PART 2

The Extent of Our Knowledge

CHAPTER 6

Organization of the Research in France

In 1977, the Centre National d'Etudes Spatiales was tasked with the mission of setting up a permanent structure for the study of unidentified aerospace phenomena (UAP): the Groupe d'Etudes de Phénomènes Aérospatiaux Non Identifiés (GEPAN). This establishment had within it the skills and resources appropriate to this mission, in particular, engineers and personnel with high-level technical knowledge who were in close touch with scientific circles. A scientific council chaired by Hubert Curien and composed of twelve members who were representative of the social and exact sciences guaranteed that this complex and delicate subject would be handled with all the necessary precision. This council had the job of guiding, organizing, and reviewing the work of GEPAN annually.

Three phases can be distinguished in the progression of the activity connected with the study of UFOs in France, which culminated in 1988 in the creation of the Service d'Expertise des Phénomènes de Rentré Atmosphérique (SEPRA), which succeeded GEPAN, still within CNES:

- a phase that consisted of setting up the organization and defining the procedures for the collection and processing of data, which is described in this chapter,
- a phase that consisted of defining the scientific method for studying cases,
- a phase that consisted of implementing the previously defined methods and procedures, the last two of which are discussed in the next chapter.

SEPRA plays a more limited role in the study of UFOs than does GEPAN, the scientific council of which has accomplished its mission

6.1 The Setting Up the Organization Phase

GEPAN's first job was to form a partnership among the different public, civilian, and military agencies with a view to organizing the collection and analysis of reliable data. The Gendarmerie Nationale, the civil and military aviation authorities, the National Weather Service, etc., were approached and brought together in this organization via agreements and protocols established with GEPAN.

The first goal set was the rapid acquisition and provision of data collected at the sites where a phenomenon was sighted. To do this, in accordance with the directives of the scientific council, GEPAN was tasked with the mission of forming teams of specialized investigators for the collection of psychological and physical data, such as, for example, taking samples of tracks in the ground. In parallel to this organization, various civilian and military research laboratories were asked to participate in expert's appraisals and analyses of the data collected in investigations, such as, for example, the processing of photographic documents and radar recordings.

6.2 Participation of the Gendarmerie Nationale

It was in February 1974 that the first instructions were given tasking the Gendarmerie Nationale with the job of collecting and centralizing spontaneous testimonies on UFOs. Previously, these testimonies had been collected on an occasional basis in the regional [gendarmerie] forces and rarely gave rise to the drafting of reports or to in-depth investigations (the Valensole case in [1965]). The administrative or technical authorities did not process or use these documents.

Beginning in May 1977, one of the six copies of the report drafted by the regional gendarmerie forces was forwarded to GEPAN, which from then on became the recipient of all information collected on UFOs.

6.2.1 Role and Action of the Gendarmerie Nationale

Each gendarmerie force possesses a manual, the "gendarmerie handbook," which contains all of the instructions on the procedures to be followed in the collection of data on unidentified aerospace phenomena. Depending on the degree of complexity of the case reported, the level of intervention may range from the simple transcript of a testimony to an actual investigation, which may be conducted jointly with the GEPAN/SEPRA departments at the locations of sightings and often results in an in-depth report.

6.2.2 Use of Data Collected by the Gendarmerie Nationale

Once the information has been collected locally by the gendarmerie, it is forwarded in the form of a report to the Gendarmerie Nationale headquarters in Paris, which issues a copy of it to GEPAN/SEPRA. The latter processes it at two different levels:

- at the first level, the report is analyzed, then entered into a database, and perhaps is processed statistically for the purpose of establishing classifications and typologies of phenomena,
- at the second level, which relates to more complex "UAP D" (category D unidentified aerospace phenomena) cases, the investigation in the field generates a set of research activities with respect to elements for further processing that results in the drafting of a detailed, in-depth investigation report; the report may be used for track interpretation studies.

6.2.3. Assessment and Results of the Cooperation with the Gendarmerie Nationale

Since 1974, over 3,000 gendarmerie reports representing an average of [three] spontaneous testimonies per document have been collected and forwarded to GEPAN/SEPRA. Added to this are some one hundred investigations and interventions in the field, conducted jointly with the local [gendarmerie] forces. All of these have permitted the characterization of a set of rare, natural and artificial phenomena that have occurred with varying frequency which would not have been able to be identified without this type of organization. Thanks to this collaboration, it has been possible to study UFO cases like the Trans-en-Provence and "Amaranth" cases (see Chapter 4) under excellent conditions, showing that there was a remnant of events the nature of which had yet to be identified. A volume of information describing the objectives sought by CNES in the study of UFOs was widely disseminated to all of the regional [gendarmerie] forces. Supplemental information and training, [end of line cut off] direction of officers and lower-level gendarmes, is regularly provided by the Gendarmerie Nationale schools to sensitize the [gendarmerie] force commanders to this subject.

The results of this collaboration could be more effective. Regular updating of the data collection procedures would be desirable, as well as shorter time delays before intervention for investigations between the time the local [gendarmerie] force learns of the case and the time when SEPRA intervenes. This reduction in the intervention time would considerably diminish the loss of information, particularly with respect to effects on the environment. It would also be important for the gendarmerie forces to be routinely informed of the results of work and investigations carried out by SEPRA. However, the resources currently available in terms of personnel and budget allocations do not permit a response with the efficacy desired.

6.3 Participation of the Air Force

Just after World War II, the first reports of French aeronautic UFO sightings were collected and archived by the Air Force Chief of Staff's Office of Planning and Studies (EMAA/BPE).

When GEPAN was created, a memorandum of understanding defined the respective roles of the two agencies for the processing of information relating to cases of military aeronautic sightings. In principle, all UFO sightings must be reported to the military air [traffic] control center in question, which forwards the information to the Air Operations Center (CCOA) in Taverny. The latter is responsible, in collaboration with the Air Force Chief of Staff's Space Office, for forwarding it to GEPAN/SEPRA. At the same time, all radar information is recorded in the radar control centers and kept for a minimum of one month and longer on request. This information is made available to investigators if needed.

A protocol established with the Army defines the conditions for the forwarding of information collected in flight by pilots of the Army Air Corps (ALAT).

6.4 Participation of the Civil Aviation Authority

The same type of organization and procedures is used by the civil aviation authority to collect and process the information relating to UFO sightings made by civilian pilots. A protocol signed between the Civil Aviation Directorate (DGAC) and CNES permits GEPAN/SEPRA to have access to UFO sighting reports drafted by national and foreign airlines crews. To this end, a sighting report form prepared jointly by DGAC and GEPAN/SEPRA is made available to crews at the air [traffic] control centers of the civil aviation authority and airlines. In addition, the radio conversations between the crew and the air [traffic] control [center] are routinely recorded and attached to the detailed sighting report.

There is also a regulation concerning flight incidents that could involve safety. In this case, the flight captain must follow the "Airmiss" procedure, which routinely triggers an investigation by the DGAC.

6.5 Additional Research Resources

Numerous civilian (public or private) and military bodies contribute to the expert appraisals performed in investigations and work by GEPAN/SEPRA. This involvement takes place at two levels, either in the collection of data in the field and the utilization of sighting reports or in the

analysis of data after the expert's appraisal and the theoretical and experimental research that are deemed necessary.

Cooperation agreements have been established, particularly with various bodies that can benefit in return from the results of investigations of interest to their own area of study, for example:

- lightning (EDF, CEA [French Atomic Energy Commission], the National Weather Service, ONERA, CEAT [Toulouse Aeronautic Test Center]),
- meteors (CNRS [National Center for Scientific Research], DGA [French General Delegation for Armaments]),
- line disturbances (EDF, France Télécom [French telecommunications company]),
- group sociology and, in particular, sects (CNRS, universities),
- photography, the study of films, the processing of satellite imagery (Fleximage).

