of UFOs – a scientific approach. *J. Roy. Astron. Soc. Canada* 69, 175–188, 1975.
162. Eric Mervyn Lindsay – some recollections. *Irish Astron. J.* 12, 155–157, 1975.
163. Quadrantid meteors from 41,000 feet. *Sky and Telescope* 51, 225–228, 1976.
164. Meteors and interplanetary dust. *Interplanetary Dust and Zodiacal Light* ed. H. Elsasser and H. Fechtig, Springer-Verlag, Heidelberg, 359–372, 1976.
165. Spectroscopy of small cometary particles. *Proc. Shuttle-Based Science Workshop*, NASA, Huntsville, Alabama, 150–159, 1976.

166. Topographical nomenclature on planetary bodies. *Icarus*, **29**, 155–157, 1976.
167. The chemical composition of cometary meteoroids. *Comets, Asteroids, Meteorites: Interrelations, Evolution and Origins* ed. A.H. Delsemme, Univ. of Toledo, 127–132, 1977.
168. Working group for planetary system nomenclature. *Trans. I.A.U.* **16B**, 321–369, 1977; **17A Part 1**, 113–114, 1979; **17B**, 285–304, 1980; **18A**, 669, 1982; **18B**, 331–345, 1983.
169. Reynold Kenneth Young, 1886–1977. *J. Roy. Astron. Soc. Canada* **72**, 181–188, 1978.
170. Reynold Kenneth Young, 1886–1977. *Proc. Roy. Soc. Canada, 4th series*, **16**, 119–124, 1978.
171. Relative abundances of elements in Geminid meteoroids – a progress report. (abstract, with K.S. Clifton) *Meteoritics* **13**, 562, 1978.
172. Video techniques in comet-debris studies. (with K.S. Clifton) *Sky and Telescope* **57**, 21–23, 1979.
173. Interplanetary dust. *Naturwissenschaften* **66**, 134–139, 1979.
174. One hundred and fifteen years of meteor spectroscopy. *Solid Particles in the Solar System* ed. I. Halliday and B.A. McIntosh, D. Reidel Publ. Co., Dordrecht, 121–128, 1980.
175. Summary of I.A.U. Symposium 90. *Solid Particles in the Solar System* ed. I. Halliday and B.A. McIntosh, D. Reidel Publ. Co., Dordrecht, 429–431, 1980.
176. Harry Hemley Plaskett, 1893–1980. *J. Roy. Astron. Soc. Canada* **74**, 234–236, 1980.
177. The Herschel dynasty – Part I: William Herschel; Part II: John Herschel; Part III: Alexander Stewart Herschel. *J. Roy. Astron. Soc. Canada* **74**, 134–146, 203–215, 279–290; 1980.
178. Current trends in meteor spectroscopy. *Highlights of Astronomy* ed. R.M. West, D. Reidel Publ. Co., Dordrecht, **6**, 405–410, 1983.
179. The chemistry and physics of Comet Halley fragments. *Proc. Congrès Astronomique 1983*, Quebec, P.Q., 78–81, 1983.
180. Names on other worlds. *Sky and Telescope* **67**, 23–27, 1984.
181. Bart Jan Bok, 1906–1983. *J. Roy. Astron. Soc. Canada* **78**, 3–7, 1984.
182. Naming the scenery on other worlds. *Astronomickesii Vestnik* **18**, 342–345, 1984; English edition, *Solar System Res.* **18**, 221–223, 1985.
183. Minor planet news. *J. Roy. Astron. Soc. Canada* **82**, 301–303, 1988.
184. Alice Vibert Douglas, 1894–1988. *J. Roy. Astron. Soc. Canada* **82**, 309–311, 1988.
185. The naming of minor planets. *J. Roy. Astron. Soc. Canada* **82**, 362–364, 1988.
186. Minor planets and the Canadian connection. *J. Roy. Astron. Soc. Canada* **83**, 329, 1989.
187. Earth, impact craters. *Van Nostrand Reinhold Encyclopedia of Astronomy and Astrophysics*, in press, 1991.

The bibliography above includes all known research papers by Dr Millman plus numerous reports and notes, whenever there was a significant scientific content. Abstracts of papers presented at scientific meetings are included only if it appears the content was not published in a more lengthy version. Book reviews and some short notes have not been included. Scientific volumes for which Dr Millman was editor or a co-editor are listed in the bibliography. The pages of *Meteor News*, if collected together, would constitute a large volume. A few of these entries are complete research papers and were listed as such by Dr Millman. These appear as separate entries in the bibliography. Some articles of *Meteor News* include signed contributions by various workers in meteoric science. *Meteor News* appeared in 25 volumes of this JOURNAL and an entry appears in the bibliography for each of these years.

LE FINANCEMENT DE LA RECHERCHE EN ASTRONOMIE AU CANADA*

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(Reçu le 28 juin 1990)

RÉSUMÉ

On présente l'évolution de la population des astronomes au Canada au cours des dix dernières années ainsi que l'évolution de leur financement. Le nombre d'astronomes dans la communauté universitaire augmente régulièrement de trois par année et il semble probable que cette évolution continuera. Le financement par astronome suit à peine le taux d'inflation. Comme il était beaucoup trop bas au départ, c'est une situation inquiétante. Mais la situation la plus préoccupante se retrouve au Conseil national de recherches où le support des équipes qui peuvent contribuer au développement d'instruments importants diminue continuellement alors que les engagements internationaux canadiens augmentent.

On fait une brève comparaison avec d'autres pays. On montre, en particulier, que les dépenses en astronomie aux États-Unis sont proportionnellement beaucoup plus importantes qu'au Canada.

ABSTRACT

The growth of the population of astronomers in Canada during the last ten years is presented along with the growth of their financing. The number of astronomers in the university community increases regularly by three per year, and it seems that this growth will continue. The financing per astronomer hardly keeps pace with the rate of inflation. As it was far too low to begin with, this is a disturbing situation. But the most worrying situation is found in the National Research Council where the support of teams which can contribute to the development of important instruments falls continuously, whereas the international commitments of Canadians increase.

A brief comparison is made with other countries. It is shown, in particular, that expenditures in astronomy in the United States are proportionately much higher than in Canada.

JBT

1. *Le mandat des organismes.* Trois organismes fédéraux ont des mandats qui les conduisent à contribuer au financement de l'astronomie canadienne.

Le mandat du *Conseil national de recherche du Canada* (CNRC) fait spécifiquement mention de l'astronomie. Le CNRC a la responsabilité des instruments de l'astronomie du *Gouvernement du Canada*. Cette mission est un mandat particulier qui protège, jusqu'à un certain point, contre le désengagement du CNRC de la recherche fondamentale.

Le *Conseil de recherche en sciences naturelles et en génie* (CRSNG) a comme mandat de financer la recherche. Cela n'exclut pas le financement de grands

*Conférence présentée au dîner annuel de la *Société canadienne d'astronomie* tenu à l'Université de Calgary, le 5 juin, 1990, par le président sortant.

2 September 1976
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Edmonton, Alberta
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Mr. Grant Cameron
445 Hudson
Winnipeg, Manitoba
R3T OR1

Dear Mr. Cameron:

In the latest packet of UFO material mailed to me from the UFO Centre: Ontario are some pages of your correspondence from James Richardson, and to William Hauck. It leads me to suggest that we might exchange ideas on UFO research in Canada. I assume from the correspondence that you are interested in government involvement, and potential coverup in this field.

My own bias is that more than coverup is involved. But I would like to learn of your findings. I'm quite a bit less convinced than perhaps you are that NRC is only involved as "innocent" or "disinterested" bystander. I've spoken with 4 people associated with the Meteor Centre at NRC. The fact that each had exactly the same line on every question associated with the UFO phenomena convinced me that this was not by accident, and that in fact I was given a well thought out line, and that it is not merely a matter of stupid ignoramuses. But this is still speculation on my part. Perhaps you have come across more tangible examples to support this. I'm told by people that have known Peter Millman for many years that he used to be genuinely, and openly interested in the subject, and then quickly changed his position after a visit to Washington. But again I only have anecdotes, and not hard information.

Whether this be true or not, it is objectively the case that the role of the NRC has been extremely negative, and not neutral.

I've read correspondence at NRC that pretty well puts the lie to the line that NRC is actively interested in the UFO phenomena. Letters between NRC staff and RCMP staff clearly outline that NRC is primarily interested in UFO reports as potential meteorites (it isn't accidental that they are filed under non-meteoritic cases).

Anyway, I'd like to learn what you are doing, and what you've sniffed out on the topic.

Yours truly,



John Brent Musgrave

Sept 8, 1976

Dear Mr. Musgrave,

received your letter today and am just dropping you a line to give you some background on my involvement in the Manitoba UFO scene. Last year a flap of sightings were reported in Carman Manitoba. My major field is parapsychology but I couldn't pass up the opportunity to check out what was happening in Carman. The first night that we went out we saw what is commonly called in this area Charlie-Red - ~~Sat~~ Star. Two nights later we went out and came within 3/8 of a mile of it. What most people don't know is that the flap has continued for 18 months, as opposed to the regular two week types.

I have spent over a year full time on the sightings, and can say that the most conservative estimate of the number of sightings is 2000 since March 1975. The flap followed a straight line and the heavy part of the flap just moved from one town to the next. On two occasions I was able to be in a town when the flap was going on and had the chance to bring photographers to the area.

I have tried to low key the publicity on the whole story, and have only revealed what is happening to those people who have written me. I am planning to do a book on just Manitoba sightings during 1975-1976 or whenever the heavy reported sightings stop. This will be done as I have not worked full-time since May, 1975, and because I have spent quite a few dollars chasing the people who did not have an agency to report their sightings to. Another reason is that I have accumulated hundreds of pages of interviews, pictures etc. which are really of no interest to me.

As to your comment about the coverup. There is no doubt as you say that there is a coverup going on, but I still can't see the N.R.C. as a main participant. I have been to the Ottawa headquarters on two occasions and viewed their files quite carefully. I also talked to McNamara for about twenty minutes. My most profound impression of him was that he believed there were no such things as UFOs. I

also found that he did not know too much about what was going on. For example. There were some very good photographs taken in Carmen and there were some additional spots on the prints. I asked him whether these spots (Which looked very much like stars) were used to analyse the photographs. He looked at them, said that he didn't know, but yes he thought they probably were. Later after talking to Ed Barker who did the blow-ups of the negatives, I found out that they weren't stars at all. This was all in the report but it seemed that neither he nor I had ever read it. I another Carmen case McNamara had put a note on the bottom of the report - plane from Calgary? It seemed apparent that he hadn't really made an attempt to look into any of the Cases with which I was familiar. When I asked him who analysed this, or who's conclusion is that he always stated-I don't know.

I had a number of cases that had been ~~prepared~~ reported through their sources, and asked McNamara where they were. He seemed totally perplexed, and offered to help me look for them. To me it seemed like these reports are only something that these guys do Friday afternoon. Time and time again he admitted to me that they had not done any field research and had only the same file that is in their public file.

The thing that leads me to believe that they aren't the main men, is because I knew the girl that filed the cases for the N.R.C. She knew who I was and knew all the names of the people who were making sightings in Carmen. She would gather up all the cases for me when I went and we spent quite a bit of time talking about UFOs. She was the one that told me that they don't take the cases too seriously. She for example was a computer programmer and spent only a small time filing cases each day. She had a backlog of sightings sometimes over a week. In addition, before they moved the planetary section down town, her office was on a completely different wing from the scientists.

Another point to consider is that none of the scientists is on a home free type job. According to the secretary only one person in the building is a civil servant. All the employees including McNamara are term employees. They therefore

would be great risks ~~as~~ in the field of security. I hope you will not mention this fact as I am still checking on who was employed when and if the term policy is still used.

I talked for a long time with anyone who would talk and I was left with the impression that none of them have seen anything of any importance.

Now, my impression of what happens is this. All telexed reports are screened before they ever reach the office and I don't blame anyone for doing it. Call it national Defence or whatever. It would be stupid to put such information in the hands of some of the loose tongued people that I talked to. Undoubtably this is done by DND, with very little risk of being detected, as there is no freedom of information act, and few people who have the media support to uncover them. Now the reports would be in the hands of the people who have a solid need for them. I believe and I'm sure that I'm not too far off, that the DND doesn't give a damn who's in the crafts - their only interest is in how they fly. Now putting the reports in the hands of some sky-watching astronomer is not going to help that aim. Their system is well designed and it works quite well.

We have had some pretty tense cases here in the last two years, and we have found that there are always investigators on the spot the very next day. The only thing is that we are always two weeks behind in obtaining the case. The words we always hear is Department of Defence, but of course we can't prove it - not yet!

I would like to receive from you some statistics or whatever about R.C.M.P. cases that are filed and "lost". If you have any cases in the last two years from Manitoba I would like to hear from you. In return I will try to provide you with more exact cases or details on any aspect especially if I should no longer need my recorded notes.

