Abstract

In basic and applied research there should be no area, no taboo or ostracized subject that is not studied.

The events of the Nimitz incident [i] of November 14, 2004, in particular the "Tic-Tac" affair [ii] and what followed, namely the official report of the ODNI (Office of the Director of National Intelligence) of June 25, 2021 [iii], have initiated a new subject of study. This new field of research is that of Unknown Aerial Phenomena (UAPs). Formerly called UFOs, the study of UAPs has just officially entered the field of international university research under the impetus of open minds such as Professor Avi Loeb [iv] and his team at the Galileo Project [v].

2021 is therefore the date that has finally brought this subject, so controversial and decried for more than 70 years, into the realm of serious, statistical and official scientific study.

Now, it is important to lay the foundations of work in order to implement these lines of research. Theoretical and experimental, they will allow university researchers to get closer to the collection of exploitable scientific data on the UAPs [vi] and the ETCs [vii] (Extraterrestrial Civilizations Technologies). The objective is to publish the work in peer-reviewed journals to broaden the interest of the research at the international level.

This approach is essential to allow researchers from all disciplines to take ownership of this research subject with unimagined possibilities for discovery. Potential discoveries capable of changing the face of the known world. A radical paradigm shift in all fields.

The aim of this paper is to present a non-exhaustive list of ways of thinking, and proposals, particularly instrumental ones. These avenues can be implemented within international, private or university projects, aiming at collecting exploitable scientific data with an adapted instrumentation, dedicated to the study of UAPs / ETCs.

About the Author

Born in 1962 in the department of Vienne (86), France, a trained senior scuba diver technician with 14 years of professional underwater activities in teaching, underwater works, and nuclear and underwater archaeology[viii]. Thereafter, in charge of the Development of Aeronautical Training for 19 years for the French State (National Education and the CCINCA, Nice Côte d'Azur Chamber of Commerce and Industry) until February 2020.

In parallel to these two main professional activities, 50 years of questioning about intelligent life outside the Earth, founder in 2007 of the Phoenix Project [ix], member of 3AF [x].

Today, researcher - investigator - independent speaker on the UAPs and ETCs dossier.

UAPs / ETCs, a new challenge for science

Lines of research, reflections and proposals which could allow for the collection of exploitable scientific data concerning the nature of UAPs, in and out of the terrestrial atmosphere, and possible discoveries of active or non-active traces of ETCs in our solar system.

_____

By Serge Tinland October 30, 2021

List of Abbreviations

AMS	**A**utomated **M**easurement **S**tations
ETCs	**E**xtraterrestrial **C**ivilizations **T**echnologies
LASCO	**L**arge **A**ngle and **S**pectrometric **Co**ronagraph
LIGO	**L**aser **I**nterferometer **G**ravitational-Wave **O**bservatory
ODNI	**O**ffice of the **D**irector of National **I**ntelligence
PAN	**U**nidentified **A**erospace **P**henomenon
PSI	**P**roject **S**tarlight **I**nternational
SOHO	**So**lar and **H**eliospheric **O**bservatory
UAPs	**U**nidentified **A**erial **P**henomena
UFO	**U**nidentified **F**lying **O**bject
UV	**U**ltra**v**iolet
3AF	**A**eronautical and **A**stronautical **A**ssociation of **France**

Table of Contents

Introduction: The events of 2004-2019

The UAPs and ETCs dossier has, until now, unfortunately suffered from a systematic rejection, considered as worthless, even dangerous by the scientific community, the civil society or the market. This illogical attitude has to, as a consequence, put aside discoveries with potentially exceptional significance for the whole human civilization.

The events that followed one another from 2004 to 2019 during the US military maneuvers off the west coast of the United States have allowed us to take a new look at these UAP phenomena.

To the question: Within fundamental and applied research, what can we learn from a UAP evolving in a dense atmosphere like the Earth's, or even outside the atmosphere?

The answer is: **So much!**

Why? Quite simply because the first information recorded by the various sensors embarked in the American fighters and the radars present in the ships, cruisers or aircraft carriers, have all brought up the same observations, namely:

- A velocity, an aerodynamic evolution capacity that cannot be found in the design of the current fifth, or even sixth generation fighters being developed in the design offices of US manufacturers or in the rest of the world.

- An equally astonishing capacity of evasion, given their velocities.