The following three applications should be emphasized:

6.5.1 Sample Analysis

GEPAN/SEPRA is supported by various civilian and military laboratories, including those of the Etablissement Technique Central de l'Armement [Central Technical Armaments Institution] (ETCA), for analyzing soil and plant samples collected during the course of investigations.

6.5.2 Use of Photographs

Image processing work was performed at ETCA between 1981 and 1988. This work enabled the techniques and procedures, listed in GEPAN technical memorandum no. 18, for studying supposed UFO photographs to be defined. Diffraction filters were installed in the gendarmeries to permit the collection of information over the light spectrum emitted.

6.5.3 Sky Surveillance System

A system called "ORION" was studied and deployed by [the Ministry of] Defense for the purpose of monitoring, identifying, and predicting the passage of satellites, particularly over national territory. It should meet, at least partially, the need for the surveillance of UFO-type light phenomena. The system consists of:

- the current surveillance and tracking radar systems and listening antenna on the ship *Monge*,
- two radar and optical surveillance systems and one optical imaging system:
  - the "GRAVES" surveillance radar system, which will be capable of detecting objects from 1 m^2 [in size] at a distance of 1500 km,
  - the "SPOC" [Sky Observation Probe System] optical surveillance system, which uses CCD cameras to detect and determine the trajectory of orbiting satellites or magnitude 7 to 8 space debris (the installation of equipment at two sites is currently under way),
- finally, the development of the 4 m diameter "SOLSTICE" telescope, which may be provided with adaptive optics, for the observation of objects in geostationary orbit (36,000 km).

CHAPTER 7

Method and Results of GEPAN/SEPRA

7.1 Method Developed by GEPAN

GEPAN developed an original method for studying rare, randomly occurring phenomena. Meteorites are among these phenomena. Scientists have long refused to consider sightings of stones that have fallen from the sky, which are generally reported by rural inhabitants. Fortunately, in 1803, the physicist Jean-Baptiste Biot conducted an in-depth investigation in the village of Laigle in Orne [Department] about three weeks after someone had reported stones that had fallen from the sky. Biot examined numerous stones and certain evidence (broken branches, perforated roofs, fires) and questioned many independent witnesses. He prepared a convincing report that gave scientific existence to meteorites.

The method developed by GEPAN was approved by its scientific council. It basically consists of identifying initially unknown phenomena and performing a joint analysis of four types of data concerning:

- witnesses: physiology, psychology, etc.,
- testimonies: accounts, reactions to questions, general behavior, etc.,
- the physical environment: weather, air traffic, photographs, radar data, traces left on the environment, etc.,
- the psychosociological environment: readings and beliefs of witnesses, possible influence of the media and various groups on these witnesses, etc.

Gendarmerie reports often contain sufficient data in order to be able to identify the phenomenon sighted. In many cases, the phenomenon turns out to be an airplane, a planet, a satellite, etc. In other cases, a fairly large supplemental investigation is conducted by GEPAN/SEPRA. An in-depth study can take up to two years. The analysis of traces left on the environment may result in specialized laboratories being called on for assistance (see the Trans-en-Provence and "Amaranth" cases in Chapter 4).

Finally research was conducted in collaboration with the universities in order to perfect the investigation method. CNES, out of a concern for scientific precision, adopted the term "UAP" instead of the term UFO, which is more well known but more restrictive. GEPAN is the group that studies UAPs.

7.2 First Classification of UAPs (Unidentified Aerospace Phenomena)

After a study is conducted, each case is classified by GEPAN/SEPRA into one of the following four categories, depending on the extent to which it has been identified:

- Category A: completely identified phenomenon,
- Category B: phenomenon that can probably be identified but which cannot be identified with certainty due to a lack of evidence,
- Category C: phenomenon that cannot be identified due to a lack of data,
- Category D: phenomenon that cannot be identified despite the abundance and quality of the data.

Category D UAPs represent 4 to 5% of the cases and are called UAP Ds. They include sightings of phenomena, some of which were close to the ground a few meters from the witnesses. The strangest and most mysterious cases in this category are generally labeled CE3s (close encounters of the third kind) according to the classification proposed by Professor A. Hynek, an astronomer and consultant to the USAF, within the context of the Blue Book Project (cf. Chapter 9.1).

7.3 Typology of UAP Ds

The detailed statistical analysis of UAP Ds enables a precise determination of the distribution of their physical characteristics: speed, acceleration, silence, shape, effects on the environment. It is interesting to note that statistical studies in the USSR yielded distributions comparable to those determined by Claude Poher, the first head of GEPAN, from some 200 French cases, or 1,000 cases worldwide. It would be desirable to be able to develop UAP D statistical studies in France.

7.4 Investigations of Remarkable Cases

Around one hundred investigations have been conducted by GEPAN/SEPRA. Some of them have highlighted rare physical atmospheric phenomena associated, for example, with lightning; others have revealed unusual psychological behavior of witnesses caused, for example, by taking hallucinogenic drugs. Several very in-depth investigations based on analyses of evidence have demonstrated, in the end, the physical presence of a phenomenon the nature and origin of which remain unknown. Two cases related in Chapter 4 stand out in our minds, the Trans-en-Provence case of January 8, 1981, and the "Amaranth" case of October 21, 1982. The investigations lead us to believe that double-saucer-shaped objects were close to the ground for some time, then departed toward the sky leaving traces on the vegetation and, in the Trans-en-Provence case, on the ground itself. They are detailed in GEPAN technical memoranda no. 16 and no. 17 (see the reference list in Chapter 6).

7.5 Aeronautical Cases

7.5.1 Data on French Aeronautical Cases

- Twelve French aeronautical cases have been brought to the attention of GEPAN/SEPRA; only three or four of these can be considered to fall into category D.
- The first UAP D case identified dates back to 1951. It involved Vampire military aircraft in the Orange area. In two other very extraordinary sightings, which are presented in Chapter 1, military pilots reported *the presence of objects with aeronautical performances inconsistent with the maneuvers of classic aircraft* over the region of Tours in 1976 and of Luxeuil in 1977. However, not until January 28, 1994, was the crew of a regularly scheduled Air France commercial airplane able to collect the first case of a visual sighting correlated with a radar detection over 50 seconds long (see Chapter 1.3).

7.5.2 Aeronautical UAP D Cases Worldwide

The aeronautical UAP D cases known since 1942 were initially enumerated in a document entitled *Rencontres dans le ciel [Encounters in the Sky]*, by Dominique Weinstein, the French portion of which SEPRA contributed to. The list of sightings worldwide includes the description of 489 well-documented cases of aeronautical UAP D sightings the sources of which were duly verified. Most of the information on these aeronautical UAP Ds is drawn from official sources, government authorities, the Air Forces of different States, or agencies like SEPRA.

This list offers a classification according to criteria with respect to the quality of the sighting. It ranges from simple visual sightings, describing the specific performances or maneuvers of the phenomenon observed (speed, acceleration, maneuverability, silence, etc.), to more elaborate sightings, mentioning environmental disturbances caused by the aeronautical UAP Ds, such as radio interference or radar jamming, navigation instrument malfunctions, or even physical effects on the crew (heat, blinding, etc.).

Between 1947 and 1969, that is, during the time of the U.S. Air Force Blue Book Project on UFOs, 363 sightings were identified. 1952 is the year in which the greatest number of sightings were recorded: 68. A total of 63 countries are cited as having been the scene of at least one aeronautical sighting.