Hear that you were in contact with Bob Pratt. Ask him about N.R.C. as he spoke to McNamara for an hour, and he and I have spent hours looking at interference in UFO cases. Good to have heard from you. We probably can be of some help to each other. Drop me a line whenever!

A handwritten signature in dark ink, appearing to be 'John E. ...' or similar, written in a cursive style.

21 September 1976
10228 115th Street
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Dear Grant:

I look forward to reading your book when it is published - I hope it doesn't go the way of the hundreds of other UFO books planned and not written. Most of what I've learned about the sightings in your territory has been from the press ^{and} or from not very spectacular sightings - so I've gotten the impression that there is a lot of smoke, but I wasn't sure whether there was fire or just a lot of smudge pots out in Manitoba.

As far as NRC is concerned I'm not much interested in personalities. I too have spoken with McNamara, Millman, et al, and have formed my personal impressions about their competence with respect to the UFO phenomena. But that isn't the real issue. The issue is the objective role of the NRC in UFO research. I merely have found that most of the reports taken by RCMP (according to press reports which are public domain - I might suggest this as a starting off point for cases in your area). In addition I have spoken with a growing number of witnesses or RCMP constables who have either given reports or dispatched them but they aren't at NRC. Now if you read some of the memoranda of Dr. Millman instructing the RCMP Ottawa Headquarters of RCMP on what is of interest to NRC it isn't surprising that some of these don't get to NRC. I don't think it is stretching the meaning of his letters to say that he is only interested in studying UFOs "scientifically" - i.e. as potential meteorites. If a case doesn't fit this description - NRC isn't interested in it. I suspect some cases get garbaged because the RCMP or what have you knows that whatever it is it isn't of interest to NRC - so does accordingly. To be brief - I don't care whether McNamara et al know or care about the phenomena - but they are using it as a means to get data for their own scientific interest -

the rest is garbage. Yet, pretty much by definition these people are the authorities on the topic in Canada. When I've spoken with M.P's - they quote McNamara as the scientific authority - and show me letters which explain Edwin Fuhr, ^{at} all physical trace cases as fairy rings. Members of Parliament write the Canada Council denouncing them for giving me a small grant to study the history of this phenomena, and use NRC data and opinions to justify this. My impression after talking with some people who have known Millman for many many years is that his involvement isn't above suspicion on a "cover-up" level either - but at this point it is only rumour. But I think one should keep in mind when looking at NRC that it is far more than a matter of some well intentioned ignoramuses. By definition they are the scientific authorities, and determine to not a small extent how the government views the phenomena. Rather than saying we aren't competent to say what this is all about they publicly state it isn't anything of consequence.

don't get these

Grant



National Research Council
Canada

Conseil national de recherches
Canada

Herzberg Institute
of Astrophysics

Institut Herzberg
d'astrophysique

Ottawa, Canada
K1A 0R6

File Reference

4714 - 1

2 October, 1987

To - Mr. Grant Cameron
649 Silverstone Ave.
Winnipeg, Manitoba
R3T 2U8 Canada

Dear Mr. Cameron:-

With reference to your letter of 3 September, 1987, I have not neglected it but absence from my office during much of September has made it impossible to reply until now. It is unfortunate that you gave me no telephone number by which I could reach you. As I have no secretary in my present position I rely a great deal on personal contacts by the telephone. Bell could not help me in your case.

Let me summarize a few general points. You credit me with having discussed the question of UFOs on many occasions when the subject never came up. Certainly I knew personally many of the names you mention. For example, C.J. MacKenzie, Tuzo Wilson, James Watt, Paul Hellyer, Bill Petrie, Bob Aldwinckle and George Garland, but I have no recollection of any conversation with any of the above where UFOs were even mentioned. Omond Solandt, Dick Rettle and Wilbert Smith are exceptions. In setting up the Second Storey Committee, Omond explained to me that the chief interest of the Canadian Government was whether or not the UFOs posed a threat to national security. Dick Rettle asked me if I thought the United Nations should be heavily involved in UFO research and my opinion was "no". Wilbert was a good friend of mine and we often discussed many things. However, I did not agree with his statement on page 12 of Project Magnet Report, nor did any other members of the Second Storey Committee, as far as I am aware. Please note that the terms of reference for Project Magnet were entirely in the field of certain esoteric studies of the electro-magnetic forces in and around the earth (see Appendix D, pages 1-5 of your letter). When this Project developed into an effort to explain UFOs it became "a spare-time activity" as stated in my note of 9 May, 1968 (see Appendix A of your letter), a quote directly from my conversations with the senior officials in DOT. Smith's primary value on the Second Storey Committee was his assistance in drawing up instructions for those interviewing observers of strange events. We were trying to get the real objective facts of these observations and to remove, as far as possible, the subjective opinions and enthusiasms of each individual observer. Our committee was not asked to carry out any general study of all the previously reported incidents.

I would like to make one further general observation. Smith's report on his Washington visit in 1950 over-emphasized the importance of the UFO problem. Since I spent the last three years of my active service in the RCAF (1943-1946) working full-time as a liaison officer in operational research at both our headquarters in London England and in Ottawa, I was very

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- 2 -

familiar with the handling of large masses of top-secret material. There was, in the post-war period just before 1950, a tendency to over-emphasize the search for new sources of energy and new, secret weapons. For many years I have fought against the military classification of the facts of basic science. When I agreed to take over the UFO file from DND in 1968 at the request of our Minister, the Hon. C.M. Drury, it was on the understanding that I would not be required to handle classified material. Government classification of reports in this field has only created misunderstanding and the idea that various countries are hiding some strange secret about UFOs. In my estimation this belief is completely incorrect and without foundation. What senior officials of all governments want to hide is how little any of them really know about the so-called UFOs. I have kept a watching brief on the sky for over 60 years as a professional astronomer, and I should just love to be able to say that I had found definite scientific evidence of the existence in the universe of an alien intelligence apart from that on earth. My name would go down in history. I am enclosing two of my published statements on this subject from 1975 and 1980, and since then I have seen no reason to alter what I said on those occasions.

Now, let me deal with your specific questions as far as I can:-

- (1) a. I have no recollection of ever seeing either the original memo from W.B. Smith, dated 21 Nov. 1950; nor a copy of the letter from R.S. Rettle to W.H. Barton, dated 30 June 1967, until I received your letter in September, 1987 (copies of the two documents noted above were appendices "D" and "B" to your letter). As a purely personal footnote I would never use the word "nonsense" when describing a subject which has puzzled and worried numbers of people living in various countries over the world. See also my comments in the introductory paragraphs above re your appendices "A" and "D".
- (1) b. See answer to (1) a.
- (1) c. I had never seen the code word "Coldcode" until I received your letter.
- (1) d. Naturally, I have no idea.
- (2) a. If you can explain every statement made by officials in any department of the Government, you are a better man than I am. Also, see above my opinion on classification.
- (2) b. The only studies relating to Project Magnet which I have seen or know about are those submitted by W. B. Smith to the Second Storey Committee and made available to the public when I was head of Upper Atmosphere Research Section at NRC.
- (2) c. I have no knowledge of the answers to any parts of this question. As the Chairman of the Second Storey Committee I hold a signed copy of the report Smith made to the Committee, referred to in (2) b.
- (3) a. Solandt did not consult me concerning the make-up of the Second Storey except that we agreed it should be completely inter-departmental as far as possible. Garland did not attend a single meeting of the Committee, nor do I remember discussing UFOs with him. As I have already noted I made continued efforts to have all material in this field declassified.

- (3) b,c,d. The answer to all of these questions is no.
- (3) e. I haven't the slightest idea.
- (3) f. Members of the Second Storey Committee had not seen, as far as I am aware, the exact wording of Smith's memo of 21 Nov. 1950, but if they had I believe their reaction would have been quite similar to my remarks in my third introductory paragraph above. Smith talked a lot but certainly none of us felt he had made a major revelation, to use your wording.
- (3) g. As far as I know, there were no reports of the type you mention made by the people you list. If there were, I am sure they would have been brought to attention of our Committee.
- (3) h. There was little direct liaison between Canada and U.S.A. on this subject. We noted the reports of Project Blue Book, and at our last meeting tentative plans were made to have Capt. Ruppelt come to Ottawa to discuss his investigations with our Committee, but these fell through. The above comments refer to the period 1950-1953. Much later, during the investigations of the Condon Committee in 1966-1968 when I was head of the Upper Atmosphere Research section of NRC, we had relatively frequent consultations with the scientific UFO investigators in the USA. As noted above, we at NRC took over the UFO files from DND in 1968, and from that time on all reports on these files have been made available to the general public. At present, reports older than one year are on file with the National Archives of Canada at 395 Wellington St., Ottawa, Ontario, K1A 0N3. The recent reports are in the Planetary Sciences section, Herzberg Institute of Astrophysics, National Research Council, Ottawa, Ontario, K1A 0R6.
- (4) a. I was amazed to read the clipping from the Winnipeg Free Press, a daily newspaper I never see (your appendix F2). I certainly had heard vague rumours about some attempt to build a UFO landing site in western Canada, but that was absolutely all I knew about it. I used to see Paul Hellyer regularly at church on Sundays, as we were both attending Southminster United Church in Ottawa. As I have noted above we never discussed the subject of UFOs. If any such landing site was ever built, either officially or unofficially, I am not one bit surprised that no UFO ever landed on it. I certainly cannot tell the DND side of the story, since I was discharged from the RCAF in July, 1946.
- (4) b,c,d,e,f,g,h,i. Impossible for me to answer any of these questions since I knew nothing about the "so-called" project.
- (5) a,b,c. Apart from vague ramblings about the great importance of the all-out investigations of UFOs the only material Wilbert ever transmitted to me in writing was his report to the Second Storey Committee, which our group here has made available to the public. I was not involved in any of the hypothetical discussions you refer to in these questions.

Sincerely yours *Peter M. Millman*

Enclosures:- "Seven Maxims of UFOs", 1975.
"Position Statement" from Encyclopedia of UFOs, 1980.

September 3, 1987

Grant Cameron
649 Silverstone Ave
Winnipeg Man.
R3T 2V8

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Dear Mr. Millman,

I am writing to you as one of, if not the only key person from the early history of Canadian UFO research still alive in order to clarify some unresolved parts of that history, and to answer questions raised by new revelations.

More specifically, I am interested in your answers, as they relate to the research done by Mr. Wilbert B. Smith, as he was responsible for all of Project Magnet, and about 95% of the discussion and research published on Project Second Storey. Due to the fact that you wrote the "Note to Project Magnet", the "Summary Report to Second Storey", and the fact that you knew Mr. Smith personally, I think it is proper that this letter and these questions be addressed to you.

- 1) In response to Smith inquiries at the NRC, the department gives out the "Reprint of Project Magnet Report". You authored the introduction to this publication (enclosure A). You state therein the standard Department of Transport line that the research and report were a part time activity for Wilbert Smith. You signed this introduction dated May 9, 1968. Just ten months earlier Mr. R.S. Rennie invited a number of people to Building M-58 at NRC to formulate a Canadian UFO Policy Position for the United Nations (see enclosure B). A hand written note on the Department of Transport copy states "At one time projects Magnet and Coldcode were official projects a lot of time was spent on proving the subject to be nonsense."
- a) Can you explain the discrepancy between your position on May 9, 1968 and the D.O.T. Deputy Minister of Air Services position ten months before?
- b) Was Project Magnet an official project?
- c) I have asked everyone else, so I will ask you - What was Project Coldcode?
- d) Where are the records?
- 2) More importantly, I have enclosed a memo signed by W.J. Wilson dated Sept. 15, 1969, a little over sixteen months after your May 9, 1968 note to the Project Magnet Report (see enclosure C). Mr. Wilson states that on your direction the Second Storey documents in Project Magnet be declassified. "Documents relating to the studies behind Project Magnet . . . and discussion in the Department of Transport surrounding project Magnet be down classified to at least the confidential level. At no time should it be made available to the public."

(2)

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- a) Could you explain how a "spare time activity", as stated in your May 9, 1968 statement was something which "at no time should be released to the public" sixteen months later?
 - b) Could you explain what were the "studies behind Project Magnet"? Where are the records and your letters relating to these studies?
 - c) What Project Magnet report in point 4 is to be destroyed when the subject cools off? Is it different from the public version released by you May 9, 1968? Was the Project Magnet report in point 4 destroyed?
- 3) Enclosed please find a copy of the Nov. 21, 1950 Smith memo (see enclosure D). When were you first made aware of the information contained in this memo? I assume that you were very close to the information and studies proposed. I base this on the following information:
- Dr. Solandt, a major player according to this memo, chose you to head the Defense Research Board study (Project Second Storey) into UFOs.
 - Dr. George Garland was provided as "specialized personnel for incidental work". Coming from the Dominion Observatory you must have approved this.
 - Again you wrote the final report to Smith's Project Magnet Report, copies of which are still being sent out by the National Research Council.
 - According to the Wilson memo (enclosure C-1) you were the one responsible for moving the classification of the Nov. 21, 1950 Smith memo from Top Secret to Confidential.
- a) Could you explain exactly how you interpret points A-D?
 - b) Did you discuss these points with Mr. Smith?
 - c) Did you discuss this information (points A-D) with Dr. Solandt who was briefed the day before the memo by Mr. Smith with all the information he had gathered to date?
 - d) Did you discuss this information (points A-D) with Dr. C.J. MacKenzie who was good friends with Mr. Bush who was mentioned in the memo (see enclosure E).
 - e) Did MacKenzie contact Bush relating to what Smith had said?
 - f) What steps were taken to check the information given by Smith as to the situation regarding UFOs in the USA as described by the Canadian Embassy? Why are there in the public records absolutely no records or interdepartmental correspondence whatsoever to this major revelation? Where are all these records?
 - g) What reports did Dr. George Garland provide you regarding his work on either (i) Project Magnet or (ii) the studies behind Project Magnet? What about reports by Dr. J. Tuzo Wilson, Dr. James Wait, John H. Thompson? There seemed to be a lot of people involved, but no memos, letters, or reports?

