

The Ufology Handbook

2013 edition.



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The Ufology Handbook

Introduction.

In the decades following their first appearance in 1947, UFOs have established a solid hold upon the popular imagination. Books, television, magazines, internet pages and newspapers detail a dazzling diversity of sightings, from the latest astounding encounters to the notable UFO events of yesteryear. In each quoted instance they seem totally beyond explanation, their origin beyond understanding.

But is that truly the case? For all the astounding claims made about them, the scientific community remains sceptical of UFOs, as (it appears) are the governments of every major world power.

So, what is the truth about UFO's? The best answer anyone can give at present is that nobody really knows for sure; in that sense they remain a real-life mystery. However, there are many aspects of the UFO phenomenon that are well documented.

In this booklet, the author attempts to briefly outline the history of the UFO problem as well as its basic attributes; hopefully answering the majority of questions you have ever wanted to ask about this subject.

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UFOs; THE HISTORICAL PERSPECTIVE.

THE BIRTH OF MODERN UFOLOGY

The UFO as we know them today came into being around 2.59pm on Tuesday, June 24th 1947. Kenneth Arnold (a fire control systems engineer) was flying his private "Callair" aircraft over the Cascade Mountains in Washington State, USA through a clear, turbulence-free sky, attempting to locate a missing C-46 aircraft (a reward having been offered for its recovery). Puzzled by a bright flash reflecting onto his aircraft, he looked around him for the source of this reflection. As he did so, Arnold caught sight of a "diagonal chain" of nine "mirror-bright" objects moving in a manner "a saucer would if you skipped it across the water". It was on his description of their motion (and not their shape, as many believe) from which the expression "Flying Saucer" originates. Kenneth Arnold's sighting was widely featured in the newspapers of the day, causing a minor sensation throughout the United States.

In the wake of the publicity surrounding this seminal UFO report, many other people came forward with "flying disc" sightings of their own, some which occurred several months before Arnold's experience.

UFO's IN EARLY HISTORY

Observations of strange aerial phenomena have been claimed throughout recorded history. There is much debate whether certain ancient religious texts and myths contain references to "UFOs" (such as the vision of the prophet Ezekiel featured in the Old Testament). There are many accounts dating from Classical, Medieval and Renaissance times chronicling sightings of flaming spears, burning shields, dark globes and ships seen in the sky. Similar aerial oddities feature in diverse scientific journals throughout the 17th, 18th and 19th centuries. These events could be early UFO manifestations, or simply the natural phenomena which still initiate spurious UFO sightings in our time. There are also alleged pre-20th century accounts which are suspected hoaxes; two notable examples being the so-called "Tulli papyrus", detailing "circles of fire" supposedly seen in ancient Egypt in the reign of Pharaoh Thutmose III (circa 1500 BC) and an account of a shiny disc purportedly seen over Byland Abbey, Yorkshire, England, during the 13th century.

THE 1890'S AMERICAN AIRSHIP WAVES

However the first instances of aerial phenomena comparable to modern UFOs occurred in the United States during 1896 and 1897. Various newspapers recounted nocturnal observations (mainly in the central region of North America) of dark elongated forms carrying brilliant "searchlights", moving in an erratic (by our standards) slow-moving manner. Similar "airship" reports appear in other parts of the world thereafter; Britain experiencing several such "waves" of sightings from 1903 to 1914. Those who took these reports believed the airship was the secret construction of an American inventor, who would eventually come forward once his craft had been either perfected or patented. The media at the time featured the claims of various individuals who alleged they had constructed it (none of which were ever substantiated). Others entertained the possibility that the airship(s) originated from the planet Mars. Others blamed the clandestine activities of certain foreign powers (the Spanish and Germans during the American and English airship "scares" respectively).

As far as aviation history is concerned, airships were on the verge of being perfected in the 1890's, and became fully viable during the early 20th century. There is no solid evidence that the 1896-97 reports were instigated by any flying machine known to have existed at the time (although some believe an airship could have been secretly constructed, somehow destroyed and as a result lost to history). It is however known that a number of the American airship sighting-claims are hoaxes. One notorious example of such a fabricated reported is the claim made by Alexander Hamilton (and others), describing six "strange... beings" hauling a calf aboard their vessel in Le Roy, Kansas in 1897 (the report a prank, perpetuated by a so-called "liars club"). Some suspected at the time that at least some incidents were observations of bright stars or the planet Venus.