7.5.3 "Radar/Visual" Cases Worldwide

"Radar/visual" cases are those in which a visual sighting is associated with an onboard radar and/or ground radar detection. It is noted that:

- the first sightings in Japan and the USSR date back to 1948,
- 30 of the 68 countries cited in the list reported "radar/visual" cases,
- of the 489 cases in the report, 101 were "radar/visual" cases (21%),
- of the 363 cases in the Blue Book report, 76 were "radar/visual" cases (21%),
- in 1952, 16 out of 68 cases were "radar/visual" cases (23.52%).

In conclusion, we can clearly establish that from 1942 to 1995, at least 500 well-documented and recognized aeronautical UAP D sightings were identified throughout the world, nearly 20% of which were "radar/visual" cases. They furnish proof of a physical reality of phenomena that exhibited paradoxical maneuvers.

7.6 The Physical Reality of UAP Ds

7.6.1 An Initial Report as Early as September 1947 in the United States

We have seen that the work of GEPAN/SEPRA showed that there was an entire category of rare physical phenomena occurring at varying frequency that could not be classified as known natural or artificial phenomena. These phenomena, UAP Ds, which we have highlighted, both in the aeronautical sphere (military and civilian aeronautical cases) and close to the ground (cases of close encounters), support other cases of well-documented sightings that have been verified by official authorities throughout the world. It is interesting to note that as early as November [sic] 1947, right at the start of the very first wave of modern UFO sightings, in the United States, General Twining, head of the Air Material Command, drafted a report on *"flying disks,"* the conclusions of which are very explicit:

1. The phenomenon reported is *something real*; it is not a matter of visions or imagination.
2. *Disk-shaped* objects *the size of which is comparable to that of our aircraft* do exist.
3. It is possible that some sightings correspond to natural phenomena.
4. The very high rate-of-climb observed, *the maneuverability, and the escape maneuvers* when *the disks are detected* lead one to assume *that they are piloted or operated by remote control.*
5. Most witnesses describe objects with a *metal surface that are circular or elliptical in shape, the upper portion of which is dome shaped, flying without making any noise* in a formation of three to nine objects...

7.6.2 GEPAN/SEPRA's Work

We do not have irrefutable tangible proof in the form of material, either whole or in fragments, that confirm the physical nature of UAP Ds and their artifactual character. Nevertheless, the collection and expert appraisal work carried out at GEPAN/SEPRA for over 20 years confirms the statements General Twining made in 1947.

7.6.3 French Aeronautical Cases

The study of French military aeronautical UAP D [sightings] (Orange in 1951, Tours in 1976, Luxeuil in 1977) support General Twining's conclusions, namely the fourth one. The testimonies of the pilots do in fact lead one to assume that the objects were *"either piloted or operated by remote control"*: all of the pilots reported that it was *"the object"* that appeared to be moving toward them and not the other way around. Moreover, all of them considered the maneuvering abilities of the object to be far superior to those that they were familiar with.

7.6.4 Cases of Close-Up UAP D Sightings in France

For their part, the cases of close-up UAP D sightings in France are very much in keeping with Twining's conclusions 4 and 5. In Trans-en-Provence (Chapter 4), the expert appraisals made at the site support the local testimony and show that the object with a metallic appearance and circular shape landed, then took off silently within a very short space of time not very far from a wall 2.5 m in height. No modern aircraft is capable of these silent maneuvers, nor of this degree of precision when landing. It is hard not to imagine a piloted or remote-controlled flying machine, or else one having highly advanced cybernetics.

The other French cases of close encounters described in Chapter 4 also strongly suggest the existence of an intelligent [civilization] behind the UAP Ds. In the Valensole, "Amaranth" and Cussac cases, once the witness or witnesses are brought face to face with the UAP D, everything generally happens very quickly, and the object escapes without having shown the slightest aggressiveness toward the witnesses.

7.6.5 Foreign Cases - Conclusion

The study of certain foreign cases leads to conclusions similar to those drawn from the French cases. One may reread in this spirit the description of the aeronautical cases presented in Chapter 2. We could also relate foreign cases of close encounters, such as the Socorro (New Mexico) case, which is similar to the Trans-en-Provence case, but the critical overview of which would needlessly weigh down this report.

One strong conclusion emerges from this set of facts: some UAP Ds do seem to be completely unknown flying machines with exceptional performances that are guided by a natural or artificial intelligence.

CHAPTER 8

UFOs: Hypotheses, Modeling Attempts

8.1 Partial Models

Credible sightings of aerial objects can be reinforced by plausible technical explanations of the phenomena reported. Among the most striking observations in relation to the current state of our knowledge, we cite:

- aerial movements carried out silently with very rapid accelerations and/or very high speeds,
- the shutting off of the engines of nearby land vehicles,
- the locomotor paralysis of witnesses.

Insofar as the sightings that are the most well documented, and the most credible owing to the obvious competence of the witnesses, come from aircraft pilots, it is their sightings of aerial movements, sightings which are, moreover, supported by radar plots, that should be explained first.

8.1.1 Travel

There are, from the standpoint of the concept, various principles of propulsion that do not require propellers or jet engines that could thus be silent. The most advanced uses magnetohydrodynamics, abbreviated MHD, but many others can also be considered. We will review these.

8.1.1.1 MHD Propulsion

The principle of MHD propulsion, which cannot be envisioned in a vacuum, consists of causing an electrical current to flow in the medium surrounding the rotor. At the same time, the rotor emits a magnetic field. According to Laplace's law, this field exerts a force on the current and thus on the medium in which it is flowing; this is the principle of most electric motors. The medium being displaced in this way in relation to the rotor, it is in fact the latter that undergoes, by reaction, a force that enables it to be propelled. You still have to cause the necessary field and current to appear:

- for the magnetic field, this is easily accomplished by installing windings (like those in electric motors), over which a suitable electrical current travels, in or under the walls of the rotor,
- for the electrical current, it all depends on the medium.

In sea water it is easy to cause a current to flow using electrodes positioned on the rotor housing. This is why MHD propulsion has been experimented with, so far successfully, in the United States and Japan on both surface and submarine ship models.

In air, which is naturally insulating, it is more difficult to cause an electrical current to flow, but it is known how to make air conducting by using, for example, strong electrical fields generated here as well by suitable electrodes (air, when rendered conducting, can become more or less luminous, which has frequently been observed around unknown objects). As for the magnetic field, this can be created as for boats. However, propulsion is much more difficult to achieve in air, since it must not only propel the rotor but first of all compensate for its weight. The electrical and magnetic fields required are therefore much stronger than for a ship and, in practice, obtaining the very strong fields that are essential is scarcely conceivable without having recourse to superconducting windings. Still theoretical until a only few years ago, their use in an aerial vehicle

has been a credible prospect since 1991, with the discovery of superconductors capable of operating at near-ambient temperatures.

Propulsion in the atmosphere without propellers or jet engines is, therefore, completely possible in principle with MHD, and the calculations show that the power necessary is not, in certain cases, incompatible with our current aeronautical engines. The fact that no cooling system has been seen (or heard) on the objects that have been observed close up can be explained as long as the length of the craft's flights does not exceed a few dozen minutes. Furthermore, other motors that we already use – electric motors, due to energy stored on board or to inertia if they are not yet powerful enough – would not need immediate cooling, which duly proves that this problem is not insurmountable.

Numerous witnesses have been struck by the silence accompanying the maneuvers of the objects, which do not create a "bang" even at supersonic speeds (cf. Part 1, Chapters 1, 2, and 3). MHD propulsion could account for this silence: preliminary experiments in noise reduction by eliminating the wake and shock wave, albeit under very special conditions, are encouraging.