(3)

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- h) Most importantly, what liason and discussion took place between the Canadians and the Americans related to points A-D? Who was involved? Where are the reports?
4. Enclosed also please find your "Summary Report" to Project Second Storey (enclosure F-1). Again your conclusion related to further UFO studies is rather negative. You will note the date of the report is Nov. 21, 1953, and that you wrote the report for the Department of Defense. Now see enclosure F-2. According to the Department of Defense, "expert on UFOs" (only a couple months after you wrote your report stating there is nothing to this UFO stuff), the Department of Defense is secretly running a Top Secret program to land UFOs at the Defense Research Board Station at Suffield, Alberta. In 1967 the Department of Defense admits this. In 1978 the Department of Defense denies it (enclosure F-3). Because you wrote the final report for a D.O.D. UFO study only months before, you surely were aware of this Top Secret Program.
- a) I have only Wilbert Smith's version of this Project. The Department of Defense claims to have destroyed its records. Perhaps you could fully tell the D.O.D. side of the story?
 - b) What was the Project name?
 - c) Who were the members of the committee?
 - d) Who is this "department expert on UFOs"?
 - e) Was this project related to the U.S. Project SIGMA, or any other project to contact aliens?
 - f) What group made "strong representations to the committee"?
 - g) What part did the R.C.M.P. play?
 - h) How were the UFOs notified that Suffield was the place to land? Was Shirley Bay used for this purpose?
 - i) Where are the records from this project? Where is your correspondence related to this Suffield Project?

Finally, regarding enclosure S 1-13, in Wilbert Smith's Nov. 21, 1950 memo, he states that he had provided Dr. Solandt with all the available information he has obtained. This would have included the enclosed hand written notes of the interview with Sarbacher. This interview plus others he conducted to obtain the information which became points A-D in the Smith memo, are not a part of Magnet or Second Storey files. There is little doubt that with the mention of Dr. Vannevar Bush's name, and the supporting interviews done by Smith, that you, Dr. Solandt, and Dr. MacKenzie would have taken the matter very seriously. It appears now quite clear that Wilbert Smith was getting his information from reliable sources in the U.S.A. (enclosure S). In light of this revelation I am sure all researchers in Canada and the USA. would appreciate answers to the following questions:

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- a) Canadian departments (defense, NRC, DOT) have always maintained that Smith was a loose cannon and that Smith alone was responsible for his conclusions. How does this fit into the presently known fact that he was only following up on upper level USA research programs?
- b) Can we now have released all notes presented by Smith at the Nov. 20, 1950 meeting with Dr. Solandt. Also, all notes taken by Solandt, his diary entries and interdepartmental correspondence initiated by Solandt as a result of this meeting with Smith.
- c) Can we have details of all Canadian-U.S. liasons, meetings, related to this information passed to Dr. Solandt. Especially wanted is liason between Canadian scientists and American scientists such as Dr. V. Bush, Dr. Eric Walker, Dr. Compton, Dr. John von Neuman, Dr. Robert Oppenheimer. Finally, any exchanges or liasons on UFOs between the National Research Council and Defense Research Board, and the U.S. Research and Development Board.

Mr. Millman, you were closely associated with all these projects and people. You are aware of what records exist, and where they might be found. You wrote final reports to the two major Canadian UFO Studies. I think I have properly requested that you fill in these gaps in Canadian UFO research history.

I await your reply. Thanking you for your time and consideration.

A handwritten signature in dark ink, appearing to be 'H. C. E.', with a long horizontal line extending to the right.

July 2, 1970.

Dr. J. Allen Hynek,
Department of Astronomy,
Lindheimer Astronomical Research Center,
Northwestern University,
Evanston, Illinois 60201.

Dear Allen:

Nice to hear from you. Was a little puzzled by your final paragraph, I quote "I had hoped to see you in Brighton and perhaps I may yet if your plans change." I have already paid for our room at the Brighton hotel for the IAU, and thought I had said in my last letter to you that Perry and I would be in Brighton. My plans have not changed, and I will be happy to take this opportunity to discuss the general field of peculiar things seen in the sky.

I am enclosing a copy of the complete report of the incident referred to by Tennyson in his letter to you. I phoned Tennyson to see if he remembered the incident and he told me it was a sighting of January 1968, in the area of Shoal Lake, Manitoba. Fortunately, he gave me the Defence Department's numbering of the case which was No. 71, and hence we had no trouble identifying it in our files. To illustrate the mistakes that can occur, even in letters between scientists, this sighting was actually made on June 18, 1967 at Shoal Lake in Ontario, which is quite a different Shoal Lake to the one in Manitoba. Also, I am afraid I do not agree with our friend Tennyson's statement that it "remains as a fascinating unidentified aerospace phenomenon." I had not gone into this particular sighting in detail before, but the similarity of the report to much other material we get on Venus made me suspicious at once. Hence, I have just done a rough plot of the position of Venus for the time in question at Shoal Lake. Venus was at greatest elongation in the western sky, 60° above the horizon in a direct path, and within 4 minutes of setting. The moon was on the observer's left, as stated, while the planet was on his right. It is possible some anomalous refraction might have been present, but the irregular motion of the boat plus the well known 'moving point effect' could well account for the whole report of the aerial phenomenon.

There is nothing at all to connect the wilting of the trees or other foliage items with the aerial sighting, and I have not troubled to send you a whole series of oblique air photographs of the district which

no patterns or circular rings or anything of the kind. If I had had anything to do with this sighting I could not have recommended the detailed air-coverage that was given, but this was before we took over the files here. As far as I know, Thompson picked up this information when searching the defence department files, and I don't believe he had had any previous experience in dealing with reports of things seen in the sky.

Just to keep you abreast of some of the reporting that still seems to go on in our newspapers, I enclose a page from a recent issue of the Ottawa Citizen. As you will note, this does not include a report of anything new, but refreshes some sightings which caused excitement in the Chalk River area a year or two ago. The fact that the large Petawana Military Camp is not far away, and that at Petawana they frequently make tests of various types of flares and rockets, is not unrelated to some of the excitement in the area. On the other hand, I am by no means suggesting that this necessarily explains everything.

I am impressed by the fact that I have yet to see any clear evidence of a connection between the so-called rings, an example of which is shown in the large picture, and the area phenomena reported from the same district. Once something peculiar has been sighted in the sky people seem to immediately look for evidences of landing, and any peculiar earth marking is connected up with the sighting without any good reason. I had some grass from one of these areas (not the one photographed) analysed by the Geological Survey a short time ago. An X-ray study showed no evidence of radio activity nor of any metallic or mineral content. The strange crystalline substance reported on the grass was entirely biological and must have been the result of some organic action, perhaps a rare type of mold or disease. I did not attempt to follow the matter any further at this point.

I try very hard to keep an open mind in this subject, but I must confess I get more and more disillusioned with what people report they have seen with their eyes. You will, I'm sure, note a very significant point about the newspaper article I am enclosing. When you read the last few paragraphs carefully, you find that at least seven people saw a peculiar light in the morning sky. Six "dismissed it as a bright star or pretended it did not exist." However, the seventh, a young girl, had a very lurid story to tell about the whole event. I might add that at this time, Venus was well visible in the morning sky, and that for quite a few days near the middle of September was positioned with Regulus very close to it. This might explain the description of something coming out from under the bright object.

We have not had any recent reports worth noting here. I will certainly do as you suggest and quietly carry out my own investigation of anything I think worth studying. Looking forward to seeing you in Brighton.

Very sincerely yours,

Peter M. Millman.

PM:vp
Encls.

Canadian Forces Headquarters
Ottawa 4, Ontario

19 December, 1967

University of Toronto
Institute for Aerospace Studies
Toronto 5, Ontario

Attention: Assistant Professor H.C. Tennyson

Dear Assistant Professor Tennyson:

Your letter dated 22 November 1967 forwarded to Squadron Leader P. Pessky, Training Command Headquarters, Winnipeg, Manitoba has been referred to the Canadian Forces Headquarters (CFHQ), Ottawa for comments and reply.

For general information purposes and to provide some background on the procedures adopted by CFHQ to action UFO reports referred to this Headquarters the following short resume is provided.

As may be appreciated, CFHQ receives UFO reports through many sources, such as private citizens, police offices, other governmental agencies and Department of National Defence (DND) bases throughout the country. Canadian Forces Administrative Orders, which are applicable to all Canadian Forces bases and personnel, contain specific instructions for making reports on Fireballs and Meteorite Observations and UFOs. In addition, the Royal Canadian Mounted Police (RCMP) has recently adopted a like procedure for reporting these phenomena. (Copies of the reporting forms are attached).

ANNEX A - Reporting on Fireball and Meteorite Observations.

ANNEX B - Reporting on Unidentified Flying Objects.

Several years ago the Air Defence Command (ADC) of the Canadian Air Force, in co-operation with North America Air Defence (NORAD), was the defence agency most concerned and interested in aerial objects which could not be properly identified. However, as their investigations failed to disclose any evidence which would suggest that UFOs posed a threat to national security, the responsibility for investigating UFOs was transferred to CFHQ. In brief, ADC found no evidence to suggest that UFOs were interfering in any manner directly or indirectly with the defensive capability of the Command.

On receiving a UFO report at CFHQ, the Operation Staff first endeavours to classify the information into one of two categories, namely:

- a. Category One. Information which suggests the type of phenomena associated with fireballs and meteorites, or;
- b. Category Two. Information that does not conform to the physical

patterns usually associated with fireball or meteorite activity.

The officer of the Director of Scientific Co-ordination (DSC) Mr E.W. Greenwood, assists the Operation Staff in classifying UFO reports into one of the two categories mentioned. Reports which are classified as fireballs or meteorites are forwarded to the National Research Council (NRC) Meteorite Centre located in Ottawa for study and evaluation.

Reports, which are classified under category two are re-classified into one of three categories of relative importance, namely:

- a. Class A. Information provided warrants a formal investigation, or;
- b. Class B. Information provided does not warrant a formal investigation but contains material of an interesting nature, or;
- c. Class C. Information provided does not warrant a formal investigation and is considered of little value.

UFO reports which are classified under category "Class A" may take the form of a simple, informal interview between a military officer and the party making the report, or it may develop into a detailed investigation in which the services of police authorities, NRC, RCMP and RCMP Crime Laboratories, Department of Health and Welfare, Defence Photographic Interpretation Centre and other governmental agencies are requested to provide assistance.

From the 1 January, 1967 to the 30 November, 1967 this Headquarters had received a total of 190 UFO reports (fireball and meteorites reports not included). Of this total, 9 were considered worthy of investigation (Class A), 23 considered interesting, but not worth investigating (Class B) and the remainder containing information of little practicable value (Class C).

Of the 9 UFO reports which were considered worthy of investigation only five are considered of significant importance to discuss briefly hereunder:

a. Camrose Alberta - 8 August, 1967

A Mr K. Patrige, Camrose, Alberta (telephone 672-4421) reported that a large object had apparently settled into the ground in a pasture located in the Derhamel area, Camrose, Alberta. A copy of the investigation minus the photographs is attached as Annex "C". The photographs have been forwarded to the University of Colorado for study and can be made available to your study group at a later date if desired.

b. Barrington Passage, Nova Scotia - 5 October, 1967

A copy of the original report is attached and marked Annex "D". A detailed investigation conducted by DND, which included an underwater search by military divers failed to locate anything which could be related to the alleged UFO sighting. The investigation was terminated without conclusive findings.

c. Manitoba - 26 October, 1967

A gentleman from the Province of Manitoba, who does not wish his name to be disclosed, advised a member of the Canadian Forces that he had taken a 16mm film of a UFO in the USA and that he was prepared to allow the Canadian Forces to develop and study the film.

The film was developed and subjected to a detailed study by the Defence Photographic Interpretation Centre. The detailed analysis of the film failed to indicate any object or other foreign matter which could be related to a UFO. The film was returned to the gentleman with a note stating the results of our analysis.