- A capacity to pass from the element of air to that of water without deceleration and without leaving any obvious radar trace of emissions of their passage from one state to another.

- A total absence of external noise.

- An absence of a supersonic bang, shock wave or bow wave even though they are moving, in certain configurations, at speeds far in excess of the speed of sound.

- A capacity to appear spontaneously, instantaneously, without being detected far in advance by all the multi-sensors present in the area.

- A behavior that seems directed, even "tactical", therefore, thoughtful, intelligent!

2.0 UAPs / ETCs, a real subject of fundamental and applied science

These few tangible points of observation would be enough for any university researcher to initiate without further delay one or more official projects with the objective of collecting as much scientific data as possible, allowing the advancement of the understanding and nature of the phenomenon in question. Such an approach, with the objective of publication, should benefit the whole scientific community, and thus widen the possibilities of exchange, debate and reflection in an innovative field with immense possibilities for discovery. These, which are for the moment hypothetical, could be integrated further within the civil and commercial community for the good of the whole human civilization.

To better understand this historical problem let's take the example of ball lightning, hallucinatory phenomenon or real? Despite the latest experiments that in 2014 have allowed us to progress in the theoretical and physical understanding of the phenomenon, it is still necessary to study it in order to arrive at a finalized theory accepted by all. Very important means have been deployed to arrive at an understanding of what remained until then for some in the realm of the imaginary, of a neuronal hallucination, yet one observed thousands of times over centuries. Experimenting, reproducing and beginning to theorize the process of ball lightning has allowed us to better understand certain behaviors of matter, especially in the field of plasma physics.

So, what are we waiting for at the international level to put a minimum of intellectual openness on a subject that has touched millions of witnesses around the world for centuries? Research that could potentially open the doors to a New World, a new scientific, technological, philosophical, social, political and spiritual paradigm.

Laying the first foundations of an official academic research with the objective of trying to answer the questions raised by the factual observations of UAPs of the American Marine Corps from 2004 to 2019 could allow us to approach an ancient enigma. An enigma that deserves intellectual, material and financial effort from the whole international scientific community.

3.0 Axes of research to be considered

The sequence of factual events from the Nimitz incident in 2004 to the frequent overflight of American frigates up to July 2019 has triggered a wave of questions at an international level. What some independent researchers working on the subject, and a section of civil and commercial society have been waiting on for more than seventy years has arrived. Renowned universities and researchers have finally laid the foundations for official and factual research of the problem in question.

Along with many American universities such as Harvard, Yale, Princeton, and others such as NASA, the University of Cambridge (England), the University of Torrejon de Ardoz (Spain), the University of Bern (Switzerland)..., the list of universities and researchers [xi] who are joining this new intellectual adventure is growing week by week, and coordinated by Professor Avi Loeb of Harvard University under the aegis of the Galileo Project.

Now that the new bases of an official and academic research are laid in which direction should we go in terms of theoretical and experimental research to have a chance to collect a maximum of scientific data exploitable by the whole international scientific community?

Two directions seem promising, that of the theoretical and experimental study of UAPs in and out of the Earth's atmosphere, and that of the search for the potential presence of active or non-active artefacts of one or several technological extraterrestrial civilizations (ETCs) within our solar system.

Within the framework of these two research axes in order to obtain exploitable data collection results within a reasonable time frame it is necessary that the research teams be able to push their thinking well beyond the usual boundaries of classical methodology.

In fact, in order to have the maximum chance of success it is necessary to think differently, to imagine the unimaginable, to find oneself, with all of the research departments that have been formed, at the center of a sphere of holistic reflection where thought no longer has any limits. To trigger an intellectual process centered on the infinite possibilities in the paths to be taken to achieve the expected results, namely, the collection of scientific data, both tangible and indisputable, which can be published and taken up by the entire international scientific community.

The strict scientific study of the data collection, both concerning UAPs, in the atmosphere and outside the atmosphere, and the search for factual, documented clues on possible active or non-active artefacts present within the solar system such as probes, satellites or vessels linked to ETC activities, have to be conducted in parallel.

4.0 Methods envisaged in the study of UAPs

In order to promote a methodical and scientific approach in the search for the nature of these phenomena, here is a non-exhaustive list of research avenues and experiments that can be conducted at different scales[xii].