There has been extensive work on the different aspects of MHD propulsion of aircraft abroad: in the United States at Rensselaer Polytechnic Institute in Troy (NY), and according to the journal *New Scientist* (February 1996), in Great Britain and in Russia.

To sum up, based on the current state of our knowledge, an MHD aircraft model is conceivable in the short term, while the creation of a craft having the same movement capabilities as the aerial vehicles described by the witnesses seems quite likely to us within a few dozen years. For the time being, only the quasi absence of perceptible air flow and noise while hovering close to the ground pose problems.

8.1.1.2 Other Propulsion Methods

In a vacuum, the absence or scarcity of molecules or atoms prevents current flow in the medium as well as the projection of a mass of sufficient substance pulled from this medium. MHD propulsion is therefore not possible, and it is necessary to formulate other hypotheses. Jet propulsion by means of chemical reactions, comparable to our rocket engines – even though its performance is more advanced – should not be ruled out *a priori*. In fact, the space phase of the travel of unknown objects takes place very far from sight.

In addition, skins for stealth purposes render them invisible to telescopes and radars beyond a few kilometers or a few dozen kilometers. Consequently, at these distances, these objects could very well use classic propulsion systems without being detected. Mainly, then, problems with respect to power consumption and mass to be expelled are raised, but the method reviewed below in 8.1.1.3 would enable these problems to be partially solved.

More advanced technologically are propulsion systems that call for very high velocity exhaust – a considerable fraction of the speed of light – of particle beams. Due to the extremely high exhaust velocity, the mass expelled is low and expulsion can be continued for a very long time. Such particle beams that can be loaded on board satellites have been developed for space warfare in the former USSR (at the von Ardenne laboratory in Soukhoumi, Georgia) and the United States, especially at the Argonne National Laboratory. At present, of course, these beams are much less powerful than what would be necessary here, but they are already of interest as low-power engines once out of the proximity of planets. The U.S. probe "Deep Space 1", which should narrowly miss asteroid 1992 KD on July 29, 1999, was equipped with an engine of this type.

Other methods of space propulsion are being studied very actively: nuclear propulsion using fission ("NERVA," "ORION," and "DAEDALUS" projects) and, more recently, fusion, which would offer respective gains of one and over two orders of magnitude in comparison with the best engines at present. Beyond this, the use of power stored in the form of antimatter – which has become credible since CERN [European Council for Nuclear Research] created an antihydrogen atom and demonstrated the means for storing it – will offer gains even one hundred times greater.

This is why a growing number of research centers are doing work on this subject: the Jet Propulsion Laboratory, Lawrence Livermore Laboratory, the Air Force Astronautical Laboratory (Edwards Air Force Base), where antigravitation is also being studied, according to the June 10, 1996 issue of *Jane's Defence Weekly*. The latter topic is reportedly also being pursued in Great Britain and in the CIS [Commonwealth of Independent States].

8.1.1.3 Use of Planetary or Stellar Impulse

Closer to our current technologies, even though, strictly speaking, it does not have to do with propulsion, the Jet Propulsion Laboratory imagined, in 1961, that a spacecraft slingshotting off of the potential [gravity] wells of suitably selected planets could attain higher and higher speeds without expending any energy. This method is now routinely used for missions to the remote planets in our [solar] system. One can then envision that by using "reflections," not only off of planets but also off of stars, as Dyson proposed in 1963, considerable speeds could be attained (limited only by escape velocities) and interstellar distances could be crossed using relatively little energy at the price, of course, of the time necessary for the departure and arrival slingshots.

This method would lead to intersidereal voyage lengths probably figuring in thousands of yours, thus with an order of magnitude greater than lengths anticipated for the envisioned antimatter propulsion.

8.1.1.4 Conclusion Regarding Travel

To sum up, for travel both in the atmosphere and in space, we can formulate reasonable hypotheses on flight without any apparent means of lift in the first case and on the crossing of great distances, up to an interstellar scale, in the second.

8.1.2 The Shutting Off of Land Vehicle Engines

To explain this phenomenon, which has been reported frequently abroad, it is necessary to visualize a remote action. [Since] no beams of light appear to be associated with these engine immobilizations, we can imagine radio-frequency radiation, such as microwaves, which we know can cause effects of this type and which can be easily formed into beams to act from a distance. Under these conditions, microwave emissions from unknown objects would be likely to create an electrical field around the craft strong enough for the ignition voltages, in being added to it, to cause ionization of the air around the high voltage circuit of the engine ([ignition] coil, distributor, spark plug wire), thus short-circuiting the firing pulses to the engine mass and shutting it off.

Since electronic ignition came into widespread use in the 70s, the action of microwaves, apart from the mechanism previously described, may be exerted directly, paralyzing the electronic circuit generating the high voltage. We can therefore envision the action of unknown objects on land vehicles, including nowadays those with diesel engines, which are made vulnerable due to their very

often electronic regulation circuit. Let us recall that the ability to generate microwave beams that can act from a distance is within the capabilities of our own technologies, as demonstrated by the intensive work being carried out in the United States and the former USSR to develop microwave weapons intended precisely to destroy or immobilize enemy electronic systems from a distance, and even to act on personnel. In France, high power microwave generators that can be used for this purpose are being studied.

This does not rule out the possibility of other types of radiation being used. Charged particle beams would be capable of analogous effects, passing through, if necessary, living matter, such as the bodies of some witnesses, without being felt by the latter or leaving any notable or lasting sequelae. This can be illustrated by the beams of accelerators used in proton therapy, which begin by passing through tissue without causing too much damage and becoming destructive only when their energy falls below a certain threshold as a result of their penetration.

This mode of action corresponds, moreover, to certain testimonies that report the observation of beams of light passing through physical obstacles; in fact, by ionizing the air, proton beams generally do become visible in the form of truncated beams of light the length of which is a function of their initial energy.

8.1.3 Locomotor Paralysis of Some Witnesses

This phenomenon is less common. It is remarkable in that the paralyses reported only affect certain voluntary movements, but not respiration or posture (balance, in particular, is not compromised; the witnesses do not fall down) or eye movements. From the standpoint of concepts, it can be remarked that in human beings posture and respiration are controlled by the cerebellum, an organ that is independent of the cerebrum, which governs voluntary movements. The paralysis effects observed can reasonably be attributed to microwaves acting from a distance on certain parts of the human body (this is also one of the objectives of the work mentioned above on microwave weapons). We should note that these effects, among others, are being studied at the Air Force Weapons Laboratory at Kirtland AFB.

8.2 Modeling and Credibility

The fact that we can formulate a credible hypothesis on the propulsion of the objects sighted is obviously only a positive indication, but not proof of their existence, no more than that of their conformity to the model that we imagine.

In this regard, the history of the technique teaches humility, but it can also yield quasi certainties:

- humility in noting prognostic errors committed in the past. It suffices to recall the affirmations (or readiness to [affirm]...) of several very great scientists: *"You cannot breath in tunnels," "science is almost finished," "something heavier than air cannot fly,"* etc. It would therefore be presumptuous to claim to foresee, based on our knowledge and our current accomplishments, what might be technologies that are only slightly more advanced than our own – or our own technologies in one or two centuries. Let us consider that only 150 years ago, engines, electricity, the existence of the atom, and Hertzian waves were unknown! We can also reread Jules Verne: *Paris au XX^e siècle [Paris in the 20th Century]* or *Hier et demain [Yesterday and Tomorrow]*...