The observer stated in his UFO report that he had been awakened by a telephone call from a neighbour who apparently first sighted the object. The object was described as cigar shaped when viewed from the side, 16 - 20 feet in depth and approximately 40 - 50 feet in length. The horizontal periphery appeared to have a number of red, blue and green lights on it. The outer space was described as metallic with a "ballpeen hammered" appearance, silvery in colour. There was a very noticeable humming tone heard even when the object was at a distance of some 300 yards.

The first portion of the film was taken when the object hovered about 100 feet above a number of tall oak trees. Later film was taken of the object as it hovered over a golf course at a height of approximately 40 - 50 feet. The object then moved to the close vicinity and slightly above a high-tension power line.

d. Calgary, Alberta - 3 July, 1967

A Mr Warren Smith, 3808 17 Street W., Calgary, Alberta reported a UFO sighting at a place some 30 miles west of Nanton, Alberta. The object was described as circular, shiny, aluminum and approximately 25 feet in diameter. The object was first observed in a bank at approximately 2000 - 2500 feet above the height of the observer. The object then descended to a lower altitude, disappeared behind trees heading in a southerly direction at high speed.

Mr Smith was able to take two coloured photographs of the object which were made available to DND for study purposes. The results of the analysis conducted by the Defence Photographic Interpretation Centre is attached and marked ANNEX D.

Mr Smith has obtained the copy rights of the photographs and although he has advised this headquarters that he is prepared to allow the University of Colorado to study the photographs he would require written guarantee concerning the rights of the photographs. It is therefore recommended that Mr Smith be contacted with concern to obtaining photographs of the object.

e. Falcon Lake Area - Kenora, Ontario - 20 May, 1967

A Mr Steven Michalak of Winnipeg, Manitoba, reported that he had come into physical contact with a UFO during a prospecting trip in the Falcon Lake Area, some 90 miles east of Winnipeg on the 20 May 67. Mr Michalak stated that he was examining a rock formation when two UFOs appeared before him. One of the UFOs remained airborne in the immediate area for a few moments, then flew off at great speed. The second UFO landed a few hundred feet away from his position. As he approached the UFO, a side door opened and voices were heard coming from within. Mr Michalak states he approached the object but was unable to see inside due to a bright yellow - bluish light which blocked his vision. He endeavoured to communicate with the personnel inside the object but without result. As he approached within a few feet of the object, the door closed, he heard a whining noise and the object commenced to rotate anti-clock wise and raised off the ground. He reached out his left gloved hand and touched the object as it began its lift off; the glove burned immediately as he touched the object. As the object left the ground the exhaust gases burned his cap, outer and inner garments and he sustained rather severe stomach and chest burns. As a result of these burns he was hospitalised for a number of days. The doctors who attended and interviewed Mr Michalak were unable to obtain any information which could account for the burns to his body. The personal items of clothing which were alleged to have been burnt by the UFO were subjected to an extensive analysis at the RCMP crime laboratory. The analysis was unable to reach any conclusion as to what may have caused the burn damage. Soil samples taken from the immediate area occupied by the UFO by Mr Michalak were analysed and found to be radio-active to a degree that the samples had to be safely disposed. An examination of soil samples from the alleged UFO landing area was carried out by a radiologist from the Department of Health and Welfare and a small area was found to be radio-active. The radiologist was unable to provide an explanation as to what caused this area to become contaminated.

Neither the DND nor the RCMP investigation teams were able to provide evidence which could dispute Mr Michalak's story. Although the investigation has been completed, a satisfactory explanation or conclusion is still lacking.

Attached for your information are the following Annexes:

Annex "F" - Initial report

Annex "G" - Brief medical report

Annex "H" - Radiation report.

The Canadian Forces Headquarters has a direct interest in UFOs and would be pleased to co-operate with the University of Toronto in a mutual exchange of UFO information. The Director of Operations, CPHQ, is the directorate responsible for actioning UFO reports referred to this Headquarters.

An open invitation is extended to yourself or your representative to visit CPHQ at any time to discuss or examine UFO information held by this Headquarters.

UFR
A. Turner
Colonel
for Chief of the Defence Staff

(Telephone No. 99 2-4248)

UFR
C. D. Robertson/2-5427/lv
184
Circ
File



UNIVERSITY OF TORONTO
TORONTO, CANADA

INSTITUTE FOR AEROSPACE STUDIES

TEL. 698-2611

November 22nd, 1967.

Squadron Leader P. Bissky,
Canadian Forces Base,
WESTWIN, Manitoba.

Dear Squadron Leader Bissky:

I have recently contacted the RCMP detachment in Winnipeg, Manitoba, concerning recent UFO sightings. They referred me to you.

As you perhaps know, our Institute has recently established an unidentified aerospace phenomena project group to conduct a serious scientific inquiry into the nature of this phenomena. Very little 'good' scientific data exists at present and we need in particular the cooperation of the RCAF which has been collecting information pertaining to UFO's for some time. In this regard, I would like to ask for your cooperation in making available to us reports of the sightings which you feel represent the best cases on record to date. If technical information such as photographs, radar trackings, weather conditions, etc. are available in these reports, we would be most appreciative if we could have access to them.

Could you please forward to me information on whom we should contact at other CFB's concerning UFO reports. Is there an officer in charge of a UFO department in Ottawa whom we should contact concerning mutual cooperation between the RCAF and our Institute?

I would appreciate receiving a reply from you at your earliest convenience.

Sincerely,

R C Tennyson

R. C. Tennyson,
Assistant Professor.

RCT:ek

September 3, 1987

Grant Cameron
649 Silverstone Ave
Winnipeg Man.
R3T 2V8

COPY

Dear Mr. Millman,

I am writing to you as one of, if not the only key person from the early history of Canadian UFO research still alive in order to clarify some unresolved parts of that history, and to answer questions raised by new revelations.

More specifically, I am interested in your answers, as they relate to the research done by Mr. Wilbert B. Smith, as he was responsible for all of Project Magnet, and about 95% of the discussion and research published on Project Second Storey. Due to the fact that you wrote the "Note to Project Magnet", the "Summary Report to Second Storey", and the fact that you knew Mr. Smith personally, I think it is proper that this letter and these questions be addressed to you.

- 1) In response to Smith inquiries at the NRC, the department gives out the "Reprint of Project Magnet Report". You authored the introduction to this publication (enclosure A). You state therein the standard Department of Transport line that the research and report were a part time activity for Wilbert Smith. You signed this introduction dated May 9, 1968. Just ten months earlier Mr. R.S. Rettie invited a number of people to Building M-58 at NRC to formulate a Canadian UFO Policy Position for the United Nations (see enclosure B). A hand written note on the Department of Transport copy states "At one time projects Magnet and Coldcode were official projects a lot of time was spent on proving the subject to be nonsense."
 - a) Can you explain the discrepancy between your position on May 9, 1968 and the D.O.T. Deputy Minister of Air Services position ten months before?
 - b) Was Project Magnet an official project?
 - c) I have asked everyone else, so I will ask you - What was Project Coldcode?
 - d) Where are the records?
- 2) More importantly, I have enclosed a memo signed by W.J. Wilson dated Sept. 15, 1969, a little over sixteen months after your May 9, 1968 note to the Project Magnet Report (see enclosure C). Mr. Wilson states that on your direction the Second Storey documents in Project Magnet be declassified. "Documents relating to the studies behind Project Magnet . . . and discussion in the Department of Transport surrounding project Magnet be down classified to at least the confidential level. At no time should it be made available to the public."

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- a) Could you explain how a "spare time activity", as stated in your May 9, 1968 statement was something which "at no time should be released to the public" sixteen months later?
 - b) Could you explain what were the "studies behind Project Magnet"? Where are the records and your letters relating to these studies?
 - c) What Project Magnet report in point 4 is to be destroyed when the subject cools off? Is it different from the public version released by you May 9, 1968? Was the Project Magnet report in point 4 destroyed?
- 3) Enclosed please find a copy of the Nov. 21, 1950 Smith memo (see enclosure D). When were you first made aware of the information contained in this memo? I assume that you were very close to the information and studies proposed. I base this on the following information:
- Dr. Solandt, a major player according to this memo, chose you to head the Defense Research Board study (Project Second Storey) into UFOs.
 - Dr. George Garland was provided as "specialized personnel for incidental work". Coming from the Dominion Observatory you must have approved this.
 - Again you wrote the final report to Smith's Project Magnet Report, copies of which are still being sent out by the National Research Council.
 - According to the Wilson memo (enclosure C-1) you were the one responsible for moving the classification of the Nov. 21, 1950 Smith memo from Top Secret to Confidential.
- a) Could you explain exactly how you interpret points A-D?
 - b) Did you discuss these points with Mr. Smith?
 - c) Did you discuss this information (points A-D) with Dr. Solandt who was briefed the day before the memo by Mr. Smith with all the information he had gathered to date?
 - d) Did you discuss this information (points A-D) with Dr. C.J. MacKenzie who was good friends with Mr. Bush who was mentioned in the memo (see enclosure E).
 - e) Did MacKenzie contact Bush relating to what Smith had said?
 - f) What steps were taken to check the information given by Smith as to the situation regarding UFOs in the USA as described by the Canadian Embassy.? Why are there in the public records absolutely no records or interdepartmental correspondence whatsoever to this major revelation? Where are all these records?
 - g) What reports did Dr. George Garland provide you regarding his work on either (i) Project Magnet or (ii) the studies behind Project Magnet? What about reports by Dr. J. Tuzo Wilson, Dr. James Wait, John H. Thompson? There seemed to be a lot of people involved, but no memos, letters, or reports?

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- h) Most importantly, what liason and discussion took place between the Canadians and the Americans related to points A-D? Who was involved? Where are the reports?
4. Enclosed also please find your "Summary Report" to Project Second Storey (enclosure F-1). Again your conclusion related to further UFO studies is rather negative. You will note the date of the report is Nov. 21, 1953, and that you wrote the report for the Department of Defense. Now see enclosure F-2. According to the Department of Defense, "'expert on UFOs" (only a couple months after you wrote your report stating there is nothing to this UFO stuff), the Department of Defense is secretly running a Top Secret program to land UFOs at the Defense Research Board Station at Suffield, Alberta. In 1967 the Department of Defense admits this. In 1978 the Department of Defense denies it (enclosure F-3). Because you wrote the final report for a D.O.D. UFO study only months before, you surely were aware of this Top Secret Program.
- a) I have only Wilbert Smith's version of this Project. The Department of Defense claims to have destroyed its records. Perhaps you could fully tell the D.O.D. side of the story?
 - b) What was the Project name?
 - c) Who were the members of the committee?
 - d) Who is this "department expert on UFOs"?
 - e) Was this project related to the U.S. Project SIGMA, or any other project to contact aliens?
 - f) What group made "strong representations to the committee"?
 - g) What part did the RC.M.P. play?
 - h) How were the UFOs notified that Suffield was the place to land? Was Shirley Bay used for this purpose?
 - i) Where are the records from this project? Where is your correspondence related to this Suffield Project?

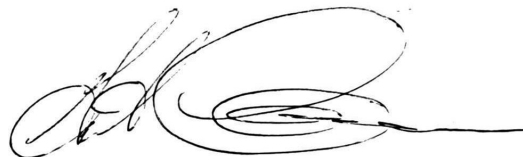
Finally, regarding enclosure S 1-13, in Wilbert Smith's Nov. 21, 1950 memo, he states that he had provided Dr. Solandt with all the available information he has obtained. This would have included the enclosed hand written notes of the interview with Sarbacher. This interview plus others he conducted to obtain the information which became points A-D in the Smith memo, are not a part of Magnet or Second Storey files. There is little doubt that with the mention of Dr. Vannevar Bush's name, and the supporting interviews done by Smith, that you, Dr. Solandt, and Dr. MacKenzie would have taken the matter very seriously. It appears now quite clear that Wilbert Smith was getting his information from reliable sources in the U.S.A. (enclosure S). In light of this revelation I am sure all researchers in Canada and the USA. would appreciate answers to the following questions:

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- a) Canadian departments (defense, NRC, DOT) have always maintained that Smith was a loose cannon and that Smith alone was responsible for his conclusions. How does this fit into the presently known fact that he was only following up on upper level USA research programs?
- b) Can we now have released all notes presented by Smith at the Nov. 20, 1950 meeting with Dr. Solandt. Also, all notes taken by Solandt, his diary entries and interdepartmental correspondence initiated by Solandt as a result of this meeting with Smith.
- c) Can we have details of all Canadian-U.S. liasons, meetings, related to this information passed to Dr. Solandt. Especially wanted is liason between Canadian scientists and American scientists such as Dr. V. Bush, Dr. Eric Walker, Dr. Compton, Dr. John von Neuman, Dr. Robert Oppenheimer. Finally, any exchanges or liasons on UFOs between the National Research Council and Defense Research Board, and the U.S. Research and Development Board.

Mr. Millman, you were closely associated with all these projects and people. You are aware of what records exist, and where they might be found. You wrote final reports to the two major Canadian UFO Studies. I think I have properly requested that you fill in these gaps in Canadian UFO research history.

I await your reply. Thanking you for your time and consideration.

A handwritten signature in dark ink, consisting of a series of loops and a long horizontal stroke at the end.