4.1 Use of UV high resolution sensors

- For the recovery of data in the ultraviolet spectrum, in addition to the visible, infrared and peripheral wavelengths, we can rely here on the work of Professor Auguste Meessen [xiii]. He used this approach in the analysis of photos, videos and ground and airborne radar recordings of the 1989/90 UAPs observation wave in Belgium.

  For Auguste Meessen [xiv], a search in the ultraviolet wavelength could allow a possible detection of a UAP before its observation (trace of ionization of the air around the UAP). But also to obtain tangible, exploitable data concerning the mode of propulsion, its capacity of stealth and its kinetic performances.

  His theoretical approach is based on the study of the divergences between the various photo and video sources of the 1989/90 wave. For him, in addition to the visible light as exploitable data, certain characteristics of the photos and videos could imply UV.

  The detection of a strong ionization of the air in front of or around the UAPs of the Belgian wave could allow, according to Professor Meessen, the emission of a radiation in the UV wavelengths.

  It would be interesting to reflect further and to study the relevance of using a hyperspectral UV imager. An imager, either already present in a satellite, or to be installed in the ISS or in AMS (Automated Measurement Stations). This instrumentation could be installed in multi-sensor observatories strategically distributed on Earth. The objective is to try to detect anomalies that could be related to the presence or activity of UAPs on the Earth's surface or in its atmosphere.

  A study of UV archives of satellite imagery of the Earth's surface (geophysical monitoring) by a dedicated AI application, would allow, for example, the detection of possible anomalies. Anomalies that could potentially be related to the presence or activity of UAPs on the Earth's surface or in its atmosphere.

4.2 Use of high resolution spectroscopy

The goal is to obtain images that can be used for advanced experimental study of the spectrum of a UAP in the atmosphere or outside the atmosphere. The use of spectro-imaging or hyperspectral imaging would allow the identifying of the environment of a UAP, as well as the beginning of its physical and chemical composition.

- Concretely, it would be necessary to install spectropolarimeters on a set of specialized telescopes, AMS, and even on the ISS and some civil satellites, in order to study the nature of the light of the UAPs, but also, to seek the existence or not of a magnetic field around them. If the presence of a magnetic field is confirmed then the calculation of its strength, the quantity produced by the UAP and its distribution around its structure.

  Indeed, if a magnetic field were to exist around a UAP the use of spectropolarimeters with high spectral resolution in the visible, infrared or ultraviolet ranges, and the methods associated with spectropolarimetry could provide us with very useful information. In particular, in regards to the nature of the flight environment of the UAPs, and thus to be able to possibly define the type of energy used, and the associated technological methods.

  The UAPs being fast aerial phenomena during certain phases of their movements, and with a narrow visual angle it would be necessary to develop spectropolarimeters dedicated to the specific analysis of this type of object.

4.3 Installation of Automated Measurement Stations

It would be interesting to be able to follow the steps of the team of university researchers of Bergen and Oslo who in June 1983 initiated the Hessdalen project [xv]. Its objective was to record a multitude of exploitable scientific data on unknown lights present since December 1981 within a small valley named Hessdalen, in Norway. For that, they imagined and conceived AMS [xvi], along the lines of the Project Starlight International (PSI) [xvii], for an official scientific study of the UAPs (Unidentified Aerospace Phenomenon) at the European level [xviii].

The objective of the PSI, founded in 1964 by Raymond D. Stanford [xix] was the collection of tangible data on UAPs for the scientific community. For this purpose he and a team of engineers created the very first AMS equipped with important instrumentation: magnetometers, gravimeter, spectrometer, radar, laser-telescope-video system as well as other electronic and optical systems potentially able to record the physical effects, optical images and localization of UAPs. The PSI has obtained and accumulated very interesting data throughout its activity. Data always available, but only for the university scientific community, which can be used for further research.

These stations for the study of UAPs would be equipped with an optical diffraction grating, directly connected to the high resolution multi-sensors integrated in the AMS structure.

The objective is to be able to obtain very high resolution spectral imaging in order to collect data from a light spectrum to analyze and try to identify the origin, and the possible nature of UAPs. All "objects" that emit light have a very precise spectral identity.

To be able to obtain very readable spectra with the high resolution of UAPs would make it possible to acquire very concrete, exploitable data and to carry out comparisons with what is already known, and therefore advance a theoretical and physical comprehension of their possible nature.