- certainties, since scientific and technical progress can only continue, supported by more scientists and engineers than there have ever been, spurred by competition among nations. This

competition, which is now "closed" in our world, will focus on all of the resources that once were free: potable water, the deep sea, the polar regions, air, space, radio frequencies, etc.

Although it is risky to predict the results of an increasingly accelerated scientific and technical development, it is, at least, almost certain that our own knowledge will have advanced greatly even within a few decades. There's no telling what progress will be made beyond that time! Under these circumstances, we can conclude with a high degree of certainty that movements of objects that at present are just beyond our capabilities will be technically possible within a few decades, or even a few centuries, even if the knowledge put into play is not what we are predicting.

To the extent that the preceding conclusion is acceptable, let us go further and comment that only a few million years will have elapsed (barring a catastrophe) between the appearance of man and the future stellar expeditions of our descendants (cf. Chapter 8.3.6 and Appendix 4). This interval between the appearance on earth of a conscious intelligence and the time when we will be able to perform the same feats as those performed by the objects we are dealing with here is infinitesimal (one to two thousand years) compared with the age of the earth or even with the 600 million years that separate us from the appearance of the first living organisms at the beginning of the Cambrian period.

But the development of other intelligent [beings] on other worlds cannot have taken place at exactly the same rate as on earth. If the age of these other worlds, like that of the earth, is on the order of 4 billion years, and if a conscious life [form] appeared, neither the rate of its development nor the epoch in which that world was created cannot have been exactly the same as ours.

Under these conditions, even a minuscule deviation of 0.1%, for example, in regard to these initial data would make it possible to place such a civilization between several million years ahead of ours and several million years behind ours.

Thus the probability of the extent of development of two civilizations in the universe, and the same solar system, being equal appears to be very low, and in all likelihood we have only two possibilities:

- our "neighbors" are several thousand or several million years behind us (or do not yet exist as a conscious species), and it will be we who discover them,
- our neighbors are ahead of us, but then the probability is that this advance figures in the thousands of years or more, rather than in years or even hundreds of years, and if we can judge from the rate of our own development, their level of development would certainly exceed our forecasting capabilities in every domain.

8.3 UFOs – Overall Hypotheses

For several dozens of years, the systematic collection and scientific study of unusual atmospheric phenomena have permitted a number of major advances. Of course, on analysis, a good proportion of the sightings have proven completely explicable: satellite reentries, sounding balloons, etc. This has furthermore enabled the precision of the observers, as well as the veracity and consistency of the testimonies, to be tested. Cases of hoaxes are, on the whole, very rare and quite easy to detect. The majority of the observers provide reliable reports, although it is necessary to taken into account the problems of diverse assessments.

Most of the sightings of all types have also enabled the credible and well-documented sightings called UAP Ds (category D unidentified aerospace phenomena) for which no explanation has been found to be classified separately. However, these phenomena are often attested by means of

consistent testimonies all the way up to visual sightings coupled with radar sightings. Of course, if there had only been ten or so UAP D [sightings], this ambiguous file could just have been classified as "no action," but we are no longer at that point and are far beyond that. Thus we are forced to seek plausible explanations. All sorts of hypotheses have been constructed, and they may be classified as follows:

8.3.1 Ascientific Hypotheses

"We are being manipulated without realizing it" (by a very secret, very powerful, and very knowledgeable group of people; by strange, unknown, or even extraterrestrial beings; by spirits; by the devil; by our psychological fantasies; etc.). Obviously, we cannot say *a priori* whether these hypotheses are true or false [since] they cannot be proven; their main drawback is that they aren't much good to us.

Parapsychological phenomena and collective hallucinations should be classified in this category. The same is true of the idea that is sometimes expressed that the futuristic craft sighted are actually products of the future activity of humanity. Our descendants of the distant [future], who have found the way to go back in time, come to observe us...

It is obviously classic to try to reconstruct and observe the past via any of the traces that it leaves, and one could theoretically observe it directly (for example, by discovering a well-oriented mirror on a planet located a few light years a way). It is, however, out of the question for such an observation to be able to influence a bygone time in any way, except by being detectable.

8.3.2 Secret Weapons of a Superpower

UAP Ds would then be piloted or remote-controlled craft of terrestrial origin. There is no lack of observers to believe that the object with fantastic performances that they saw maneuvering in the sky is the state of the art of military progress, which would explain the secrecy in which they are cloaked. Certainly studies such as those regarding the stealth aircraft or magnetohydrodynamics actually lead to impressive progress. But besides the fact that it would be extremely unwise to expose to the eyes of laymen and foreign experts in this way what there has been so much interest in concealing, it can be added today that throughout the decades during which these phenomena have occurred, the secret would have inevitably come out, especially if the political upheavals of recent years are taken into account.

8.3.3 Disinformation Attempts

Into this category fall special effects and montages, which are generally accompanied by a lot of media publicity. Some researchers believe that without necessarily lending themselves to the manufacture of ultramodern weapons, the performances of high-tech craft might serve to brainwash public opinion in the same way as other propaganda techniques. Of course, this point of view is a direct result of the cold war period. Any means were good at that time for destabilizing the other camp, including fear of an invasion by extraterrestrials or the instilling of doubt about leaders *"who hide anything manifestly serious from us."*

This type of hypothesis is even less satisfying than the preceding ones because it runs up against the objections to each of those.

8.3.4 Holographic Images

At the junction between disinformation attempts and extraterrestrial hypotheses lies the technique of holographic images, whether they be the work of a superpower or extraterrestrial crews. In actual fact, this technique is difficult to employ. It requires considerable preparation because air is very transparent and diffuses light only very poorly. Therefore it is necessary to have large equipment covering the optical field used or at least to project an appropriate screen on it, for example, a film of water.

The first method corresponds to theoretical holographic images, while the second is simpler and is frequently used for spectacular effects, but it obviously leaves traces behind... We can also envision using clouds or a curtain of rain, but this, of course, poses multiple hazards. Without necessarily being able to judge them at present, the method of holographic images and associated methods have only very limited use.

8.3.5 Unknown Natural Phenomena

This hypothesis cannot be ruled out completely and must therefore be cited. However, it is difficult to support in cases where the UFO sighted behaves in an apparently intelligent manner (approach, pursuit, evasion, and escape maneuvers, etc.).

8.3.6 Extraterrestrial Hypotheses

A large number of people today are convinced that UFOs are piloted by intelligent beings who have come from a very remote part of the universe and are tasked with watching us and even initiating contact with us. As appealing as they may be, these hypotheses run up against all sorts of huge difficulties. The hypothetical Martians only recently disappeared from the realm of possibility, and apart from earth, the solar system appears to be totally unable to have produced organized life and even more unable to have produced an advanced civilization. It is therefore necessary to look farther, to the stars, but the closest star is already one hundred million times further away than the moon.

The only contacts that we may try to establish from such distances at present are radio contacts. Astronomers have attempted contacts via message transmission and radio listening in the "SETI" and "MEGASETI" programs. Although some enthusiasts have suggested futuristic ideas to "bypass" the vast expanse, such as, for example, the use of "black holes," the crossing of interstellar distances by possible extraterrestrials has elicited much skepticism and the majority of astronomers reiterate that *"to date there has been no UFO case that is sufficiently well established to imply that it came from an extraterrestrial civilization."*

Two professional astronomers, Jean-Claude Ribes and Guy Monnet, have, however, proposed a scenario in our future in space that includes plausible interstellar voyages. In this scenario, which is summarized in Appendix 4, they envision the establishment of large communities in verdant *"islands in space,"* enormous artificial structures orbiting the earth, as described by the physicist O'Neill, and even inside large asteroids, where an abundance of different materials, including water and oxygen, as well as ready protection against meteorites and cosmic radiation, are found. Later on, when our descendants have mastered the production, storage and use of antimatter as energy, they will utilize it to propel some of their habitats to another solar system. They will settle in an asteroid belt, start families there, and then visit the planets of the receiving system aboard craft that are perceived by any possible natives the same way we perceive UFOs today.