FOO FIGHTERS AND GHOST ROCKETS

The next recorded instance of pre-1947 "UFO" phenomena occurred during World War 2. Many pilots claimed observations of Foo Fighters; silvery-coloured "spheres" or orange, reddish, white or yellow "balls" of light which reportedly "paced" or "played tag" with aircraft for protracted periods of time. Most of the records we have of this phenomenon come from Allied (mainly American) aircrew, but similar observations were also made by Axis pilots (the extent of which has yet to be determined). The name "Foo Fighter" (used mostly by American pilots) possibly relates to "Feu" (the French term for fire), and is thought to be inspired by a sarcastic aside from the (then-popular) "Smokey Stover" comic-strip; "Where's there's foo, there's fire". At the time they were believed to be secret weapons

developed by either the Axis or Allied powers; however, no convincing evidence to support this assumption has ever been uncovered.

In 1946 (just a year before "the" birth of the UFO) high-altitude cigar or fiery spool-shaped objects were seen over the night skies of Denmark, Sweden and Norway. These so-called "Ghost Rockets" were often reported to explode in mid-air or "crash" into lakes. Some alleged "ghost rocket" fragments were recovered on at least one occasion but were found to be simple lumps of carbon! When assessed by the Swedish Defence Staff, most reports could be explained as observations of bright meteors or aircraft, around 20% of sightings could not so accounted for.

AMERICA AND THE UFO; A HISTORICAL OVERVIEW

America, being the country where the concepts of UFO's were conceived was, as a result, the focus of many of the penultimate events in the subject's development. For almost thirty years various political and military bodies in this country were concerned with assessing the phenomenon. America's conclusion that they were probably explicable in natural terms and hence posed no threat to anyone's liberty or airspace has markedly influenced the UFO policy of numerous other countries.

The first appearance of the "flying saucers" in 1947 initially caused the government of the United States notable concern, due to their unknown origin and their (reportedly) superior flight characteristics. The first UFO reports were investigated by the Air Technical Intelligence Centre (ATTIC), based at Wright Pattern Air Force Base in Dayton, Ohio (due to this department's brief of monitoring developments in aircraft and missiles by foreign powers). With the "flying discs" appearing at the beginning of the Cold War, there were genuine fears that they could be Russian devices (possibly constructed with the aid of German rocket-scientists captured at the end of World War II).

The early saucer sightings were deemed sufficiently convincing for ATIC to request the establishment of a project to study them. As a result, Project Sign was founded in December 1947. **Sign** was given a high "2A" priority rating and a "Restricted" security classification (until the early 1950's, even the very names of project "Sign" and "Grudge" were classified information; both being publicly referred to as "Project Saucer"). From the beginning, opinion within Project Sign concerning UFOs was (often emotively) divided between those who thought the sightings were natural phenomena, hoaxes and hallucinations and those who believed they involved advanced aerial devices. In late 1948 (following a number of startling high-profile sightings) Project Sign issued a top-secret "Estimate of the Situation". This lengthy

report detailed the case for an extra-terrestrial origin for UFOs. These conclusions were subsequently rejected as poorly-substantiated speculation by the (then) Air Force's Chief-Of-Staff General Hoyt S. Vandenberg.

The study-project was swiftly reorganized as a result of this high-level dismissal of its findings. Those within Sign who supported an extra-terrestrial origin for UFOs were gradually reassigned elsewhere, and the project was renamed **Project Grudge** early in 1949. Project Grudge was assigned the task of deflating the "UFO craze" by attempting to explain all sightings reported to it and (through the media) publicly demonstrate that "flying saucers" had no objective existence. It issued a lengthy report in 1949 concluding that UFO's were not a threat to either America or her allies, and that "there is no evidence that objects reported upon are the result of an advanced scientific foreign development...and constitute no direct threat to national security".

In late 1948, numerous observations of so-called "green fireballs" were reported from the American state of New Mexico. Some astronomers felt they were too green, large and bright to be conventional meteors (their trajectories also being slower and horizontal than "conventional" bolides). The fact that the sightings involved repeated, localized observations of a phenomenon with near-identical attributes only added to the uncertainty. Furthermore, when their trajectories were plotted (and subsequently checked) no meteorite fragments were ever discovered.

To resolve the uncertainty surrounding the green fireballs, the USAF initiated **Project Twinkle** in the summer of 1949, involving the usage of specialized tracking-cameras to acquire solid evidence of this phenomenon. Although the project had initially planned to use three cameras, only one actually entered service (due to a lack of funding and manpower). Project Twinkle was eventually cancelled in the middle of 1950 (due to military spending being prioritized for the Korean War), the single fielded tracking-camera failing to record any fireball events. However, the green fireballs were still reportedly seen in the New Mexico area for (at least) several years afterwards. It was later suggested in the early 1960's by astronomer D. H. Menzel that they may have been "cometoids" composed of frozen nitrogen (explaining their colour and the lack of recovered fragments).