4.4 Search for emission in the 3 GHz microwave band

Objective: to develop an innovative experiment, not yet implemented to date, in order to confirm the presence of an emission in the 3 GHz microwave band of certain UAPs.

As a reminder, in the 60s and 70s, some researchers asked themselves the following question: **Do some UAPs emit signals at 3 GHz?**

Why this question? It is in reference to the RB-47 incident of July 17, 1957 [xx] in the southern United States, a very well documented case:

- During this unusual incident the electronic countermeasure direction finding devices and the ground radar did detect a strong source of emission in the 3 GHz wavelength, not to mention the ground personnel who simultaneously visually observed the course of events.

  All this very concrete, very real and fully documented data made it possible by convergence to determine that it was indeed the UAP which was the source of the signal!

- Then, pushing thought and logic to their maximum, the UAPs must rationally communicate between themselves, exchanging data, and information in the atmosphere or outside the atmosphere.

  Thus, assuming that a UAP can transmit signals, whether close to this 3 GHz wavelength or another, towards other UAPs or towards a station present on Earth, in the atmosphere, on the surface of the Earth, at the bottom of the oceans or outside the atmosphere, in earth orbit, in lunar orbit or on its surface, or even within the entire solar system, it could be very interesting, even sensible to emit a multidirectional signal at 3 GHz, or other frequencies, to see if we can get an answer!

- In an experiment of this nature all the research teams having experienced the previous steps would automatically move on to a new phase of their research programs, namely, the official contact attempt!

4.5 Partnerships between universities and amateur observatories

The development of a very close partnership between the various research teams involved in the university scientific study, and very well equipped amateur observatories (optical, radio, multi-sensors...).

Objective of such a partnership:

▪ An extended instrumental observation time 24 hours a day.

▪ A greater chance to collect scientifically exploitable data in a shorter time.

▪ A controlled, very low cost of use and operation.

▪ A very strong motivation from the community of amateur astronomers to join and to give their time and materials to a project at the international university level on a new and promising subject of study.

Benefit of such a partnership:

▪ An opening of the universities and research groups to the outside world (bringing the university and civil societies closer together) while controlling all the steps of the partnership. Moreover, a very strong reduction of costs, associated with a very strong reduction of the theoretical time to be able to make an exceptional discovery, a discovery concerning the scientific confirmation of the physical existence of UAPs in our world and their potential natures.

▪ This pattern is also valid for the search for a potential presence of ETCs within the solar system. In this instance, out of data collection on the subject ECTs, such a partnership could accelerate the discovery within the solar system of new still as yet unknown astronomical objects or phenomena.

4.6 Developing an AI program as a performance vector

This program would be dedicated to a global Internet watch allowing us to launch alerts on real-time observations of UAPs on the surface of the Earth. The statistical study of the observations could allow us to discover strategic occurrences and inform us about some of their behaviors, or even anticipate them!

But this AI could also be used to discriminate, in photo and video data collections, objects of a known nature from those that raise questions. This would save a lot of time and therefore be more efficient.

4.7 Deployment of a small team of specialized investigators in the field

Investigators equipped with mobile recording and detection equipment: possibility of recovering materials (metamaterials or others) linked to the UAPs and exploitable in the laboratory.

This deployment would be done in parallel with the collection of statistical data linked to the different instrumental experiments activated within the new optical, radar and satellite observation means.

4.8 Use of cameras with very high recording speeds

On the basis of statistical data from the very numerous international testimonies from civil and military pilots of the very high velocity, kinetic and aerodynamic capacity of UAPs a new approach to data capture is needed. It would be interesting to develop an instrumental experiment integrating high resolution multi-sensor cameras with very high shutter speeds between 10,000 and 26,000 fps minimum. These cameras would be part of the latest existing generations, or created specifically for the object of the study.

Objective: to try to capture the movement of UAPs in the upper, lower and outer atmospheric environments. The slow motion study of the collected data would allow for the obtaining of strategic information on their capacities and possibly on their nature. To date, there are no photos, film or spectra of a very high resolution available for scientific study.

One of the objectives of the scientific study of the UAPs and ETCs is to obtain exploitable imagery at very high resolution in various wavelengths.

