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28. *Psychical Research and other Unorthodox Disciplines*

This chapter is in three sections, each written by different contributors and dealing respectively with ufology, astrology and dowsing. Like psychical research, they are regarded by most scientists as unorthodox disciplines; further, their bearing on psychical research is somewhat controversial. However, as was explained in §1, they have not been excluded, since a case for their relevance can be made, and is indeed included in the discussions below.

28.1 *Ufology*

I. Grattan-Guinness

Some recent history

Apparently one of the Nazis' secret weapons was a disc powered by concentric circular tubes rotating around a fixed cockpit; it may have been given the number V7 (and if so, what were V3 - V6?). Development began in 1941. Despite the heat-stress and stability problems, it was flown in 1945 at establishments in Prague, and perhaps also in Vienna (see the testimony 1955 by the engineer Oberth; and also Lusar 1959, 164-166). But it was not ready for mass production when the 1,000-year *Reich* finished a little early in 1945, and the V7's design engineers were taken into American and Soviet employment.

And then, in 1946 and especially 1947, sightings of 'flying saucers' (as they then became known) were reported in large numbers, especially in the USA. There was a tremendous rumpus

over the years. The US Air Force denied (for a time, anyway) that they were collecting information on the matter, and indulged in various other cover-ups of their activities (Jacobs 1975); but in the mid 1970s they released over 13,000 of the cases that had been studied (Hynek 1977).

The degree of secrecy employed by the US Air Force is quite remarkable; perhaps the V7 stories were right, and the matter was militarily sensitive. The view that UFOs were machines (though not man-made) was reinforced by evidence, not easily dismissed, that some UFOs crashed in the USA and Mexico in the late 1940s and are now stored, together with their now dead occupants, in Air Force bases (see especially Stringfield 1977).

However, critics of this view argued that it would be technologically impossible for UFOs to travel at the speeds observed, and also execute the sudden changes of direction without ripping themselves apart. They showed, often convincingly, that many sightings were either fraudulent, or of natural objects (especially Venus) or of aircraft; or at least that the investigation of the cases was too incomplete to exclude such explanations (Jones 1966, Klass 1968). Critics also mentioned that these alleged machines either come from a sister planet (the 'little green man from Mars' explanation) or travel unbelievably long distances from the stars.

From the 1960s the general situation over UFOs has changed in some ways. Encounters continued to be reported, and some governments became more open about their interest in them. But explanations in terms of machines have lost prestige, due partly to the criticisms mentioned above and also by a change in interest in the types of UFO phenomena most studied.

Types of UFO encounter

In order to proceed further I draw on a classification into three kinds of close UFO encounters (from Hynek 1972, 46-47), together with a fourth kind that has been added later:

first-kind: UFO seen at close range, but producing no effect on the environment;
 second-kind: UFO seen and physical effects left on both animals and inanimate material;
 third-kind: 'occupants' seen in and around the UFO; and
 fourth-kind: observer abducted by occupants and (usually) returned later.

During the 1940s and 1950s much of the controversy just

described centred on distant sightings ('lights in the sky') and first- and second-kind encounters. These types of case are still of interest; for example, for statistical analysis of the times and places where they happen. But waves of third-kind encounters occurred in the mid 1950s, and this evidence helped to change the focus of attention to them, an interest which in the 1970s has taken on fourth-kind encounters also. This change, together with the continuing force of the criticisms described earlier, has moved the interpretations of UFOs away from machines and towards— what?

Are UFOs physical phenomena?

In his 1959 Jung offered an explanation of UFOs in terms of symbolism; but since he only really addressed distant sightings and first-kind encounters, his theory had only limited potential. Later writers have largely drawn on third- and fourth-kind encounters to argue for a psychological component in UFO phenomena (see, for example, Vallee 1977). They point to cases involving striking coincidences for the observer, or voices in his head (akin, by implication, to telepathy). They also stress the similarity of some cases to apparitions; for example, the sudden appearance and disappearance of the object, the failure of some of the potential witnesses to see it, the enthusiasm with which animals run in the opposite direction, and so on.