It was at this time that Dr. J. Allan Hynek (then Professor of Astronomy at Ohio Sate University) first became involved in the subject, acting as astronomical consultant for the various USAF study projects. At first sceptical of UFO reality (and, as a result, often the target of the ire of UFO

buffs), Hynek eventually reached the conclusion that some sightings had an extraordinary origin, warranting more than causal dismissal. Following his retirement in the early 1970's he became the subject's most prominent champion, founding the Centre of UFO Studies in 1973. He played a major role within the world UFO movement almost right up to his death in 1986. The organization he helped established (now renamed the J. Alan Hynek Centre for UFO Studies in his honour) still remains active, acting to stimulate interest in the UFO problem within the scientific community.

By this time, it was apparent that most sightings could be explained fairly satisfactorily as mistaken observations of such things as weather balloons, the planet Venus and aircraft. However, despite their efforts, 23% of Project Grudge's reports were classified as "unknowns". However, Grudge believed nonetheless *that "all evidence and analysis indicate[s] that ..(UFO). .reports are the result of: 1: Mis-identification of various conventional objects, 2: A mild form of mass-hysteria and war-nerves, 3: Individuals who fabricate such reports to perpetuate hoax or to seek publicity.. [and]..4: Psycho-pathological persons"*. Following a decline in the number of UFO reports (which some believed was the "flying saucer fad" running its course) Grudge entered a virtually dormant state. Fresh UFO reports were (minimally) processed through normal intelligence channels, and its records of past sightings were placed in storage.

However, as the number of UFO reports began to pick up again in the early 1950's Grudge (renamed **Project Blue Book** in 1952) was revitalized under the directorship of Captain Edward J. Ruppelt. The USAF study-project reached its zenith during his administration; conducting detailed and balanced assessments of the UFO sightings it investigated.

In January, 1953 fresh concern over UFO sightings resulted in the C.I.A. convening an evaluation committee, comprising of a panel of technical experts headed by physicist Professor H. P. Robertson. After taking a week to examine various items of UFO evidence, the so-called **Robertson Panel** concluded that UFO's did not pose a threat to national security. Concerned over the possibility that large numbers of spurious UFO reports could clog military intelligence channels in a time of crisis, it recommended that *"UFO's were to be stripped of the aura of mystery they had so unfortunately acquired"*. It recommended that an information campaign be conducted to reduce the "current gullibility of the public" regarding UFO reports.

Following the conclusions of the Robinson Panel, Project Blue Book became less dynamic. Its staffing-levels and funding reduced, Blue Book's

investigations into UFO sightings became minimal, with many reports being "explained" in a presumptive and arbitrary manner.

In 1966, with Blue Book savaged by protracted public criticism, the USAF founded an independent short-term project, whose aim was to conduct detailed scientifically-based investigations into a limited number of UFO events (assisted by a wide range of scientific disciplines ranging from astronomy to psychology). This program (staffed mainly by scientists) was headed by Dr. Edward U. Condon and based at the University of Colorado. On the project's termination in 1968 it concluded "that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby". The University of Colorado's UFO project was typified by notable in-fighting, controversy concerning the actual impartiality of those involved and the fact that (despite its negative verdict and its policy of in-depth case investigation) some 33% of the reports it studied were listed as "unexplained". Following the publication of the Colorado project's report into its activities (in what is usually termed the "Condon Report") Project Blue Book was closed down in 1969. In 1977, France established a body called **GEPAN** (which continued until very recently, albeit in a reduced form. Several recent efforts within the ECC to found a Europe-spanning UFO co-ordination effort floundered in the mid-1990's due to a lack of support.

Civilian UFO Research

There were many who were unhappy with the sceptical (even dismissive) attitude towards UFOs adopted by Project Blue Book. This resulted in the birth of a civilian study movement in the United States, devoted to conclusively proving the reality of UFO's. During this era the two largest unofficial UFO societies active were **APRO** (the Aerial Phenomena Research Organization, founded in 1952) and **NICAP** (the National Investigation Committee for Aerial Phenomena, established in 1956). Both groups are now no longer active. Given the UFO study movement was born out of disaffection with official attitudes, it is unsurprising that the 50's and 60's were a time of bitter verbal conflict between the USAF and these various civilian UFO groups.

Since 1969, the majority of UFO investigation and research work has been conducted by nonofficial study-groups staffed by civilian volunteers. In the United States **MUFON** (the Mutual UFO Network), established in 1967, gradually evolved to become America's dominant civilian UFO group and is now currently the largest such UFO society in the world.

By the mid-1990's the United Kingdom was dominated by three large UFO groups; **BUFORA** (the British UFO Research Association, established in

1964), **Quest International** (initiated in 1981 as **YUFOS**, the Yorkshire UFO Society) and **Contact International** (founded in 1967). Quest International however, ceased to exist as a UFO group by the mid-1990's, thereafter taking the form of a colour A4 publication called **UFO MAGAZINE**, which managed to achieve (and sustain) newsstand circulation for almost a decade. This magazine ended publication in March 2004 following the death of the journal's editor, Graham Birdsall; although several internet-based magazines ("**UFOData**" and "**UFO Monthly**") have been subsequently established by some of those formerly involved in **UFO MAGAZINE**. **UFOData** subsequently organised several large UFO conferences following its establishment and demise.