4.9 Satellite detection with their specialized multi-sensors

A promising avenue of research concerning the detection and identification of UAPs would be the search for unrecorded geomagnetic disturbances on the surface of certain terrestrial regions such as on the surface of the oceans and Antarctica.

Why?

- Highly credible evidence has been reported to us by witnesses of the 2004-2019 events regarding a possible correlation between terrestrial geomagnetic disturbances and the presence of UAPs.

- In the context of the search for the energetic/electromagnetic signature of UAPs in the Earth's atmosphere, and in order to obtain scientific data and very high resolution images/films that can be used, it would be interesting to search the surface of the oceans, and Antarctica, for possible unrecorded geomagnetic disturbances. Disturbances that could potentially be attributed to the presence of a very large energy source and possible ETC activities. This energy source and/or ETC activity could either control or communicate with UAPs that are driven by biological entities or are solely automated.

- This intense energy source, these electromagnetic or geomagnetic disturbances, this control or this possible communication between sources and UAPs should be detectable thanks to the multi-sensors currently on board surface ships, aircraft or civil satellites.

The chain of research, data collection, analysis and proactive actions would be, for UAPs in the Earth's atmosphere:

- A real-time monitoring of the internet and darknet by an AI, or an artificial neural network dedicated to anything related to an event directly related to the appearance of UAPs in our environment. The objective is to target the statistical occurrences of their presence, thus the geographical points on Earth likely to be "hot spots" of possible UAPs / ETCs activities.

- Installation of an AMS network and multi-sensor telescopes at certain strategic locations on the planet.

- Use of the professional/amateur network for a wider range of searches, detections and data collection.

- Use of the observation time of some surface ships, aircraft or civil satellites equipped with sensors and detectors.

- Search of the surface of the oceans and the poles, in particular Antarctica, for possible unknown geomagnetic disturbances, which could be attributed to the presence of a very large energy source and possible ETCs activity.

- If discovered, then to observe and analyze these disturbances.

- Observe and analyze if a UAPs activity is not at the beginning or at the arrival of one of these disturbances.

- Look for emission in the 3 GHz band, or others, by a multi-frequency scan around a detected UAP.

- If a strong emission is detected in the 3 GHz band, or in another band, go to the proactive phase of the study.

- This proactive phase being: a multidirectional transmission on the same frequency detected, and to wait for a response!

The places on the surface of the Earth to be observed in priority from the data of the Nimitz incident of November 14, 2004 and from the other declarations of 2004 to 2019 from the US Navy:

- Catalina Strait (33°19'25.7 "N 118°07'42.2 "W)

- The northern tip of Guadalupe Island (29°15'43.5 "N 118°15'56.5 "W)

Based on the statistical data available to us regarding UAPs observations during the last 70 years:

- Vieque Island pit (18°06'26.6 "N 65°28'00.9 "W)

- Puerto Rico State Forest (18°17'16.7 "N 65°45'49.1 "W)

- Utah Ranch (40°15'29.4 "N 109°53'16.5 "W)

- Antarctic Range (83°25'59.5 "S 167°31'08.8")

For the research chain, data collection, analysis and proactive actions of a research team regarding UAPs outside the Earth's atmosphere, an equivalent instrumental protocol could be implemented in addition to the other experimental perspectives mentioned above.

5.0 Methods considered for the detection of ETCs activities

It is possible to consider another non-exhaustive list of research and experimentation avenues which can be applied to the detection of ETCs.

5.1 Multi-sensor observation program directed towards the lunar surface.

Objective: to try to identify the origin and the nature[xxi] of the sources of the Luna Transient Phenomenon [LTP] [xxii].

- LTP [xxiii] officially observed by professional astronomers since April 19th 1787 notably the British astronomer Sir William Herschel.
- Are these phenomena [xxiv] all natural or could they be for a part, even very slight, of a potentially exogenous nature? A sign of a presence and activity of Extraterrestrial Technological Civilizations (ETCs) within the solar system on Earth's doorstep?

5.2 Cooperation with NASA and the contributing countries

Objective: to install within the ISS multi-sensor instrumentation with very high resolutions allowing 360° coverage around the ISS, and exploitable both day and night.