In addition, there have been cases where other kinds of psychical phenomena have been involved. For example, in 1968 a French doctor and his son saw two UFOs pass near to their house and unite into one before bathing the house in its spotlight. An inquiry to the doctor's leg was immediately cured; later, war wounds healed, and equilateral triangles appeared simultaneously around his navel and that of his son at various times during the next two years. Poltergeists and coincidences have affected the family, and the doctor has had levitation experiences (Michel 1969-1971). Again, after Barney and Betty Hill had a famous fourth-kind encounter in 1961, Mrs Hill has experienced poltergeists, apports, some precognitive experiences, and so on (Schwarz 1977).

Some noted psychics include UFOs in their repertoire. One case is Uri Geller (although in general his evidence is rather controversial); another is Stella Lansing, who complements her thoughtographic powers with frequent UFO encounters (Schwarz 1974-1975)—including, I am quite certain, once with me.

Among connections between psychical research and ufology,

hypnotic regression is now used regularly on witnesses of fourth kind encounters (for a typical example, see Collins 1978). Both subjects also exhibit the polarity of attitudes discussed in §27 (emotional advocacy opposed to total rejection); and both suffer the attention of scribblers, weak in erudition but strong on publicity making comfortable livings from their mis-descriptions of the researchers of others.

But are UFOs psychical phenomena? Space permits only a few comments on this question: see further in, for example, Cassirer 1981 or Grattan-Guinness 1979.

(1) The question is worth asking; those who announce with Klass 1968 that *all* phenomena can be explained in terms of fraud or orthodox scientific cases, pass over a small but non-negligible minority of encounters and sightings. Even the Condon report 1969, a 'scientific' American investigation which in fact was rigged from the start to decide against the genuineness of the evidence (see the evidence for this in Hynek 1972, 298-306), was faced with a residue of unexplained cases.

(2) The question is *not* worth asking in this simple form. Both subjects treat such a wide range of phenomena that yes-or-no answers are useless. Instead, the question needs recasting in the form: *which* UFO phenomena are like *which* psychical phenomena?

(3) This new question requires an answer in the form of classifications of both types of phenomena, with strong connections indicated between them. Unfortunately no such classification seems yet available. Some UFO phenomena involve poltergeists or levitation or . . . ; but most do not. Some psychics have UFO experiences, and some UFO witnesses are psychic; but most do not.

(4) If (some) UFOs are (some kinds of) psychical phenomena then they appear to be on an outlandish kind. Certain writers (for example, Tansley 1977) feel that only deep involvement in the occult will reveal their secrets.

(5) For reasons such as those just given, ufology is anathema to many psychical researchers. In addition, ufologists usually adopt a psychical "explanation" of UFOs without troubling to study psychical research at all, contenting themselves instead with vague remarks about parallel universes, deception, and so on. Thus a lot of work needs to be done; but it may well be worth doing. As Eisenbud has pleasantly put it (1976, 120), UFOs are 'into the experience bodies'.

Bibliography

Books marked by a dagger (†) are recommended either as compendia of encounters or as sources on interesting encounters which are not well known.

The leading English-language journal is *Flying saucer review* (for details of its publication see item 19 of §32; and see also items 15 and 33). It is cited as 'FSR' in some of the references below. As well as reporting encounters, and accounts of their investigation, it contains speculations from time to time on ufology and psychical research.

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28.2 Astrology

Arthur T. Oram

An astrologer normally starts with a chart, drawn up in a particular way, showing the positions of the sun, moon and planets and certain other features, with the longitudes at which they might be seen in the sky if they were all visible from the particular location at the specified time. This first chart is known as the 'radix' and many other related charts may be derived from the same starting point. The radix can be set up for any event or for any moment and location in the past or the future that may appear to be worthy of study. The chart for the moment of birth of an individual represents only one of the many possible types.

We are dealing here with the study of certain attributes associated with moments in time, and a number of important cycles become involved as soon as we extend our study to cover a span of days, months or years.

The approach

The positions in the chart and the angles between them are interpreted according to the knowledge and experience of the astrologer, in the first place in a quasi-mechanical way according to the text-book procedures and then merging into a more creative mode in which intuition is allowed to play a part. This is like an artist starting a picture according to the ground rules for com-

position and perspective and at some undefined stage introducing a more subtle contribution that makes the finished job worth while. The intuitive part of the work of the astrologer appears to be closely related to the work of some mediums who advise clients on the approach to problems, but the astrologer has the advantage of working from a base that provides time scales.