This scenario, which in essence relies only on laws of physics that are currently well accepted,

gives the extraterrestrial hypothesis a certain degree of plausibility; it is possible to imagine that a civilization that came from somewhere else colonized the region of our asteroid belt and used it as a staging base to our planet. Current progress in the conquest of space and physics reinforces this idea.

We should point out that some people envisage another hypothesis, which is much debated: the UFOs do belong to a civilization located in the asteroid belt, but this civilization itself comes from our planet. Older than any known terrestrial civilizations and highly advanced, it supposedly disappeared from earth (nuclear war, radioactivity, pollution, etc.) but resettled in the solar system.

Both hypotheses have to their credit the fact that they place the UFO problem outside the realm of the paranormal and promote thought about the future of our planet.

CHAPTER 9

Organization of the Research Abroad

9.1 Organization of the Research in the United States

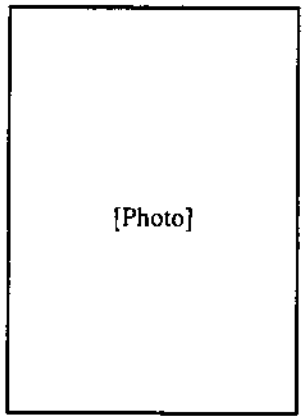
The subject of UFOs is presently very popular in the United States. This is evidenced by the number and success of fiction films such as *Independence Day, Men in Black,* and *Contact,* which deal with this topic. A survey conducted in June 1997 for *Time* magazine showed that nearly one American in four believes that an extraterrestrial craft crashed at Roswell (New Mexico) at the beginning of July 1947. A professor of psychiatry at Harvard, Dr. Mack, treats the problem of the temporary abduction, whether real or imagined, of his fellow countrymen by UFOs very seriously. In view of the public's expectations, what are the authorities doing?

They deny that the UFO phenomenon poses *a threat to national security,* or that it is evidence of an extraterrestrial origin. This position has been taken almost continuously by the Air Force, which was tasked with the study of UFOs from 1948 to 1969 within the framework of a project which bore the overall title Blue Book. It was confirmed in the summary and conclusions of the university commission in charge of evaluating the Blue Book [Project], the Condon Commission. The physicist Condon wrote in his conclusions that the study of UFOs had little chance of advancing science. All official studies thus came to a halt in the United States as of December 1969, and the Air Force referred those who were curious to private ufological associations.

Although it was endorsed by the Academy of Sciences, the Condon report was harshly criticized by numerous scientists, particularly at the powerful AIAA (American Institute of Aeronautics and Astronautics). The latter justly pointed out that the summary and conclusions of the report, which were drafted by Professor Condon himself, conflicted with a number of analyses within its body. The AIAA recommended moderate, but continuous scientific work on UFOs.

An amendment to the Freedom of Information Act (FOIA) passed in 1974 permitted declassified official documents on UFOs to be obtained as of 1976. One of these, in particular, attracted attention. It was a letter from Air Force Brigadier General Bolender from October 1969 stating that the imminent conclusion of the Blue Book Project would not put an end to military reports concerning UFOs that constituted a threat to national security. These were not part of the Blue Book system and would continue, as in the past, to be handled in accordance with the directive JANAP 146 and Air Force Manual 55-11.

"As regards authenticity, only negative conclusions are definitive"



By François Louange,
Chief Executive Officer of Fleximage

Among the investigations conducted on the subject of UFOs, photograph analysis represents one of the more delicate areas. In fact, in the public's eyes, photographs constitute indisputable proof par excellence of the existence of the phenomenon, which gives them a very special emotional factor. But photography is in reality a field where one still finds many errors and hoaxes, because many natural or technical effects can give rise to surprising documents: it is becoming easier and easier for a specialist who has computer equipment to produce a doctored negative that stands up well to investigations. This can sometimes even prove lucrative.

Moreover, experience shows that most of the negatives that stand up to analysis contain only extremely poor and unusable information, often limited to a saturated bright spot on a black background or vice versa, which makes this area of investigation relatively disappointing.

For about forty years, alleged photographs of UFOs, which are sometimes renowned in ufological circles, have occasionally been the subject of expert appraisals on the part of specialists interested in this topic. The physical and technical fields that come into play are quite varied, ranging from atmospheric propagation to photography or video and including digital image processing.

The analysis of a photographic document or video is broken down into two steps:

1 - Establishing or disproving authenticity, uncovering hoaxes, fake maneuvers or parasitic phenomena that could have affected the photographing equipment or the original data storage medium (film, video cassette). This concept of authenticity is furthermore completely relative, because only negative conclusions are definitive and in the best of cases a document can stand up to analyses at any given moment.

2 - With respect to a document deemed to be authentic, extracting the maximum amount of information permitting a known phenomenon to be identified or a phenomenon that is *a priori* inexplicable to be characterized (size, position, speed, albedo, energy emitted, etc.). This phenomenon will then be compared with other unexplained phenomena in order to draw possible parallels.

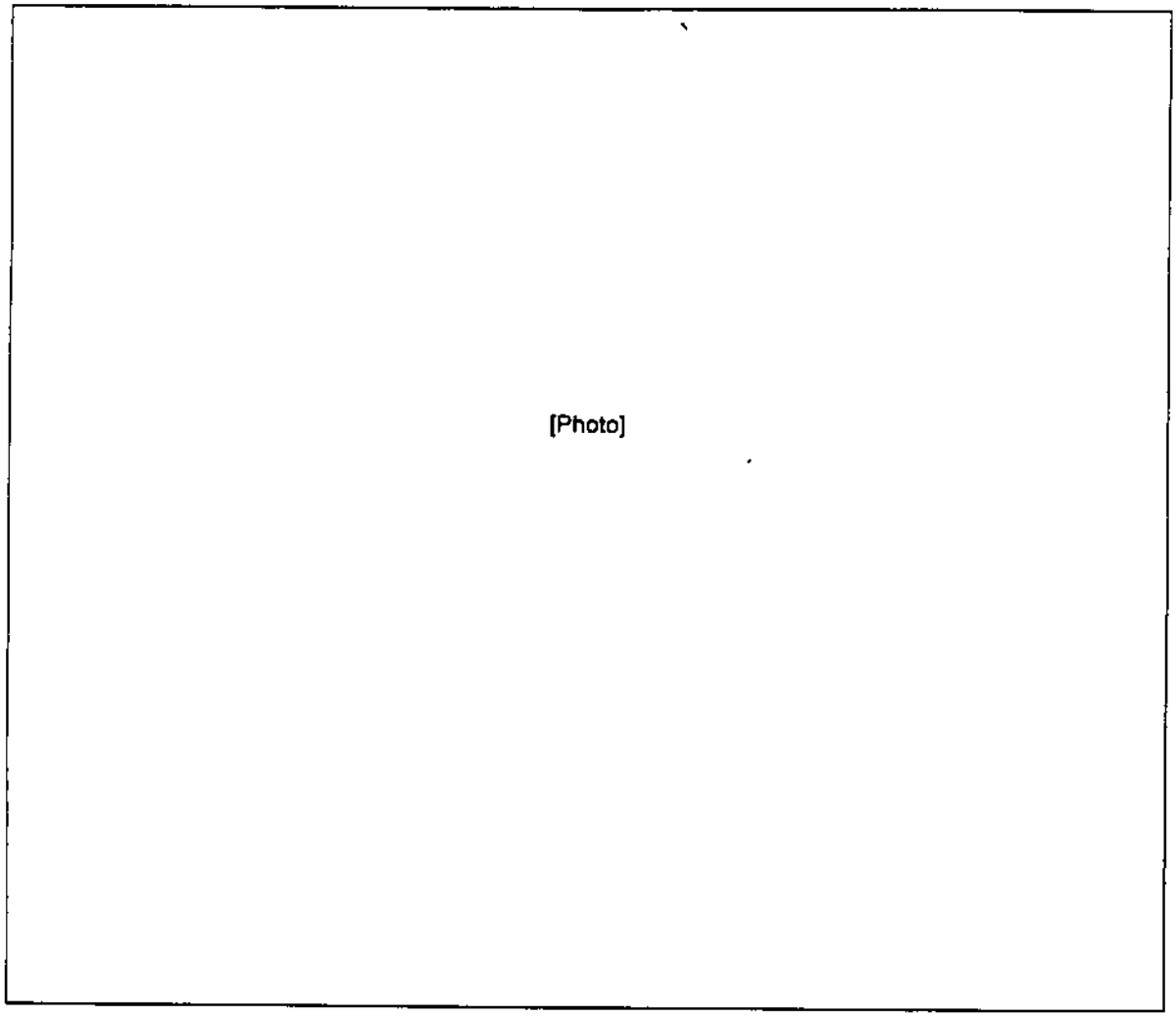
It is important to emphasize that the photographic as well as the video documents available come only from fortuitous witnesses; there are very few opportunities for significant data to be exploited by reason of simple statistical considerations: the chances of being witness to a rare phenomenon, the likelihood of having [camera] equipment in hand ready to use, the probability of being able to make the proper adjustments and calmly take professional quality photographs, etc.