5.3 Detection of probes or observation stations of ETC origin

These probes, or stations, can constitute a possible relay of communication with the UAPs. It would be interesting to imagine an experiment which would allow the linking of several multi-telescope observatories all equipped with very high resolution multi-sensors on the same mount, in turn connected to a network of multichannel radio telescopes in order to scan the sky for optical and radio signals not related to human technological, scientific or military activity.

5.4 An observation of high polar orbits, from 1,700 km (1,056 miles)

This would be a new avenue to explore because it is an orbit not used by the conventional terrestrial sectors. This orbit could be of particular interest for possible ETC activities in the framework of a global observation program of human civilization, observation and study of humans by dedicated probes or stations assisted in parallel by UAPs in the upper and lower atmosphere for more precise observation programs.

- A precise multi-sensor scan at very high resolution from low orbit (200 to 1,700 km / 125 to 1,056 miles), would also be an avenue to consider in order to try to detect potential ETC activity very close to the Earth's surface.

- The use or development of these very high resolution detectors would be exploited in a number of parallel experiments, thus optimizing research in other areas of study and controlling costs.

5.5 Access to the ESA/NASA SOHO mission

Objective: to have access to the LASCO (Large Angle and Spectrometric Coronagraph) at the SOHO (Solar and Heliospheric Observatory) [xxv] for an in-depth study of the space around the Sun. Indeed, what could be more "natural" for some UAPs entering the solar system than to hide in the light of our star!

- A close collaboration could be very beneficial for all the research structures. For example, to develop in cooperation optimized computer applications oriented towards, and for, the permanent monitoring of the potential presence and study of UPAs and ETCs around the Sun.

- Applications which would in parallel allow potentially new discoveries of astronomical objects or phenomena within our solar system.

5.6 To have access to the Ligo Interferometer.

To consider a rapprochement between a team of university researchers having an official open project on the detection and the analysis of the potential presence of ETCs artefacts within the solar system and the research team of the Ligo Interferometer[xxvi].

This collaboration would allow the development of a unique theoretical and instrumental experiment with the objective of searching and detecting possible gravitational waves in the solar system. Gravitational waves associated with the deformation of space-time under the effect of a very important invisible, stealthy, unknown non-astronomical mass, therefore potentially exogenous.

The theoretical and instrumental development of a brand new telescope dedicated to this research axis would allow the teams to advance of new possibilities of gravitational astronomy with potential as yet unimagined discoveries!

5.7 Program of detection of objects of type "Oumuamua"

As explained by Professor Avi Loeb[xxvii] it is important to develop a research program consisting of new telescopes and new sensors in order to perform a systematic scan of the solar system to try to detect other interstellar objects of the "Oumuamua" type[xxviii].

Even if Oumuamua may not be in the end an active or non-active ETCs artefact it does not mean that we could not detect them through a dedicated research program, if they of course exist and are potentially present within our solar system.

- Such a program of research of interstellar objects potentially present within the solar system, if it did not succeed in its first objectives, would perhaps allow for other discoveries of totally new objects or astronomical phenomena, allowing us a better understanding of our solar and interstellar environment.

5.8 Search for as yet unknown sounds within the solar system

These sounds could be associated with a mass, an object invisible to our standard sensors, but which could betray the presence of an ETC's artefact in stealth mode.

5.9 Search for electromagnetic disturbances in the solar system

Imagine an experiment that would have as its objective the search and detection in the solar system environment of electromagnetic disturbances that could be associated with an uncharted invisible mass.

ETC activity could make itself stealthy, invisible in different ways:

- Optical
- Acoustic
- Radio frequency waves

To develop an instrumental experiment in these three main areas could bring to light the "invisible" and in parallel teach us a lot about the environment of our solar system.

6.0 Perspectives

The aspects of the world that can be transformed as a result of tangible discoveries, understanding of the nature of UAPs, and/or the discovery of the presence on Earth, outside the atmosphere, or within the solar system of active or non-active artefacts of ETC origin, would be immense, such as:

- The discovery of new sources of energy, clean in comparison to current fossil or nuclear energies, energies potentially inexpensive and unlimited in time, allowing the energy independence of all peoples and countries of this world, especially the poorest countries.

- The discovery and application of new forms of physics, biology and medicine that can be directly involved in the fields of health in order to fight against the horrible ailments that we know on this planet.

- The discovery of new properties of electromagnetic energy.

- A better approach and understanding of the properties of antigravity.