The chart is set up for a particular time and place with the aid of an ephemeris, which is a set of tables of the positions of the sun, moon and planets, prepared from standard astronomical formulae and data. The astrologer's basic knowledge comes from the literature, and from his or her tutors during training; while some of the ideas have been little changed since the days of the Babylonians and of the Greeks, there have also been important developments in recent years. The experienced astrologer will, however, have studied hundreds of charts and will in this way have accumulated further information and understanding, because this is an empirical subject and the available knowledge consists of the accumulated experience of the effective correlations between astrological observations and what actually happens.

The chart of an individual gives no indication as to sex, race or colour; it will normally not indicate whether the person is rich or poor and may give little indication of the level of intelligence. On the other hand, such a chart will often be strong in its indications to the practising astrologer of personality factors, likely areas for successful work, areas of interest, attitudes, relationships with people, approach to money, potential for development under these and many other headings, the timing and nature of major points of development or change, and so forth. Some have referred to it as detailing a kit of tools with which the individual approaches life.

Types of chart

There are many technical terms in astrology, and in this section some of them are used without definition. The reader who is new to the subject can skip over them as mere details at a first reading, but will have the option to refer back to these passages after further study of the subject. He may possibly then find them of further value.

As we have seen, a natal chart is set up for the time and place of birth of an individual, but a comparable chart can be set up for a country, normally for the time and place when the system of government or control was established, for any type of organization

DEPARTMENT OF THE AIR FORCE

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AFM-100/Lt Col Garrett, 100, 100-
28 Oct 47

X452.1/misc

X0009
Phumma

Intelligence Requirements on Flying Saucer Type Aircraft



ID
ttn: Plans and
Collection Branch

Hq, USAF - AFMIR

30 OCT 1947

Lt. Col Garrett, 100/4544

1. It is requested that a Collection Memorandum, similar to the attached draft, be issued to the addresses indicated thereon. This is in accordance with conversation between Lt. Colonel Smith and Lt. Colonel Garrett.
2. It will be appreciated if, at the time this Memorandum is reproduced, ten (10) additional copies could be run off and sent to the Directorate of Intelligence, Air Intelligence Requirements Division, Collection Branch, for file purposes.

FOR THE SECRETARY OF THE AIR FORCE:

Incls.

1. Intelligence requirements
2. Draft of Collection Memorandum

W. F. SCHULZ
Brigadier General, U.S.A.F.
Chief, Air Intelligence Requirements Div.
Office of Asst. Chief of Staff-5

30 OCT 1947
MAIL BRANCH

PRM 1188

SYMBOL	AFM-100			
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DRAFT OF COLLECTION MEMORANDUM

OBJECT

1. This Memo sets forth the current intelligence requirements in the field of Flying Saucer type aircraft.

GENERAL

1. An alleged "Flying Saucer" type aircraft or object in flight, approximating the shape of a disc, has been reported by many observers from widely scattered places, such as the United States, Alaska, Canada, Hungary, the Island of Guam, and Japan. This object has been reported by many competent observers, including USAF rated officers. Sightings have been made from the ground as well as from the air.

2. Commonly reported features that are very significant and which may aid in the investigation are as follows:

- a. Relatively flat bottom with extreme light-reflecting ability.
- b. Absence of sound except for an occasional roar when operating under super performance conditions.
- c. Extreme maneuverability and apparent ability to almost hover.
- d. A plan form approximating that of an oval or disc with a dome shape on the top surface.
- e. The absence of an exhaust trail except in a few instances when it was reported to have a bluish color, like a Diesel exhaust, which persisted for approximately one hour. Other reports indicated a brownish smoke trail that could be the results of a special catalyst or chemical agent for extra power.
- f. The ability to quickly disappear by high speed or by complete disintegration.
- g. The ability to suddenly appear without warning as if from an extremely high altitude.
- h. The size most reported approximated that of a C-54 or Constellation type aircraft.
- i. The ability to group together very quickly in a tight formation when more than one aircraft are together.
- j. Evasive action ability indicates possibility of being manually operated, or possibly by electronic or remote control devices.
- k. Under certain power conditions, the craft seems to have the ability to cut a clear path through clouds -- width of path estimated to be approximately one-half mile. Only one incident indicated this phenomenon.

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3. The first sightings in the U.S. were reported around the middle of May. The last reported sightings took place in Toronto, Canada, 14 September. The greatest activity in the U.S. was during the last week of June and the first week of July.