(2 Oct. 1987) To Grant Cameron
with my compliments - Peter M. Millman

SEVEN MAXIMS OF UFOs – A SCIENTIFIC APPROACH*

BY PETER M. MILLMAN

Herzberg Institute of Astrophysics, National Research Council of Canada, Ottawa

Introduction. Man, as a species, is an animal with great curiosity combined with an intelligence that caters to this curiosity. Over the centuries these facts have resulted in a vast accumulation of knowledge about the universe we live in, and especially about our immediate surroundings. If a very unusual event occurs an attempt is immediately made to fit this into the pattern of past collective experience, and if the event cannot be filed in some convenient and recognized category it may easily become an intellectual annoyance – spurned by the narrow-minded and over-emphasized by the uncritical. In recent years, with the advent of the Space Age, experiences involving what have been popularly termed Unidentified Flying Objects (UFOs) have displaced, in public interest, earlier enthusiasms for the study of psychic phenomena through spiritualism and the investigation of haunted locations.

Personally, I cannot claim to be an expert on UFO phenomena, nor to have special knowledge in any other area of strange events. However, from the age of five on I was taught by my parents to take a lively observational interest in the world around me, and as a result I ended up collecting almost everything as an amateur naturalist. My studies in astronomy commenced at the age of nine and I have followed a career of observing the sky for the subsequent sixty years.

Specializing in meteoritics, it is natural that I have been called upon to investigate a great variety of sky phenomena observed by the general public. Perhaps my most lasting impression, as I recall hundreds of conversations with people in all walks of life, is that of the tremendous variability of the human reaction to any given event. I can recall interviewing as many as 200 individuals who had witnessed a brilliant fireball that resulted in a meteorite fall, and a large percentage of these observers had a subconscious subjective input to add to the external, objective, physical event being reported. Courts taking evidence in a complicated traffic accident case experience the same pattern of individuality of the human reaction to events.

In this brief article I am not going to attempt a study or an explanation of

*This paper is based on an address delivered at the annual symposium of the Canadian Association of Physical Transportation Management on March 12, 1975 in Toronto. Earlier versions were given before various Canadian organizations, including groups in Ottawa, London, Deep River and Montreal.

specific UFO sightings. This type of treatment requires a book-length publication, and many of my readers would probably not agree with my conclusions in any case. However, over the years, my experience has made it clear that there are certain basic principles or maxims which are relevant to this subject, and about which there can be no real argument. Anyone studying a UFO incident should remember these maxims, while maintaining an open mind and an unprejudiced attitude. I think that each person should come to his own conclusions on the basis of unbiased common sense. Ridicule, or emotional reactions, are quite out of place. We will start with a quotation from the Bible.

MAXIM NO. 1. *There is no new thing under the sun* (Ecclesiastes 1, 9, Authorized Version). It is important to realize that, though the term “flying saucer” and the current association with space vehicles, originated in 1947, strange images, often circular or oval, have been observed in the skies for centuries. The prophet Ezekiel (580 BC) described “wheels” seen amid rainbow colours, early in the 6th century B.C. There is the record of a round, flat, silver disk that, in 1290 A.D., flew over a theological seminary near Byland, Yorkshire, terrifying all who saw it. Other accounts from the 18th and 19th centuries come from widely separated areas such as France, Russia, and the Pacific Ocean. One must bear in mind that the UFO phenomenon is not new, nor is it particularly connected with the development of atomic energy or the international space program. As far as we can tell mysterious events in the sky have not materially changed their pattern since man first started keeping records. Only the emphasis varies with the changing occupations of man and with the increasing efficiency of human communication systems. During this long period there has never been a fully proven case of physical contact with an alien spacecraft, and not a single artifact of undoubted extra-terrestrial origin.

The passage of time inevitably brings greatly improved techniques of observation and investigation, and there is a problem in applying the scientific critique to the study of a series of events in our local environment which, continually over the years, seems to be on the verge of producing physical contact data and yet never does. In his excellent book *Fads and Fallacies in the Name of Science* Martin Gardner (1957) reviews the rise and fall of many pseudo-scientific enthusiasms of past decades.

MAXIM NO. 2. *Seeing is Not Believing.* I am grateful to Professor Roy M. Pritchard of McMaster University for first interesting me in the detailed physiology of the human eye-brain combination, a living instrument of amazing power and flexibility. In analysing observations of inexplicable

phenomena it is essential to understand the basic interaction of the eye and the brain. For example, although there are about 260 million light-sensitive elements in the two eyes, there are only some 2 million nerve channels for carrying the visual messages back to the brain, which is actually a miniaturized computer of large capacity. Thus, right at the start, a process of selection occurs and the way this operates depends on a number of factors, mostly subjective. When the on-line electrical nerve signals arrive at the brain they are frequently mixed, on a subconscious level, with an input from the memory bank of the brain. A good example of this is a trained observer reporting a disk with a number of portholes which represents a resolution greater than is possible with the unaided eye. On the average the eye can resolve an angle of 3.5 minutes of arc, or roughly one-tenth the diameter of the moon. Earlier storage of detail on a similar disk form, seen on a larger scale, may influence a later observational record.

The power of the two eyes to determine distance by true stereoscopic vision is limited to well under a distance of 100 metres, so any estimates of distance much beyond this value must be by analogy and the superposition of one object in front of another. This action is subjective and relies greatly on past experience and a knowledge of the actual size of familiar objects. In the case of unidentified objects in the sky, observer estimates of distance have practically no value. The same holds for velocities and sizes which are very commonly quoted. The eye can make a crude quantitative estimate of angular velocity, but without any knowledge of the distance or geometry of the path of the object (assuming that in fact a physical object does exist) nothing can be said about linear velocity or absolute size. This brings up another point. One often encounters the statement that the object seen exhibited a metallic reflection and therefore must be, physically, a solid. Various atmospheric phenomena can simulate any kind of a surface or lighting condition and it is impossible for the eye, on the basis of the optical image alone, to determine the physical nature of the source. For a full treatment of atmospheric images see Minnaert's book *The Nature of Light and Colour in the Open Air* (1954).

There are many effects to which the perfectly healthy, normal eye is subject, and these have often played an important part in some of the famous UFO incidents. As examples I might mention the after-image, which is related to the better-known persistence of vision; the moving point effect, an autokinetic phenomenon; and the waterfall effect, originally noted by Aristotle. Many eyes have defects such as astigmatism, myopia, hypermetropia, etc., often corrected by glasses. As one approaches the age of 50 years a decrease in the accommodation of the eye inevitably takes place. Unfortunately, in collecting observational data on UFOs, very few investigators seem

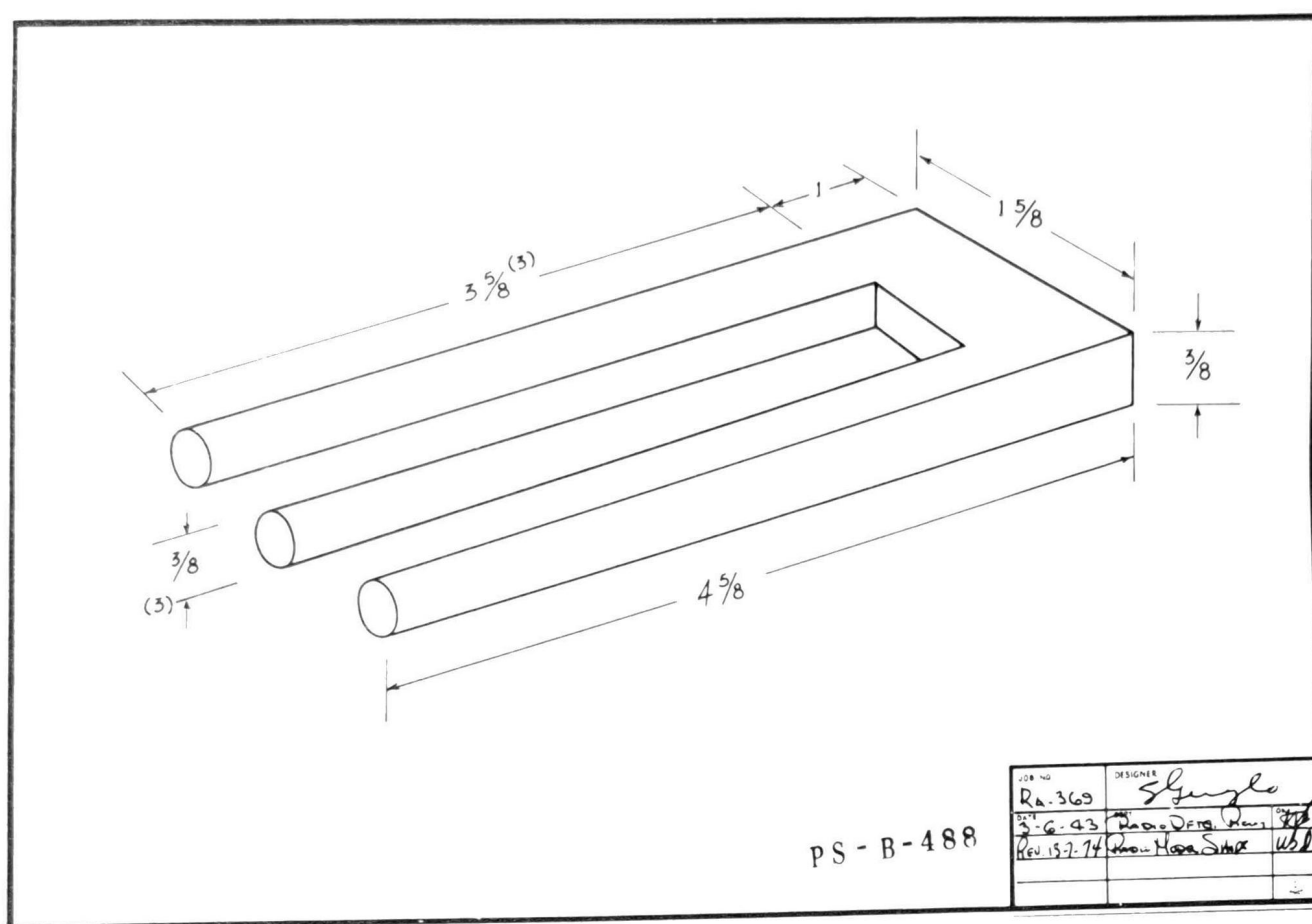


FIG. 1—A shop order for a “three-pronged widget”, Radio and Electrical Engineering Division, National Research Council of Canada.

to have interested themselves in the physical condition of the observer's eyes, or in the straightforward fact as to whether the individual normally wore glasses and whether the observation was made with or without glasses.

Detailed physiological and psychological testing has shown that, basically, the eye sees on an emotional level. We see what we need to see, what we expect to see, what we are trying to see, what we are conditioned to see. The human act of seeing seems to be “learned” rather than “instinctive”. It takes a new-born baby two years to learn to make full use of his two eyes.

Training and experience can produce very different reactions to a given visual image. Figure 1 reproduces a shop order that circulated in our building some time ago. Needless to say it was never satisfactorily filled by the machine shop but it did create quite a bit of amusement and considerable comment. The aborigines in the Amazon jungle, untrained to read engineering drawings, would probably show no particular reaction. However, unlike our mechanics, these same aborigines have the ability to detect the slightest movement of a single leaf in their surroundings, as this may indicate enemy danger or possible food, and is a requirement for continuing existence in that part of the world. For more on optical illusions see Tolansky (1964).

Good treatments of visual perception and of the interaction of the eye



FIG. 2—Photograph taken shortly after sunset, looking east across the Annapolis Basin, Digby, N.S. on Sept. 24, 1974. (Photo by Author)

and the brain will be found in books by Vernon (1962, 1966) and by Gregory (1966, 1970). These should be required reading for anyone who is going to draw conclusions based on visual data. In my opinion this is the most important area that has been neglected in the past by almost all so-called UFO experts.

MAXIM NO. 3. *Instruments Can Deceive.* There is a popular belief that, though a visual record may be in question, an instrumental recording can be taken as proof positive of the circumstances of a given event. The trouble is that all instruments are subject to their own particular forms of ghosts and defects in the record. Certain photographs have been reproduced repeatedly in various publications, and have become well-known. I might mention the Lubbock Lights, the Salem Coast Guard photo, the James Lucci photos and the Paul Trent photos. These and others were published by Look Magazine (1967) in a special issue titled *Flying Saucers*. Figure 2 is the Peter Millman photo, taken on September 24, 1974 in Digby, N.S., and it represents very well a visual sighting that my wife and I made just after sunset from a restaurant on the waterfront where we were having dinner. The fact that the



FIG. 3—A night firing on the McGill University HARP project, Barbados, 2321 hours on Feb. 23, 1966, photographed with a fast lens and a 200 line/mm grating. The zero-order image of the lower part of the rocket trail appears just to the right of the head-and-shoulders silhouette. The inverted, cross-axis image of this is at upper right, centred on the outer halo ring. Spectra of the firing appear in a horizontal line along the lower part of the picture and the cross-axis spectrum images in a horizontal line along the upper portion. The first-order spectrum on the blazed side of the grating is the very much overexposed image at lower centre. Double images of some of the trees result from the spectral dispersion of the basic dye colours used in the Kodachrome II emulsion. (Photo by Author)

lights in the dining room were turned on shortly before I took the picture was certainly not an irrelevant circumstance.