In any case, it seems reasonable to limit in-depth investigations to cases in which the following two conditions are met:

1 - The original document (negative, slide, video cassette, etc.) is available.

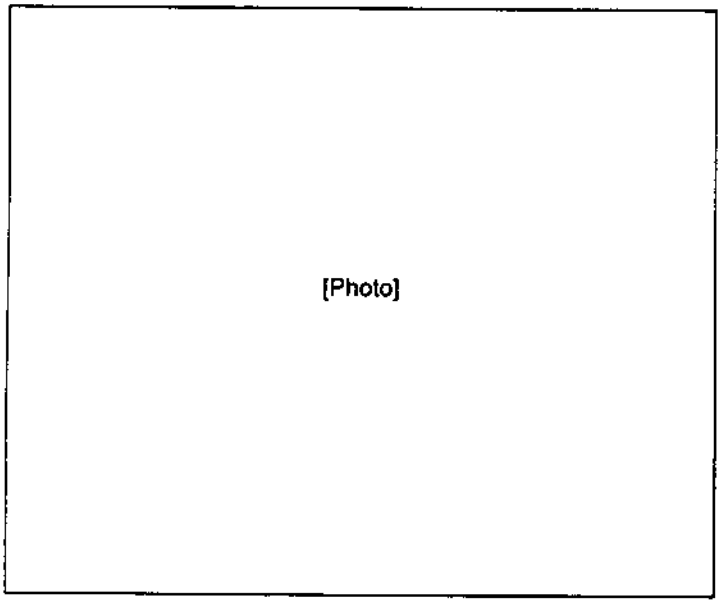
2. - There is at least one other independent source of information (visual testimony or another sensing device).

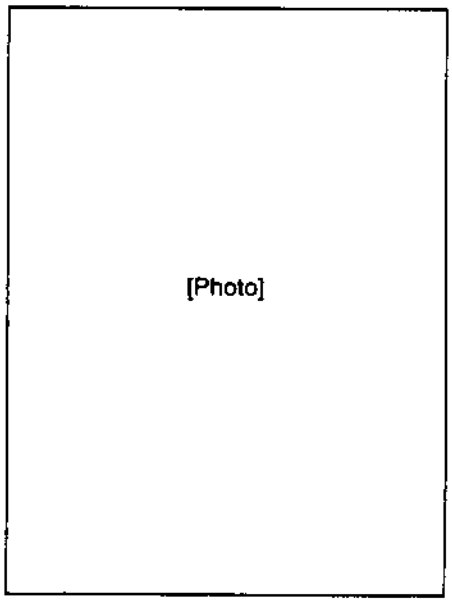
Trick of the eye: lens-shaped clouds


[Photo]

Central bulge, broad and narrow disk, this is the definition of lenticular galaxies. It is also the definition of a type of cloud, cirrocumulus lenticularis, which forms above 7000 m altitude and up to the limits of the troposphere. Their very specific shape is due to factors such as pressure, temperature, turbulence, and very strong winds. But this shape is definitely open to every interpretation for those who wish to see it as a flying saucer...

When military craft play UFOs


[Photo]


[Photo]

Left:
Photographed in 1989 offshore from Los Angeles, this unpiloted surveillance unit is a Canadair CL-227 Sea Sentinel military drone.

Right:
This Sikorsky "Cypher" surveillance drone is used by the U.S. Army in urban conflict situations.

JANAP (Joint Army, Navy, Air Force Publication) 146 applies to military personnel but also to some civilians (flight captains of commercial aircraft, merchant marine captains) in the United States and Canada. It stipulates that an urgent report should be filed with certain authorities, which must in turn file a report, namely with the Air Operations Command (now NORAD [North American Air Defense]) in Colorado Springs, when objects requiring very urgent defensive action and/or an investigation by the armed forces of the United States or Canada are sighted.

Among these objects, UFOs *(Unidentified Flying Objects)* are listed along with missiles and hostile or unidentified submarines, etc. Disclosure of the contents of these reports is subject to the penalties of the laws cracking down on espionage. JANAP 146 entered into effect in recent years and perhaps is still in force. This regulation may explain the frequent reticence of American military personnel, aviators in particular, to bring up the subject of UFOs.

The members of American ufological associations number several thousand. These associations are used to fill the gap left by the public authorities in the field of "UFO" studies. The FOIA brought them a resurgence of activity, showing them that contrary to their statements, the Air Force and various special departments, namely the CIA, are very much interested in the subject of UFOs and have been for some time. It permitted them to learn of certain spectacular cases, such as the overflights of missile bases in 1975, or the 1976 Tehran incident related in Chapter 2. DIA deemed this a "radar/visual" case: *"A classic case that meets all the conditions required for a legitimate study of the UFO phenomenon."*

In recent years, the three main ufological associations have been brought together by a leading U.S. personality, Marie Galbraith, to conduct a joint study. She is the wife of Evan Griffith Galbraith, who was U.S. ambassador to France from 1981 to 1985. Thus she is well-acquainted with our country and our language, since she lived on Avenue Gabriel. Supported both morally and financially by Laurance Rockefeller, brother of the famous David Rockefeller, she traveled the world to meet the principal scientists interested in UFOs and to collect the best cases.

She then oversaw the drafting of a clear and documented book entitled *Unidentified Flying Objects, Briefing Document, the best available evidence*, which was endorsed in 1995 by the chairmen of the three associations CUFOS [Center for UFO Research], FUFOR [Fund for UFO Research], and MUFON [Mutual UFO Network]. She had this work sent to more than a thousand prominent figures throughout the world and, namely, to a large number of U.S. congressmen. Her goal is to get the U.S. government and possibly other governments to end the secrecy surrounding UFOs. For the editors of the book, this secrecy is essentially military in origin: the nation that is first to reproduce the exceptional characteristics of UFOs will dominate the world. The secrecy was justified during the cold war, but it is no longer justified now given the scientific and technical breakthroughs useful to humanity that one can expect [to obtain] from the study of UFOs.