4. This strange object, or phenomenon, may be considered, in view of certain observations, as long-range aircraft capable of a high rate of climb, high cruising speed and highly maneuverable and capable of being flown in very tight formation. For the purpose of analysis and evaluation of these so-called "flying saucers", the object sighted is being assumed to be a manned craft of unknown origin. While there remains the possibility of Russian manufacture, based on the perspective thinking and actual accomplishments of the Germans, it is the considered opinion of some elements that the object may in fact represent an interplanetary craft of some kind.

5. There is also a possibility that the Horton brothers' perspective thinking may have inspired this type of aircraft - particularly the "Parabola", which has a crescent plan form. Records show only that a glider version was built of this type aircraft. It is reported to have been built in Heiligenberg, Germany, but was destroyed by fire before having ever been flown. The Horton brothers' latent trend of perspective thinking was definitely toward aircraft configurations of low aspect ratio. The younger brother, Riemar, stated that the "Parabola" configuration would have the least induced drag - which is a very significant statement. The theory supporting this statement should be obtained if possible.

6. The German High Command indicated a definite interest in the Horton type of flying wing and were about to embark on a rigorous campaign to develop such aircraft during the end of the war. A Horton design, known as the IX, which was designated as the Go-8-229 and Go-P-60 (night fighter) was to be manufactured by the Gotha Plant. It is reported that a contract for fifty such aircraft was planned, but only three or four were built. This plant is now in the hands of the Russians.

REQUIREMENTS

1. Requirements appear at Inclosure No. 1.

SPECIAL INSTRUCTIONS

Control No. A-1917

DISTRIBUTION

1. To MA's England, France, Sweden, Finland, USSR, Turkey, Greece, Iran, China, Norway, Philippines, and to Commander-in-Chief, Far East, and Commanding General, United States Air Forces in Europe, through Commanding General, EUCOM.

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DRAFT INCLOSURE NO. 1

1. Research and Development

- a. What German scientists had a better-than-average knowledge of the Horten brothers' work and perspective thinking; where are these scientists now located, and what is their present activity? These should be contacted and interrogated.
- b. What is the present activity of the Horten brothers, Walter and Riemar?
- c. What is known of the whereabouts of the entire Horten family, particularly the sister? All should be contacted and interrogated regarding any contemplated plans or perspective thinking of the Horten brothers, and any interest shown by the Russians to develop their aircraft.
- d. Are any efforts being made to develop the Horten "Parabola" or modify this configuration to approximate an oval or disc?
- e. What is the Horten perspective thinking on internal controls or controls that are effective mainly by streams of air or gas originating from within the aircraft to supplant conventional external surface controls?

2. Control

For any aircraft whose shape approximates that of an oval, disc, or saucer, information regarding the following items is requested:

- a. Boundary layer control method by suction, blowing, or a combination of both.
- b. Special controls for effective maneuverability at very slow speeds or extremely high altitudes.
- c. Openings in either the leading edge top and bottom surfaces that are employed chiefly to accomplish boundary layer control or for the purpose of reducing the induced drag. Any openings in the leading edge should be reported and described as to shape, size, etc. This investigation is significant to justify a disc shape configuration for long-range application.
- d. Approximate airfoil shape in the center and near the tips.
- e. Front view and rear view shape.

3. Items of Construction

- a. Type of material, whether metal, ferrous, non-ferrous, or non-metallic.
- b. Composite or sandwich construction utilizing various combinations of metals, metallic foils, plastics, and perhaps balsa wood or similar material.
- c. Unusual fabrication methods to achieve extreme light weight and structural stability.

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4. Items of Arrangement

- a. Special provisions such as retractable domes to provide unusual observation for the pilot or crew members.
- b. Crew number and accomodation facilities.
- c. Pressurized cabin equipment.
- d. High altitude or high speed escapement methods.
- e. Methods of pressurization or supercharging from auxillary units or from the prime power plant.
- f. Provisions for towing - especially with short fixed bar, and for re-fueling in flight.
- g. Provisions for assisted take off application.
- h. Unusual features or provisions regarding the opening and closing of the doors.
- i. Bomb bay provisions, such as dimensions and approximate location.

5. Landing Gear

- a. Indicate type of landing gear - whether conventional, tricycle, multiple wheel, etc., or of an unconventional type such as tripod or skid.
- b. Retractable, and jettison features for hand gear.
- c. Provisions for takeoff from ice, snow, sand or water.