For some reason or other photography is the area where we find the majority of deliberate UFO hoaxes. And I might add that it is practically impossible to expose a well-designed hoax from the examination of the negative alone. One must draw conclusions from a great many other sources, and sometimes these other sources are not available.

Figure 3 is a black and white reproduction of a colour photograph I took while working on one of the McGill University HARP firings, February 23, 1966 in Barbados (Millman 1966). On this project a gun barrel 115 feet long was used to fire a shell containing a chemical that was released in the upper atmosphere. The picture reproduced here was taken with a 50 mm,

F/1.4 lens at full aperture with an objective transmission grating, 200 lines/mm and using Kodachrome II emulsion. The exposure was 1 second at 2321 hours and shows the firing and the lower part of the rocket trajectory. Because of heavy over-exposure for certain portions of the image, many effects found with modern fast lenses are present, including an inverted cross-axis image of the firing at upper right, the various orders of grating spectra along a horizontal line below, the cross-axis images of these along a horizontal line above, and a series of halos centred on the lens axis and resulting from internal reflections in the lens mounting. Although most cameras are used without a grating the effect of grating spectra occurs in any photo of lights taken through a screen. Iris diaphragms for cutting down the lens aperture often leave polygonal bright images on a picture of a bright source. Sometimes a ghost image appears even when the bright source is completely outside the camera field. Where roll film is used, careless handling can produce pressure images in the form of small arcs where the film was buckled. I could go on at great length concerning the hundreds of types of spurious images and photographic defects that have been encountered during my 47-years' experience in the examination of astronomical negatives.

When we come to radar records the situation is just as bad. During the war, in the early days of radar, I was in operational research with the R.C.A.F. We spoke of gremlins in the equipment and angels on the screens. In radar it is often more difficult to locate the origin of a ghost image (angel) than it is in photography. Those who do not work with radar may not realize that many radars do not provide a continuous image of a target but sweep at rates of from more than once per second down to one sweep every 15 seconds or longer. In these cases the target is illuminated only at regular intervals, and if moving, it appears on the screen as a series of small echoes in a line. I remember one interesting case studied at our office where two interacting radars at different sweep rates produced a series of spurious echoes in a straight line. If these had been taken as representing a single solid object, the resulting calculated velocity would have been greater than any known vehicle. This type of effect has operated in a number of UFO incidents.

Another great source of angels on radar is ducting in the atmosphere. Layers of air at different temperatures and densities can channel both radio waves and visible light along strange paths, or can create discontinuities which act as echo sources. The result is a varied array of anomalous echoes and mirage-type phenomena. Meteorological reports in general only give overall average conditions for large areas but cannot begin to cope with many cases of small-scale turbulence and discontinuities.

MAXIM NO. 4. *Beware the Printed Word.* I wonder why so many people take on faith what they see published in a journal or book. Just because something appears in print is no reason to assume its accuracy. Let me give one good example. Radio Officer Z. T. Fogl on the S.S. Ramsay took two pictures in December, 1957, reportedly off the California coast as the ship sailed from Vancouver to the Panama Canal. These appeared in the British journal *Flying Saucer Review* in the January/February 1959 issue. They clearly showed an artificial-looking craft with at least three radio antennas. Over the years this sighting was often quoted as an outstanding example of an alien spacecraft. Hall, of NICAP (1964) listed it in his summary *The UFO Evidence*, the Illustrated London News reproduced a photograph in the February 5, 1966 issue and Life Magazine, in the issue of April 1, 1966, published one of the Fogl pictures and compared it with the drawing of a current UFO sighting in Michigan. Finally, in the fall of 1966, Fogl confessed that he had made a flying saucer from plastic model aircraft parts, hung it by a thin silk thread and taken the photographs. The hoax was exposed in the *Flying Saucer Review* for September/October, 1966, and again in *Flying Saucers – UFO Reports*, No. 3 (1967) in an article by Rankow (see figure 4). In spite of all this, in the Canadian journal *Product Design and Value Engineering* for February, 1968, the Fogl photo appears once more, in a review article on UFOs (Barnes 1968) without any indication that it is a fake, and again this picture appears in the *Canadian Scientist* for September, 1968. This is only part of the history of one faked photo, covering over 11 years.

An important aspect of the newspaper accounts of UFOs is that the detailed coverage with scare headlines on the front page usually appears so soon after the sighting that only the most meager amount of fact-checking can be carried out. Inevitably, important details are missed, inaccurate ones are over-emphasized and a story, biased towards the sensational, results. In many cases subsequent detailed investigation solves the sighting completely, *but very few newspapers are willing to publish this solution as it has no news value.* In the few cases where the follow-up is published it appears as a small note tucked away on an inner page. For this reason a statistical study of a vast collection of newspaper clippings is a pure waste of time.

MAXIM NO. 5. *Records are Never Complete.* Compilers of UFO data are fond of giving percentages that may be ascribed to various known phenomena and usually conclude by pointing out that there is always a “hard core” of unexplained sightings which proves that something, or someone, mysterious is entering our atmosphere. Actually, this proves nothing of the kind. In any large compilation of strange observational data some items will be

THE FOGL PHOTO ...AN ADMITTED HOAX

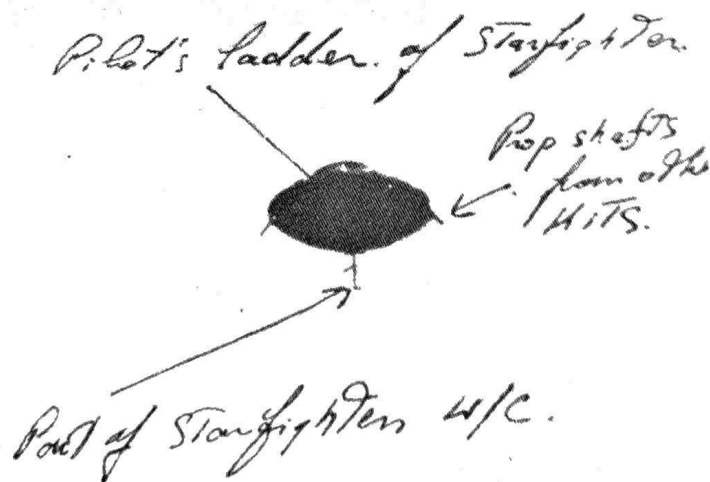
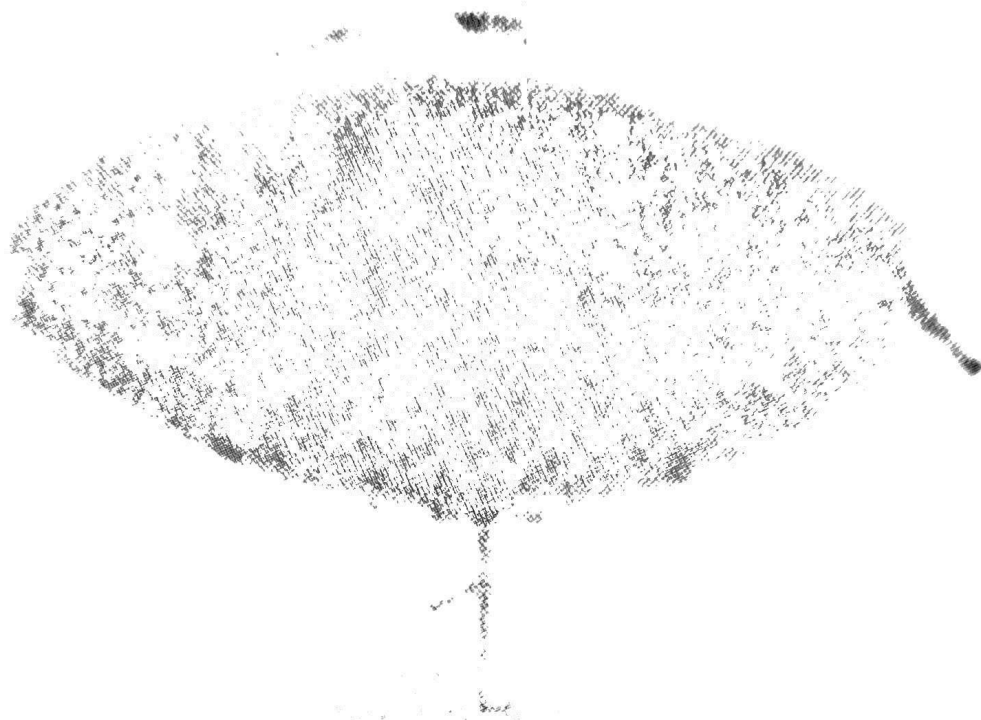


FIG. 4—The Fogl photo, reproduced from *Flying Saucers – UFO Reports*, No. 3, 1967, published by the Dell Publishing Co., New York. The lower view is annotated by Fogl himself to explain how he put the model together. (By permission of Dell Pub. Co.)

explained easily, some with a bit more difficulty and some only after an intensive investigation where eventually the missing clue turns up. According to statistical probability there are almost certain to be cases where the clue is lost and never does turn up, so the existence of the "hard core" proves little one way or the other. The great majority of unexplained UFO cases are so lacking in firm factual data that a good scientific study is very difficult, if not impossible.

I would like to mention three interesting cases where the clues did turn up, as described by Menzel and Boyd (1963). In August, 1951, strange lights were seen flying in scattered formations over the town of Lubbock, Texas. Thanks to one formation that came lower than the others, they were identified as plover, reflecting the mercury-vapour lights of the town from their white, oily breasts. In Norfolk, England, over a long period of years, strange ghostly lights had been seen in the air at night in a certain area. Eventually these proved to be owls that often seek refuge in hollow trees during the day. The owls were dusted with a common fungus, *Armillaria mellea*, that infests rotting wood and is phosphorescent. Strange iridescent globes floating in the sunlit sky, and seen in various parts of the USA and France, have turned out to be migrating spiders which spin a balloon-like web that allows them to be borne aloft on the rising currents of warm air on a fine day.

The Condon report (1969) concluded that little could be learned through additional interviews in re-investigating old incidents that had occurred a number of years earlier. Once a story has been told many times it becomes set in the mind of the narrator and new information of value does not become available. On the other hand sometimes a new fact comes to light by pure chance, and this may make possible the solution of an otherwise baffling case.

MAXIM NO. 6. *Man Makes Mysterious Machines.* There is no doubt that many widely publicised UFO sightings are the result of little-known or little-understood effects of man-made equipment. As certain types of upper-air experiments become more common there is less confusion, but it is surprising how often we still see UFO headlines for sightings of high-altitude balloons, flare tests, chemical releases, satellite re-entry and even aircraft landing lights. With the advent of the space program people are sky-conscious and look up more than they used to. In some cases tests of airborne equipment cannot be made public at the time the tests are made and later, when the information is released, the news media have lost interest. In connection with the possible sightings of various types of aircraft an observer often seems to base his conclusions on whether he heard a sound or not. This is probably one of the least significant bits of observational data, when