- The discovery of new properties in materials.

- The approach of new means of displacement in and out of the atmosphere, even in the solar system and at the stellar level.

- The discovery of new optical and physical properties of matter.

- The substantial improvement of the independence of the poorest countries in the fields of food and access to drinking water.

- A more efficient fight against endemic pollution, against the greenhouse effect and global warming.

- A considerable evolution in the body of knowledge in general disciplines.

- A great opportunity to extend our relational field! Since the origin of life on Earth, from the simplest to the most complex organisms, have without exception all used their energies with the ultimate goal of communicating, exchanging, learning and adapting, not only to live and survive, but also to move towards other stages of their evolution.

- A concrete possibility to see and think far beyond our borders thus allowing humanity to prepare for a future that can, in the medium and long terms (taking into account the life span of our star), only be envisaged in the exploration of other planets, other solar systems and other galaxies outside of ours.

- An exceptional possibility to see our humanity walking hand in hand with one or several other species, extraterrestrial biological entities totally unknown to this day, in order to go forwards together towards another step in the evolution of living.

- And many other perspectives not yet envisaged to this day...

Conclusion

The choice of research projects, their theoretical and instrumental orientations and their relevance, to be able to collect in a reasonable time exploitable data from a strictly scientific point of view are strategic!

Cost control, respect of public and private funds must always be kept in mind, they must also be a winning priority for any fundamental and applied research project wishing to go towards the study of UAPs and ETCs.

This includes both the academic and scientific dimension with the objective of publishing data and advances in international peer-reviewed journals as well as the human and civilizational dimension of all research projects on UAPs and ETCs.

Indeed, the deep objectives of research concerning the subject must be turned towards novelty, discovery and a hand stretched out towards the other, the exogenous and humanity, thus towards life in all its forms, and this in order to benefit the whole of human civilization without exception, and not for the benefit of the few!

The motivation of the research teams will have to truly be great considering the incalculable civilizational stakes, in all domains, that a potential academic discovery of the tangible existence of UAPS and understanding of their nature, as well as the potential physical real discovery of active and/or non-active ETCs artefacts, would bring to our world. Not to mention a whole new level of civilizational paradigm shift following the first official contact with an ETC, contact that could be triggered thanks to all the proactive scientific projects around the world on the subject.

This is why it is necessary to push as far as possible the reflections, the thoughts and the research avenues in order to be able to discover the impossible in the field of the possibilities which are offered to us in the scientific study of this file.

It is for this reason that all the experiments, theoretical or instrumental, whatever their orientations and objectives in the search for the understanding of the nature of UPAs or in the search for the presence of ETCs in the solar system, can only end in setting up the ultimate stage of all this process, namely, **the contact phase!**

This attempt to make contact must be thought through and initiated. It is an ultimate approach which must be done in parallel with the search and the detection of UAPs and ETCs.

Today we have the opportunity to take up one of the greatest scientific challenges of our time. The discoveries resulting from this formidable scientific, technical and human adventure could overnight profoundly, definitively and positively transform the life of the whole of Humanity on Earth, and of living beings in all their forms.

University projects of international scope such as the Galileo Project seem to be a first step of the fundamental element that could make a difference and bring not only this type of project to fruition, but also project the whole of humanity towards a new path of its destiny.

So, should we all go together against the current common thought and launch everywhere in the world multi-disciplinary university research initiatives on the subject and UAPs and ETCs file?

The answer is obviously: **Yes!**

Wasn't it Lasorda Tommy (1927-2002), who claimed loud and clear that

"The difference between the impossible and the possible lies in the determination."

Serge Tinland,

Seillans – France

Acknowledgements

For its proofreading, suggestions, debates, exchanges and corrections, I would like to thank:

Ms. Stéphanie Martin

Professional English translator and interpreter.

Mr. Ivan Brovelli

PhD in Contemporary History, associate researcher and professor of history-geography.

Olivier

Phd in Bioinformatics.

All my family and friends who for all these decades have given me unfailing support in all my dreams, intellectual adventures and fieldwork.