On the whole, Marie Galbraith's book is descriptive. It does not interpret the phenomena sighted (physical modeling or hypotheses regarding the origin of the objects). Such was also the spirit of the international scientific colloquium organized in September 1997 by Laurance Rockefeller at Pocantico, near West Point, on the property of the Rockefeller Bros. Fund. Moderated by astrophysicist Peter Sturrock, this colloquium focused on physical evidence concerning UFOs.

Specialists on radar, the biological effects of microwaves, photography, etc., who often were not very familiar with the UFO problem, formed a scientific council there that judged the papers presented by the UFO researchers. French participation was quite noteworthy; it consisted of the head of SEPRA and two members of the scientific council. A summary document expressed the desire that many countries have a UFO research organization comparable to that of France.

Colonel Corso's theory:

In July 1997, for the fiftieth anniversary of the Roswell incident, an astonishing book entitled *The Day After Roswell* was published. It was written by Colonel Corso, who from 1953 to 1957 was the military member of the National Security Council Staff and thus was in constant contact with President Eisenhower. The forward of this book was written by Strom Thurmond, the current chairman of the Senate Armed Services Committee, who, already a member of this committee, appointed Corso as congressional attaché when he left the Army in 1963. The author states that the object found at Roswell was indeed an extraterrestrial vessel. He reportedly saw for himself, in July 1947, the cadaver of one of the occupants preserved in a glass coffin. From 1961-1962, as chief of foreign technology in the Army R & D Department, he apparently was tasked with discretely allowing U.S. industry to benefit from the extremely high-tech objects found in the wreckage (according to him: printed circuits, a laser, light intensifier, etc.).

Colonel Corso affirms that high-ranking military officers and some U.S. congressmen know about the existence of extraterrestrial craft in our skies. They have concealed it from the public to avoid panics, but full disclosures are going to be able to be made, because the United States, which has been striving to do this for 50 years, reportedly now has the means to counter a possible UFO attack. Some of these claims are surprising at the very least, but the entire contents of the book cannot be easily dismissed when one considers the remarkable career of its author and Senator Thurmond's tribute to him. It is true that the latter requested that his forward not appear in reprints of the book, a request that was granted. The author allegedly had not told him that the book was about UFOs... But it is difficult to believe that the forward writer, the third in line in the U.S. Government to succeed the President, and the publisher, Simon & Schuster, were not acting with full knowledge of the facts at the time of the first printing. As soon as the book came out, the U.S. Air Force published a second report on Roswell again denying the plausibility of the hypothesis of the crash of an extraterrestrial craft. The first report, which was published in 1994, was presented as the first official study on UFOs since the end of the Blue Book [Project] in 1969 (see "Roswell and Disinformation" in Appendix [5]). This reaction is not incompatible with Colonel Corso's theories; it may be intended to reassure those whom Corso's revelations might worry.

9.2 Organization of the Research in the United Kingdom

Great Britain has been the scene of several remarkable cases. We presented the Lakenheath "radar/visual" case (1956) in Chapter 2. The RAF and the Ministry in charge of it therefore became interested in UFOs very early on, but we do not possess much information on their work. Since its creation in 1964, the British Ministry of Defence (MOD) has had a UFO study unit, whose [designator] abbreviation Sec(AS)2a stands for Department 2a of the Secretariat (Air Staff) division. Its activity was recently described by Nick Pope, who was its head from 1991 to 1994, in a warning book, *Open Skies, Closed Minds.*

This department receives telephone calls or letters from witnesses, but more generally reports prepared from the depositions of these witnesses taken at police stations, airports or RAF bases. It conducts classic investigations if it deems them useful. They then question radar stations or weather stations, the RAF space object surveillance base at Flyingdales, other RAF bases, the Greenwich Observatory, etc. Its unique mission is to determine whether the reports are of interest for defense purposes ("area of defence significance").

Nick Pope, who is currently a MOD career employee, has broken new ground in comparison with his predecessors. He has given interviews to the press and participated in television programs. He has cooperated with the ufological associations, giving their address and phone number

to witnesses who have written to him. In his letters of response he admitted that a small proportion of UFO sightings defied explanation and that the MOD was keeping its mind open regarding these. His predecessors wrote: *"If we had sufficient data, all of the cases could undoubtedly be explained."* In his book, Nick Pope evokes various hypotheses to explain certain unidentified cases that were the subject of credible and detailed reports. He strongly favors the extraterrestrial hypothesis and expresses the desire that his ministry take seriously the potential threat that UFOs represent in his eyes.

Is there a department that is further developed than his (where he is alone) in the Ministry of Defence that would conduct secret studies on the UFO phenomenon? His statements on the subject are contradictory (pp. 129 and 181). Ralph Noyes, who was one of Nick Pope's predecessors from 1969 to 1972 and ended his career at MOD in 1977 as Undersecretary of State for Defence, considers the existence of such a department likely. Lord Hill-Norton, Admiral of the Fleet, who was Chief of Defence Staff from 1971 to 1973, shares this opinion. This information is found in a book the forward to which was written by Lord Hill-Norton himself (*Above Top Secret*, by Timothy Good). Admiral Hill-Norton was among some thirty lords active in a House of Lords intergroup studying UFOs in the 1980s. If this secret study department does exist, it can be presumed that it works in collaboration with the United States (*Above Top Secret*, pp. 48-49).

9.3 Organization of the Research in Russia

The Academy of Sciences of the USSR has conducted studies on UFOs since 1979 at least. During that time, Vladimir Migouline, a member of this academy, expressed his opinion in *La Recherche* regarding the sightings made in the Soviet Union of luminous phenomena and unusual objects: *"The vast majority of these sightings correspond to real phenomena just about the same as those sighted in other countries. But there is no indisputable proof that some of them involve technological manifestations of a highly developed civilization. It is also necessary to try to connect them with atmospheric phenomena,"* he said.

This is the goal that his assistant Platov aimed for in a work published in 1992, *UFOs and Modern Science*. At that time, Migouline and Platov, heads of the expert's group on abnormal phenomena in the Academy of Sciences, proposed a scientific and technical cooperation program to SEPRA, but the CNES management did not follow-up on the offer. It should be noted that in the Siberian section of the Academy of Sciences, the studies, which are less well known in the West, do not rule out the extraterrestrial hypotheses, and even favor it.

During "Glasnost," information was disseminated on the studies being conducted by both the KGB and by the military. In 1991, the KGB declassified 124 pages of documents from *Cases of Sightings of Abnormal Events over USSR Territory, 1982-1990*, which covered a total of 17 regions. One of these cases, which we detailed in Chapter 3, concerns the extraordinary aerial maneuvers of three bright disks over an Army missile base near Astrakhan in 1989. The objects, which were sighted by seven military members, went from hovering to high speed and back again all without making any noise. When it was approached by a Soviet fighter jet, one object escaped so quickly that it seemed to leave the fighter jet standing still in its tracks.

In 1994, Colonel Boris Sokolov sold *ABC News* a collection of investigations conducted by military personnel from 1978 to 1988. Earlier, in 1990, the newspaper *Rabochaya Tribuna* had published an article by Aviation General Maltsev, who commanded the territorial air defense, concerning a well-documented visual/radar case with multiple witnesses (Pereslav-Zalesski, the night of March 21, 1990) in which a silent discoid object went from hovering to a speed two or three times faster than that of a modern fighter jet. We described this case in Chapter 2.