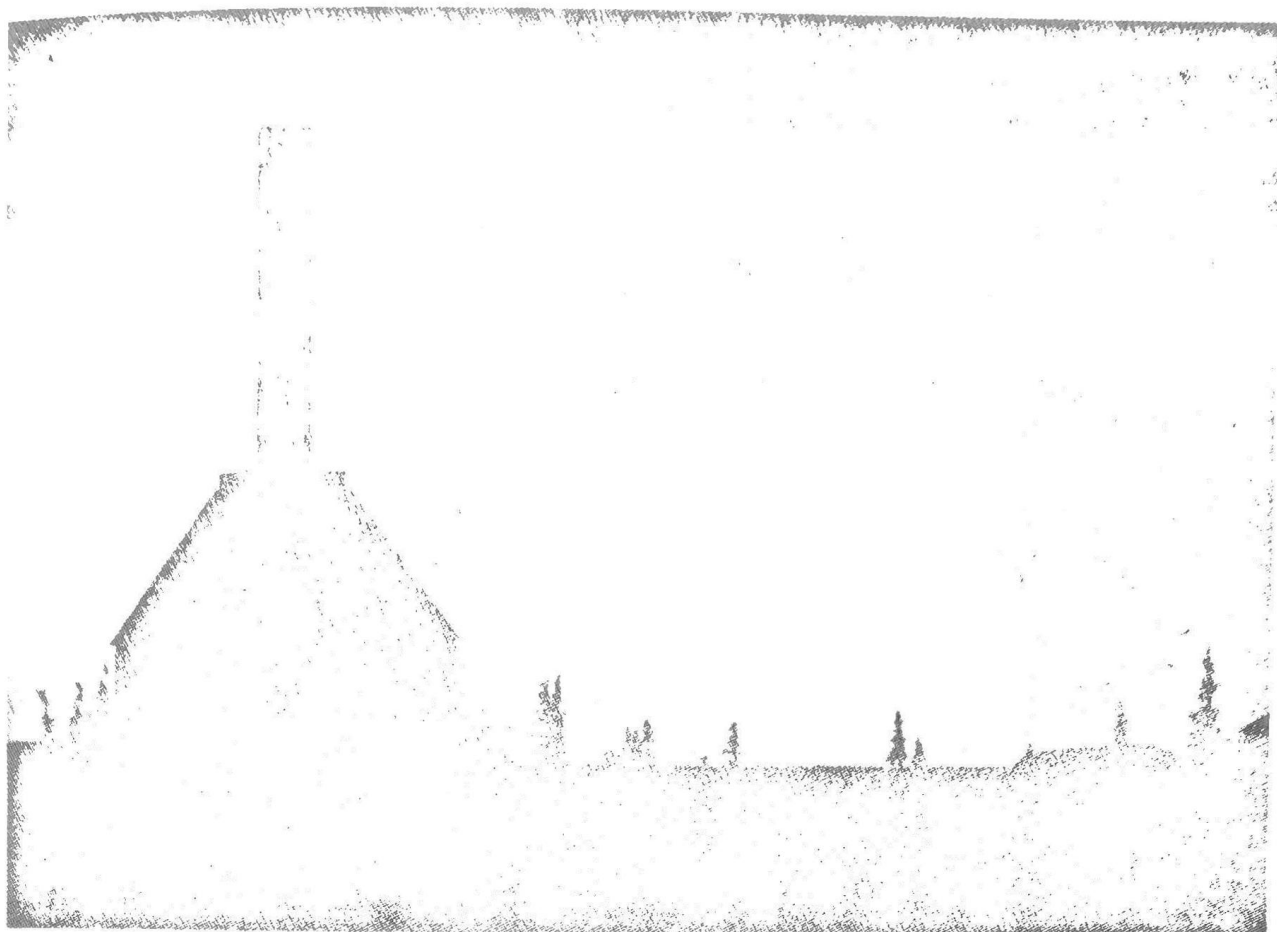


FIG. 5—A sundog observed at Churchill, Manitoba, on December 9, 1968 near the rocket launching tower. (Photo by Author)

related to aircraft. The factors of wind at various elevations, whether the observer is inside the house or out, in a moving vehicle or located near heavy traffic, etc., all have a bearing on whether a sound will be heard.

MAXIM NO. 7. *Knowest thou the ordinances of heaven?* (Job 38, 33, Authorized Version). With my final maxim, which is also a quote from the Bible, I wish to call attention to the many types of natural phenomena that add both beauty and mystery to our skies. These range from the better known examples of bright planets, auroras, meteors, halos, mirages, migrating birds and insects, and so on, to the rarer cases of anomalous refraction, multiple imaging, brilliant fireballs, lenticular cloud systems, and ball lightning. Menzel (1972) lists well over 100 items, both natural and artificial, that have been considered as UFOs and notes that this is only a selection.

Of all the celestial sights that have puzzled and even startled people the planet Venus probably holds the prize. About every two years it appears extremely bright, first in the evening sky then in the morning sky when it remains visible right on into bright sunshine. Various effects in the atmosphere and in the eye can deck Venus in scintillating, rainbow colours, make

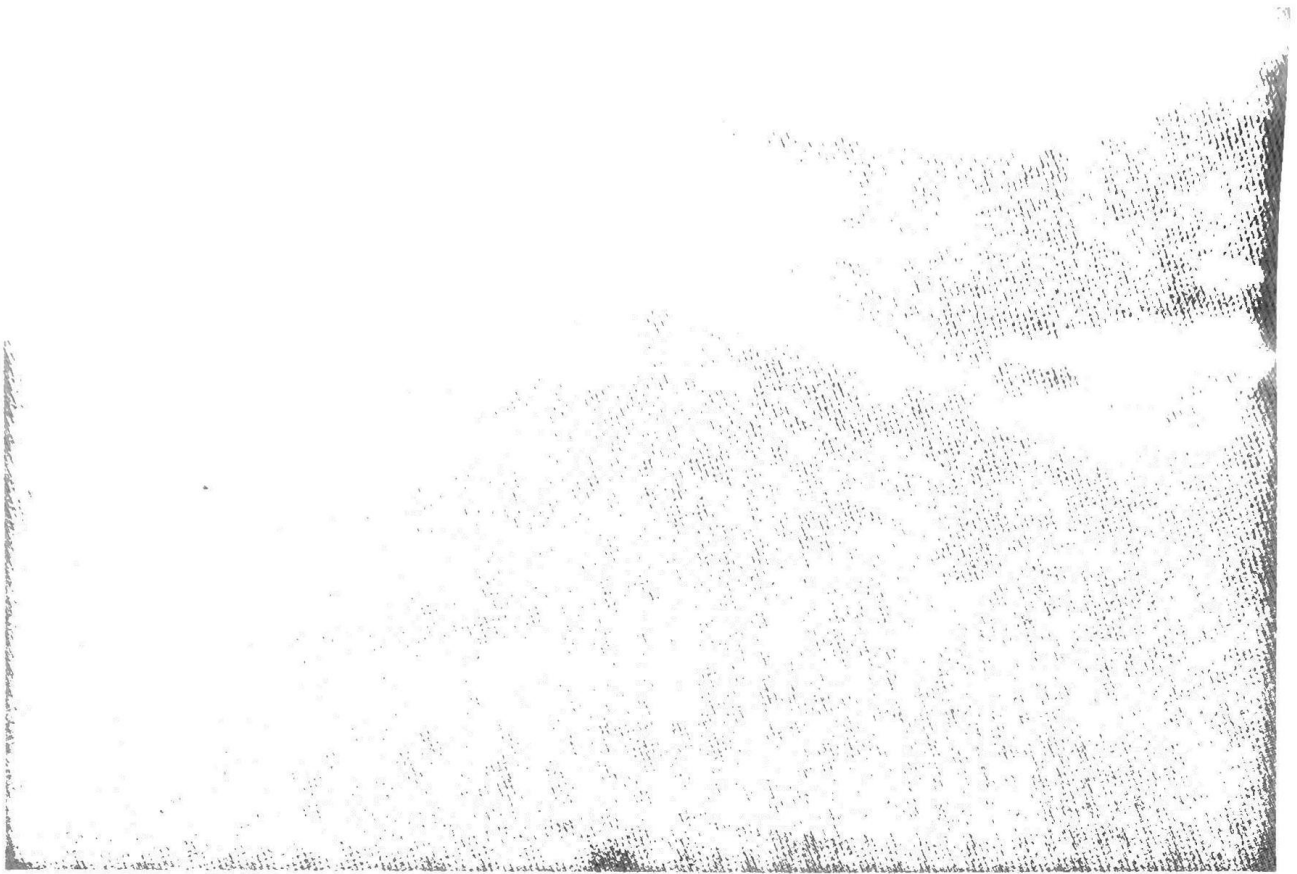


FIG. 6—A subsun, seen on a flight over Europe in November, 1966. (Photo by Author)

it appear to dance and even, on rare occasions, scare you by making the planet seem to approach on a collision course. To a less spectacular extent every bright planet, and stars down to the first magnitude, have at some time caused real confusion in the mind of the observer.

Halos and mirages can also be very exciting. The best examples I have seen personally were published in this JOURNAL some years ago (Millman 1928, Chant 1934). Figure 5 is a recent picture of the portion of a halo complex called a sundog, observed at Churchill, Manitoba, near the rocket launch tower. Figure 6 is a subsun, an image that occurs directly below the sun, as far below the horizon as the sun is above. The effect is due to the presence of flat frost crystals floating horizontally and reflecting the solar image. Such images move with the observer, thus giving him the impression of being followed.

As an example of a much rarer phenomenon we have the multiple imaging of the moon, as recorded by Reimann (1887). Another very rare natural phenomenon was the meteoric procession, reported by Chant (1913), which appeared on Sunday evening, February 9, 1913. One often sees the comment that a certain sighting couldn't be a meteor because it was visible for too long a time, 15 or 20 seconds for example. It is worth noting that estimates



FIG. 7—Multiple imaging of the crescent moon, a rare atmospheric effect, as seen near Hirschberg, Germany (now Jelenia Gora, Poland) on the evenings of January 28 and 29, 1887, and reported by Reimann (1887). Left – observation from Hirschberg on January 28, 7:45–8:15 p.m.; right – observation from Cunnersdorf on January 29, 8:15 p.m.

of the length of time a single object was visible in the 1913 procession ranged from 20 to 30 seconds with some estimates being considerably longer. There is no reason why a meteor moving in a near-satellite orbit, as were the meteors in 1913, could not remain visible to an observer for well over a minute. Menzel (1953) has discussed in detail the ways in which natural phenomena have often been the origin of a UFO report.

Conclusion. I believe that these seven maxims emphasize the extremely complex character of this area of human experience. I mentioned earlier that I was not going to discuss specific cases in detail. Since starting to write this paper an excellent book has come to hand. It is by an author who has personally investigated in depth some of the most puzzling cases, under the title *UFOs Explained*, by Philip Klass (1974), and I recommend it strongly to those who wish to pursue this subject further. I should also mention the book by Allen Hynek (1972), an astronomer who has probably had the greatest direct contact with this subject of any of us, and a comprehensive, annotated bibliography by Catoe (1969).

For the future I suggest that fruitful fields of research may be plasma phenomena and small-scale atmospheric discontinuities which can be connected with image-forming mechanisms. I consider that a very general mistake made in UFO studies is the association of coincidental but completely unrelated events. This philosophy is encouraged by the news media who have the bad habit of using terms like a “wave” of sightings, which may include all peculiar events that happen to occur on this continent in a given period.

Finally, if you ask me "Can extra-terrestrial, intelligent life exist in the universe?" I would say yes, and it probably does. But if you ask "Have we, as of now, good scientific evidence that extra-terrestrial intelligence has visited our earth?" I must answer no, not in my opinion. After well over fifty years of studying the sky, I fail to find any pattern of physical events which suggests that our atmosphere has been visited by an alien and intelligent life culture. I have the distinct impression that if or when this event does occur, it will be much more self-evident than the cases now classified as UFOs.

REFERENCES

- Barnes, A. B. 1968, *Product Design and Value Engineering*, **13**, No. 2, p. 14.
- Chant, C. A. 1913, *J.R.A.S. Canada*, **7**, 145.
- Chant, C. A. 1934, *ibid.*, **28**, 181.
- Catoe, L. E. 1969, *UFOs and Related Subjects, An Annotated Bibliography*, AFOSR 68-1656, U.S. Gov. Printing Office, Washington, D.C.
- Condon, E. U. 1969, *Scientific Study of Unidentified Flying Objects*, Bantam Books Inc., New York, N.Y.
- Ezekiel, circa 580 B.C., *Bible, Authorized Version*, Ezekiel, ch. 1, vs. 15-21; ch. 10, vs. 9-19.
- Flying Saucers* 1967, edited by D. C. Whitney, Look Special, Cowles Communications Inc., New York, N.Y.
- Gardner, M. 1957, *Fads and Fallacies in the Name of Science*, Dover Pubs. Inc., New York, N.Y.
- Gregory, R. L. 1966, *Eye and Brain*, McGraw-Hill Book Co., New York and Toronto.
- Gregory, R. L. 1970, *The Intelligent Eye*, McGraw-Hill Book Co., New York and Toronto.
- Hall, R. H. 1964, *The UFO Evidence*, National Investigations Committee on Aerial Phenomena (NICAP), Washington, D.C.
- Hynek, J. A. 1972, *The UFO Experience*, Henry Regnery Co., Chicago.
- Klass, P. J. 1974, *UFOs Explained*, Random House, New York and Toronto.
- Menzel, D. H. 1953, *Flying Saucers*, Harvard University Press, Cambridge, Mass.
- Menzel, D. H. 1972, *UFO's a Scientific Debate*, edited by C. Sagan and T. Page, Cornell University Press, Ithaca and London, p. 123.
- Menzel, D. H. and Boyd, L. G. 1963, *The World of Flying Saucers*, Doubleday and Co. Inc., Garden City, N.Y.
- Millman, P. M. 1928, *J.R.A.S. Canada*, **22**, 94.
- Millman, P. M. 1966, *Sky and Telescope*, **32**, 64.
- Minnaert, M. 1954, *The Nature of Light and Colour in the Open Air*, Dover Pubs. Inc., New York, N.Y.
- Rankow, R. 1967, *Flying Saucers - UFO Reports*, No. 3, p. 4, Dell Pub. Co., New York, N.Y.
- Reimann, 1887, *Meteorologische Zeitschrift*, Berlin-Vienna, **4**, 144.
- Tolansky, S. 1964, *Optical Illusions*, Pergamon Press, Oxford and New York.
- Vernon, M. D. 1962, *The Psychology of Perception*, Penguin Books Ltd., Harmondsworth, Middlesex.
- Vernon, M. D. 1966, *Experiments in Visual Perception*, Penguin Books Ltd., Harmondsworth, Middlesex.