6. Power Plant

- a. Information is needed regarding the propulsion system used in the aircraft. Possible types of engines that could be employed include:
 - (1) Reciprocating (piston type) engine or gas turbine. Either or both of these could be used to drive propellers of conventional or special design, rotating vanes, ducted fans, or compressors.
 - (2) Jet propulsion engines including turbo jets, rockets, ramjets, pulse jets, or a combination of all four.
 - (3) Nuclear propulsion (atomic energy). Atomic energy engines would probably be unlike any familiar type of engine, although atomic energy might be employed in combination with any of the above types.

Aircraft would be characterized by lack of fuel systems and fuel storage space.

The presence of an unconventional or unusual type of propulsion system cannot be ruled out and should be considered of great interest.

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- b. The power plant would likely be an integral part of the aircraft and could possibly not be distinguished as an item separate from the aircraft. If jet propulsion is used, large air handling capacity, characterized by a large air inlet and large exhaust nozzle, should be evident. The size of entrance and exit areas would be of interest. It is possible that the propulsive jet is governed or influenced for control of the aircraft. The presence of vanes or control surfaces in the exhaust or methods of changing the direction of the jet should be observed.
- c. Information desired on the propulsion systems pertains to the following items:
 - (1) Type of power plant or power plants.
 - (2) General description.
 - (3) Rating (thrust, horsepower, or air flow).
 - (4) Type of fuel, or, conversely, lack of visible fuel supply.
 - (5) Catalytic agents for super-performance or normal cruising power.

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His Life's Ambition



which is pulling the train with the President of
les on board," drew this sketch of his equipment.

MOVE TO BAR DAM PUSHED IN ALBANY

Measure Banning Adirondack
River Control Introduced
Again in Legislature

VOTERS MAY DECIDE ISSUE

Referendum in Fall Slated if
Amendment Is Passed—
Sharp Fight Expected

By WARREN WEAVER Jr.
Special to THE NEW YORK TIMES.

ALBANY, Feb. 11—A proposed constitutional amendment that would bar construction of the \$8,000,000 Panther Mountain Dam and all other river-regulating projects in the Adirondack forest preserve was introduced in the Legislature today.

The measure would repeal a forty-year-old provision of the Constitution that allows the flooding of 3 per cent of the preserve for projects involving stream control. If given final approval, it would mean that construction of any such project would require another amending of the Constitution.

The resolution embodying the amendment is sponsored this year by Senator John H. Cooke, Erie County Republican, and Assemblyman John L. Ostrander, Saratoga County Republican. Last year,

Canada Studying 'Copter To Go 1,000 Miles an Hour

Special to THE NEW YORK TIMES.

TORONTO, Feb. 11—Canada has embarked on research to develop a revolutionary type fighter aircraft that would take off vertically and fly at speeds in excess of 1,000 miles per hour, it was revealed today.

Air Vice Marshal Douglas Smith, chief of technical services for the Royal Canadian Air Force, said in an interview that the project, still in the preliminary stage, was getting the full attention of a group of specialists in aerophysics and technicians of the A. V. Roe Company, designers and builders of Canada's CF-100 jet nightfighter.

For security reasons, Air Marshal Smith said he could not go into details of the proposed craft. It was learned, however, that it would embody the gyroscopic principle with the jet power plant revolving around a stable central control cockpit. The disc-type craft would be able to rise vertically from bases without runways and rapidly attain supersonic forward speeds.

4 KILLED IN MARYLAND AS TRAIN, AUTO CRASH

GAITHERSBURG, Md., Feb. 11 (AP)—Four persons were reported killed and about nine injured, one critically, in a crash between an automobile and a westbound Baltimore and Ohio train here tonight.

The Baltimore and Ohio said seven of the eight cars and the locomotive and tender on the West Virginian, bound from Washington to Parkersburg, W. Va., were derailed, blocking the main line tracks.

ATOM SUPER-GIANT GOES INTO PLANNING

3 Teams to Study Designs for
100-Billion-Volt Machine,
World's Most Powerful

NEW PRINCIPLE IS BASIS

A.E.C. Device Would Be Able to
Convert Matter Into Energy,
or Energy Into Matter

By WILLIAM L. LAURENCE

The first concrete steps toward the design and construction of a super atomic machine that would accelerate atomic particles to energies up to a hundred billion electron volts were announced yesterday by the Brookhaven National Laboratory of the Atomic Energy Commission at Upton, L. I.