References

[i] Drbogdan (12 March, 2018)
https://en.wikipedia.org/wiki/USS_Nimitz_UFO_incident?oldid=830121350

[ii] Pavithra George (June 25, 2021) Reuters, https://www.reuters.com/lifestyle/science/normalizing-ufos-retired-us-navy-pilot-recalls-tic-tac-encounter-2021-06-25/

[iii] ODNI (June 25, 2021) ODNI, https://documents2.theblackvault.com/documents/ufos/2021-Government-UAP-UFO-Report.pdf

[iv] 12 September 2021 Drbogdan *[https://www.scientificamerican.com/article/looking-for-interstellar-monuments/ Search for Interstellar Monuments] (Avi Loeb; Scientific American; September 2021)* **https://en.wikipedia.org/wiki/Avi_Loeb**

[v] Avi Loeb (July 26, 2021) The Galileo Project https://projects.iq.harvard.edu/galileo

[vi] Avi Loeb (July 26, 2021) The Galileo Project https://projects.iq.harvard.edu/galileo/home

[vii] Avi Loeb (July 26, 2021) The Galileo Project https://projects.iq.harvard.edu/galileo/home

[viii] Serge Tinland (2007) Serge Tinland, Flashespace, 23.03.2007
http://www.thephenixproject.com/download/Interview_Flashespace_Fr.pdf

[ix] http://www.thephenixproject.com/en/concept.htm

[x] 3AF, SIGMA2 https://www.3af.fr/groupe/sigma2-phenomenes-aerospatiaux-non-identifies-43

[xi] Avi Loeb (July 26, 2021) The Galileo Project https://projects.iq.harvard.edu/galileo/people

[xii] Serge Tinland, The Phenix project (janvier 18, 2007) – Pistes d'études des UAP, Artefacts ETCs - http://www.thephenixproject.com/en/Default.htm

[xiii] Auguste Meessen, Revue française de Parapsychologie, vol.1 n°2, pp.79-102, 1998 – spectre ultraviolet et UAP – p14
https://www.meessen.net/AMeessen/Le_phenomene_OVNI_et_le_Probleme_des_Methodologies.pdf

[xiv] Auguste Meessen (2018) https://www.meessen.net/AMeessen/

[xv] Projet Hessdalen (Juin 1983) http://www.hessdalen.org/reports/Hessdal-article2000.shtml

[xvi] AMS http://www.itacomm.net/ph/radar/radar_e.pdf

[xvii] Project Starlight International (PSI) : https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/project-starlight-international

[xviii] Projet Hessdalen – Articles et Rapports (1984 -2017) http://www.hessdalen.org/reports/

[xix] Raymond D. Stanford https://usatoday30.usatoday.com/tech/science/discoveries/2008-01-12-dinotracker_N.htm

[xx] Astronautics & Aeronautics July 1971 - UFO ENCOUNTER 1 Sample Case Selected by the UFO Subcommittee of the AIAA
http://kirkmcd.princeton.edu/JEMcDonald/mcdonald_aa_9_7_66_71.pdf

[xxi] Nasa recherche sur les LTP : https://www.nasa.gov/centers/marshall/news/lunar/index.html

[xxii] Ref : Barbara Middlehurst, Jaylee Burley, Patrick Moore, et Barbara Welther, "Chronological Catalog of Reported Lunar Events", Nasa Tr, vol. R-277, 1968

[xxiii] Chronological Catalog of Reported Lunar Events Nasa Technical Report R-277 – July 1968

http://www.astrosurf.com/luxorion/ltp-NASA_R-277-1500-1799s.htm

http://www.astrosurf.com/luxorion/ltp-NASA_R-277-1500-1799s.htm

http://www.astrosurf.com/luxorion/ltp-NASA_R-277-1900-1967.htm

[xxiv] Christophe Olry, Futura Science, 12/12/2015 : https://www.futura-sciences.com/sciences/actualites/univers-etranges-phenomenes-lumineux-lune-mystere-resolu-7794/

[xxv] Nasa, SOHO, étude du soleil en temps réel : https://sohowww.nascom.nasa.gov

[xxvi] Interféromètre Ligo : https://www.ligo.caltech.edu

[xxvii] https://projects.iq.harvard.edu/galileo/scope

[xxviii] Nathalie Mayer, journaliste, 26/03/2021, Futura Sciences
https://www.futura-sciences.com/sciences/actualites/objet-interstellaire-oumuamua-ne-serait-ni-comete-ni-asteroide-ni-vaisseau-spatial-extraterrestre-78536/