Nov. 21, 97.

Dear Mr. Millman,

Received your letter of 2 Oct. I appreciate you taking the time from your schedule to clear up some of the matters dealing with early UFO research in Canada. Your letter raises a couple new questions, which if you would help with could clear up the early UFO period in Canada.

① My assumption that you had talked to the major players in UFO research came from the fact that you had written the final conclusions to Second Story and Magnet. You stated you had not. In this light it is still not clear who in the Canadian gov't was in charge of UFO research. You stated Second Story did not carry out a study of UFO incidents, and the UFO part of Magnet was Smith's hobby.

② Do it therefore true that pre 1954 no investigation was ever done by the Canadian gov't as to the nature of the UFO sightings? If so, who did the investigations?

③ With reference to Second Story. You have stated in your letter the same thing stated in a letter from Dr. A.C. McNamee to researcher Arthur Bray that Smith Project Magnet Report was rejected by the Project Second Story committee. When did this take place? Was it at the unpublished March 1954 meeting claimed by Mr. Bray. (enclosure A) ^{very importantly} If no investigation had been done on what ^{evidence} did you and the other committee members base their rejection of Smith's conclusion?

1

Finally, in reference to your statement that strange secrets of UFOs in government hands ^{don't} "without foundation." I return to the Dr. Robert Searbacher material I referred to in my last letter. If you compare Smith interview with Dr. Searbacher (then an advisor to the Research and Development Board) to the comments in the 1950 Smith memo, you will see that Mr. Smith was only repeating almost word for word what Dr. Searbacher told him. You had stated Mr. Smith had "over-emphasized the importance of the UFO problem." The record seems to show Searbacher stated the subject was ~~then~~ ^{at that time} the most highly classified subject in the US. Smith was simply questioning the Scully book claim that the American had recovered a crashed saucer.

Since I last wrote you more evidence has surfaced to support Wilbur Smith's position on these "state secrets." With no help from the Canadian gov't I have managed to obtain some of the correspondence with the Canadian Embassy.

You will see from Wilbur Smith's letter to Gordon Cox and Cox letter back. (enclosure B)

① He had full co operation from NRC (thus my assumption in my last letter that Dr. McKenzie was involved in this)

② Dr. Solandt requests respect for the American classification (2 points higher than the H-bomb)

③ Heywood's article dealing with the reality of the saucers was cleared by Dr. Solandt.

④ The Canadian Embassy people were waiting for ^{an official} the American gov't statement on the "revelation" passed to Smith from Searbacher.

Further to this an interview conducted after I wrote

you has been made available to me.

Before Sarbacher died (July 86), he was questioned by researcher William Steinhilber about the meetings held at Wright Field in 1949-1950 dealing with the recovered flying saucer mentioned in the Smith interview. Sarbacher stated he had not attended but that one living scientist had. This scientist was not just an advisor to the Research Development Board, but on the board executive. He went on to become chancellor of a major U.S. University. If he provides the information asked for in the interview I will release his name. (enclosure c)

What this scientist says agrees totally with what Smith and Sarbacher both maintained. At no place does he state his ignorance of UFOs, or that of the U.S. government.

It was probably ^{such} information that led Wilbert Smith in a letter to British researcher Ronald Caswell, Feb 23, 1959.
(enclosure d)

Finally, I received and read "Seven Maxims of UFO: HFS." One drawback I see to this article is the fact you used Dr. Donald Menzel as a main source for research on UFOs. Dr. Menzel's ~~own~~ objectivity has come under serious question related to his recently discovered links to the National Security Agency and CIA ^{and} (two agencies which have withheld UFO documents claiming National Security) and Menzel being rumored to have been a member of the MS-12 committee confirmed by the ~~DDP~~ Research and Development Board executive (enclosure e).

September 3, 1987

Dear Mr. Millman,

I am writing to you as one of, if not the only key person from the early history of Canadian UFO research still alive in order to clarify some unresolved parts of that history, and to answer questions raised by new revelations.

More specifically, I am interested in your answers, as they relate to the research done by Mr. Wilbert B. Smith, as he was responsible for all of Project Magnet, and about 95% of the discussion and research published on Project Second Storey. Due to the fact that you wrote the "Note to Project Magnet", the "Summary Report to Second Storey", and the fact that you knew Mr. Smith personally, I think it is proper that this letter and these questions be addressed to you.

1) In response to Smith inquiries at the NRC, the department gives out the "Reprint of Project Magnet Report". You authored the introduction to this publication (enclosure A). You state therein the standard Department of Transport line that the research and report were a part time activity for Wilbert Smith. You signed this introduction dated May 9, 1968. Just ten months earlier Mr. R.S. Rettie invited a number of people to Building M-58 at NRC to formulate a Canadian UFO Policy Position for the United Nations (see enclosure B). A hand written note on the Department of Transport copy states "At one time projects Magnet and Coldcode were official projects a lot of time was spent on proving the subject to be nonsense."

- a) Can you explain the discrepancy between your position on May 9, 1968 and the D.O.T. Deputy Minister of Air Services position ten months before?
- b) Was Project Magnet an official project?
- c) I have asked everyone else, so I will ask you - What was Project Coldcode?
- d) Where are the records?

2) More importantly, I have enclosed a memo signed by W.J. Wilson dated Sept. 15, 1969, a little over sixteen months after your May 9, 1968 note to the Project Magnet Report (see enclosure C). Mr. Wilson states that on your direction the Second Storey documents in Project Magnet be declassified. "Documents relating to the studies behind Project Magnet . . . and discussion in the Department of Transport surrounding project Magnet be down classified to at least the confidential level. At no time should it be made available to the public."

(2)

- a) Could you explain how a "spare time activity", as stated in your May 9, 1968 statement was something which "at no time should be released to the public" sixteen months later?
- b) Could you explain what were the "studies behind Project Magnet"? Where are the records and your letters relating to these studies?
- c) What Project Magnet report in point 4 is to be destroyed when the subject cools off? Is it different from the public version released by you May 9, 1968? Was the Project Magnet report in point 4 destroyed?

3) Enclosed please find a copy of the Nov. 21, 1950 Smith memo (see enclosure D). When were you first made aware of the information contained in this memo? I assume that you were very close to the information and studies proposed. I base this on the following information:

- Dr. Solandt, a major player according to this memo, chose you to head the Defense Research Board study (Project Second Storey) into UFOs.
- Dr. George Garland was provided as "specialized personnel for incidental work". Coming from the Dominion Observatory you must have approved this.
- Again you wrote the final report to Smith's Project Magnet Report, copies of which are still being sent out by the National Research Council.
- According to the Wilson memo (enclosure C-1) you were the one responsible for moving the classification of the Nov. 21, 1950 Smith memo from Top Secret to Confidential.

- a) Could you explain exactly how you interpret points A-D?
- b) Did you discuss these points with Mr. Smith?
- c) Did you discuss this information (points A-D) with Dr. Solandt who was briefed the day before the memo by Mr. Smith with all the information he had gathered to date?
- d) Did you discuss this information (points A-D) with Dr. C.J. MacKenzie who was good friends with Mr. Bush who was mentioned in the memo (see enclosure E)?
- e) Did MacKenzie contact Bush relating to what Smith had said?
- f) What steps were taken to check the information given by Smith as to the situation regarding UFOs in the USA as described by the Canadian Embassy? Why are there in the public records absolutely no records or interdepartmental correspondence whatsoever to this major revelation? Where are all these records?
- g) What reports did Dr. George Garland provide you regarding his work on either (i) Project Magnet or (ii) the studies behind Project Magnet? What about reports by Dr. J. Tuzo Wilson, Dr. James Wait, John H. Thompson? There seemed to be a lot of people involved, but no memos, letters, or reports?

(3)

- h) Most importantly, what liason and discussion took place between the Canadians and the Americans related to points a-D? Who was involved? Where are the reports?

4. Enclosed also please find your "Summary Report" to Project Second Storey (enclosure F-1). Again your conclusion related to further UFO studies is rather negative. You will note the date of the report is Nov. 21, 1953, and that you wrote the report for the Department of Defense. Now see enclosure F-2. according to the Department of Defense, "expert on UFOs" (only a couple months after you wrote your report stating there is nothing to this UFO stuff), the Department of Defense is secretly running a Top Secret program to land UFOs at the Defense Research Board Station at Suffield, Alberta. In 1967 the Department of Defense admits this. In 1978 the Department of Defense denies it (enclosure F-3). Because you wrote the final report for a D.O.D. UFO study only months before, you surely were aware of this Top secret Program.

- a) I have only Wilbert Smith's version of this Project. The Department of Defense claims to have destroyed its records. Perhaps you could fully tell the D.O.D. side of the story?
- b) What was the Project name?
- c) Who were the members of the committee?
- d) Who is this "department expert on UFOs"?
- e) Was this project related to the U.S. Project SIGMA, or any other project to contact aliens?
- f) What group made "strong representations to the committee"?
- g) What part did the R.C.M.P. play?
- h) How were the UFOs notified that Suffield was the place to land? Was Shirley Bay used for this purpose?
- i) Where are the records from this project? Where is your correspondence related to this Suffield Project?

Finally, regarding enclosure S 1-13, in Wilbert Smith's Nov. 21, 1950 memo, he states that he had provided Dr. Solandt with all the available information he has obtained. This would have included the enclosed hand written notes of the interview with Sarbacher. This interview plus others he conducted to obtain the information which became points a-D in the Smith memo, are not a part of Magnet or Second Storey files. There is little doubt that with the mention of Dr. Vannevar Bush's name, and the supporting interviews done by Smith, that you, Dr. Solandt, and Dr. MacKenzie would have taken the matter very seriously. It appears now quite clear that Wilbert Smith was getting his information from reliable sources in the U.S.A. (enclosure S). In light of this revelation I am sure all researchers in Canada and the USA would appreciate answers to the following questions:

(4)

- a) Canadian departments (defense, NRC, DOT) have always maintained that Smith was a loose cannon and that Smith alone was responsible for his conclusions. How does this fit into the presently known fact that he was only following up on upper level USA research programs?
- b) Can we now have released all notes presented by Smith at the Nov. 20, 1950 meeting with Dr. Solandt. Also, all notes taken by Solandt, his diary entries and interdepartmental correspondence initiated by Solandt as a result of this meeting with Smith.
- c) Can we have details of all Canadian-U.S. liasons, meetings, related to this information passed to Dr. Solandt. Especially wanted is liason between Canadian scientists and American scientists such as Dr. V. Bush, Dr. Eric Walker, Dr. Compton, Dr. John von Neuman, Dr. Robert Oppenheimer. Finally, any exchanges or liasons on UFOs between the National Research Council and Defense Research Board, and the U.S. Research and Development Board.

Mr. Millman, you were closely associated with all these projects and people. You are aware of what records exist, and where they might be found. You wrote final reports to the two major Canadian UFO Studies. I think I have properly requested that you fill in these gaps in Canadian UFO research history.

I await your reply. Thanking you for your time and consideration.

- A. NOTE to Project Magnet Report 9 MAY 68
- B. DOT COPY UN- INTEREST IN FLYING SAUCERS 30 JUNE 67
- C. W.S. WILSON DECLASSIFICATION MEMO 15 SEPT 69
- W.A. CATON MEMO - DOT REPORT ON UN- MEETING
- D. SMITH MEMO NOV. 1950 5pg.
- E. MACKENZIE - MCNAUGHTON LETTER LETTERS P. 56, 57, 112, 126
- F. SECOND STOREY REPORT
- JULY 29 67 WFP "TOP-SECRET PROJECT STRIKES OUT"
- DOD DENIAL OF SUFFIELD INCIDENT
- S WBS to SARBACHER
- SARBACHER LETTERS & PHONE CALLS.

Millman

P. 214. John Spencer "The UFO Encyclopedia"
Headline Book Publishing London 1991

late 60s.

"the only proven thing that comes from outer space ...
after all, we have never had a piece of a flying saucer."

Millman

26 February 1977

Dear Grant:

I wish I had known a few days earlier that Brain Cannon is now living in Saskatoon. I was there this past Tuesday to give a talk at the university as well as some radio/tv spots. I didn't really have much free time, but I would have liked to have established contact while there. As it was I did speak shortly with one lady who used to edit a publication called Saskatchewan UFO Bulletin that lasted for a few years in the late 60s.

I eventually hope to once again visit in Ottawa, and when I go I'll ask about the list you have of Smith contacts. While in Saskatoon earlier ~~this~~ last summer I talked with Jack Buchanan who did a number of experiments with Smith (particularly on gravity and propulsion), and when in Ottawa last winter I did talk a bit with Arthur Bray and got a number of names from him. Unfortunately I couldn't reach Mrs. Smith. It was during Christmas holiday and probably she was out of town.

I didn't expect you to get very far along the official path. But sometimes it's good to actually establish what you think you know beforehand.

I wonder what Dr. Millman will tell you about Smith. His opinions of his later work and focus were quite different from those I got from others who worked with him.

Best of luck.

JH
N