The new machine, if and when built, will be the most powerful of its kind in existence, many times more powerful than the coatomron of Brookhaven, now the world's most powerful, and of the bevatron, now under construction for the A. E. C. at the University of California.

It will serve as a double-edged scientific sword—it could smash atoms into smaller bits than was ever possible, thus revealing more profound secrets of the constitution of the cosmos; and it could also produce protons, neutrons and mesons, the fundamental bricks of which the material universe is

Wonder Weapons Revealed Hitler Had a Flying Saucer

MUNICH (Reuters) — Nazi Germany developed flying saucers that flew more than 1,000 miles an hour and a bomber that could attack the United States and return without refueling.

These and other details of Hitler's efforts to achieve a "wonder weapon" that would turn the tide of the war in its closing hours are revealed in a book called **The German Weapons and Secret Weapons of World War II and their Development**, by Rudolf Lusar, who during the war was head of the technical arms department of the German war ministry.

The flying saucers, designed by three German engineers and an Italian, were 138 feet in diameter. The first one flew Feb. 14, 1945, at Prague, and reached a height of more than 40,000 feet and a speed of 1,250 miles an hour.

Germany, the book says, was also building the Heinkel 343, a bomber capable of reaching the United States and returning without refuelling. Several of the

planes were ready at the end of the war. The book also said it was originally planned to stage the first air raid on the United States in May, 1945.

The Germans also were busy on the super V-9 rocket, an outgrowth of the V-1 and V-2 rockets which Germany aimed at England after the allied landings in France in 1944.

Had they been completed, the book said, the V-9s would have been able to carry a one-ton warhead across the Atlantic to the U.S. in 35 minutes. The rocket was actually to have been guided by a pilot, who would jump out at the last moment with a parachute, to be rescued, if possible, by a German submarine at sea.

People in the news



Richardson

Goldwater

Sinatra

"I have no roots in Illinois," said Elliot R. Richardson, former U.S. attorney-general, in asking that his name be withdrawn from any consideration as a candidate for the Senate from that state. "There certainly would be a feeling that I was a carpet-bagger coming in to capitalize on any national reputation that I have," said the Massachusetts Republican.

★ ★ ★

Sen. Barry Goldwater, a retired United States Air Force general, says he believes the earth has been visited by creatures from outer space. "I've been flying now for 44 years and I'm the last guy who's going to say I don't believe they're up there," the Arizona Republican said during a question-and-answer period following

U.S. Backs 'Saucers'

● Security Bans Hit Canadians

TORONTO (CP) — The Globe and Mail says the United States government has assumed costs for research at the suburban Malton plant of Avro Canada Limited into the possibilities of a so-called flying saucer type of military aircraft.

Its copyright story by James Hornick says details of the contract are secret as is the amount of money involved.

"It is learned, however, that negotiations were completed several months ago. They made the project the exclusive property of the U.S. Air Force.

"Regular progress reports are being made to the USAF's air research and development command, with headquarters at Baltimore. Regular visits are made to Malton by ARDC officers to examine results at first hand.

"U. S. military security now shields every aspect of the research. It is so strict that, except with special permission, Canadian government and military leaders and many officials of the Avro companies are denied access to the flying saucer laboratories."

The Canadian government last year withdrew its support of the project, undertaken three years ago.

'Saucer' Contract Confirmed

WASHINGTON (AP) — The U.S. Air Force confirmed Tuesday that it has a contract with a Canadian firm to explore the possibilities of a new idea in aircraft design.

The announcement, however, did not confirm a report Tuesday by the Toronto Globe and Mail that the air force had taken over work on a new kind of "saucer" vertical rising aircraft originally promoted by the Canadian government but later dropped.

The air force would say only that it has a "research and development contract with Avro Canada Ltd., to explore a new aircraft design concept".

Canadian government officials have said nearly \$1,000,000 was spent on research before efforts to produce a "saucer" craft were cancelled because its possibilities did not appear to warrant the estimated \$100,000,000 it would cost.

In Ottawa a defence dept. spokesman said Canadian government interests are protected under the agreement.

The spokesman said the federal government will have access to reports on the project.

Canadian "interests" in the project now are understood to consist of certain drawings and reports on development work, cost of which was covered by a federal contribution of less than \$500,000 on research.