By 1997 **BUFORA** possessed both a significant membership base and produced an A4 colour-cover magazine entitled **UFO TIMES**. However, the downturn of interest in the subject manifesting from the late 1990's onwards resulted in **BUFORA** suspending its publication (thereafter utilising the group's website as its prime mode of communication) and restricting membership to active researchers and investigators only. While **Contact International** also still exists, it has also experienced a degree of contraction; the contemporary British "UFO scene" dominated by numerous small local groups who widely utilise websites and Internet forums as their main means of communication. Despite this trend, the United Kingdom is also host to the publication **Flying Saucer Review** - a private circulation magazine which commenced publication in 1955 and remains in production.

OFFICIAL ATTITUDES TO UFOs IN THE UNITED KINGDOM.

In 1952 Prime Minister Winston Churchill sent a memo to the (then) Air Ministry asking "what does all this stuff about flying saucers amount to?" Basing their findings on the USAF study-projects, the Air Ministry concluded that all UFO sightings were probably explicable as natural phenomena, hoaxes and hallucinations. The United Kingdom has never conducted any long-term monitoring of reports comparable to Americas Project's Sign, Grudge or Blue Book. A memo written in the mid 1960's to the USAF stated that no serious political pressure had been mounted in England to establish a Blue-Book style project, due to the Air Ministry's policy of "play[ing] down" the UFO subject. This is ironic, given that the Air Ministries' policy on UFO's was itself based on the findings of Project Blue Book! In 1979 the late Earl of Clancarty tabled a motion in the House of Lords for a Governmental study of UFOs. This motion was defeated on the grounds that "there are a wide range of natural explanations to account for such phenomenon" and that "there is nothing to suggest ...[they]... are alien space craft".

The Air Ministry was replaced by the Ministry of Defence (MOD) in 1964. Its view of UFO reports remained identical to that of its precursor. The MOD (as the USAF) works on the assumption that virtually all UFO reports have rational solutions. MoD-derived sighting statistics printed in 1969 shows around 10% of reports listed as "Unidentified (Insufficient information)".

Prior to 2009 UFO reports made through official channels (i.e. those reported or originating from military bases, civil airports and the police) were passed onto various "filter" military establishments, who then submitted them to a MOD secretariat termed **DAS**, based in Whitehall, London. British UFO sightings reported through official channels had always been given a fairly low priority; DAS being the same department responsible for complaints relating to low-flying aircraft. The MOD's interest in a UFO report was only to determine whether the "object" observed posed an actual or potential threat to Britain's security. Once it was apparent a sighting had no "defence implications", investigation into it ceased. In regards to unidentified RADAR contacts "penetrating" UK airspace, the Royal Air Force (as all other air-forces throughout the world) are known to use "various means" to identify them, including interception.

The precise structure of the government's UFO sighting evaluation system remains shrouded in secrecy. However, it is almost certain that DAS passed sightings onto so-called "Air Defence Experts" (MOD staff with extensive knowledge of aircraft, meteorological phenomenon, RADAR systems, etc) for evaluation. It has been further suggested that RAF Rudloe Manor (an extensive facility in Wiltshire known to deal with low-flying infringements and other matters) once played a significant part in the government's UFO assessment activities.

UFO's are raised from time to time in the House of Commons; mainly in form of Questions from Members of Parliament (M.Ps) concerning specific UFO events occurring in their constituency. Sometimes requests from M.Ps to clarify current policy regarding UFOs or the number of reports made in a given year are forwarded to (and answered by) the Secretary for Defence.

In January 1995 an apparent near-collision between a Boeing 737 jet and a wedge-shaped object approximately 14 km SE of Manchester Airport resulted in an air-miss enquiry being conducted by the Civil Aviation Authority (CAA). They were unable to discover a mundane solution for this incident, officially concluding in the final report that "the nature and identity of this object remains unknown".

From 1997-2000 a presently unknown military contractor was given the task of formally assessing the UFO issue by the MoD. The final report

(codenamed **Condign**) - which involved only an indirect assessment of the evidence - concluded UFOs were unlikely to have an extraterrestrial origin. It further concluded that "unexplained" reports were probably instigated by sightings of natural plasma-like phenomena, which the Condign authors termed "UAPs". These conclusions appear to have resulted in DI55 ending it's monitoring of UFO reports.

Attempts to determine the Government's past and present involvement with UFO's were hampered by the considerable secrecy inherent throughout the whole English "body-politic", prior to the **Freedom Of Information Act (2000)** (FOIA). All official documents were withheld for at least 30 years before being publicly disclosed. However as a consequence of the FOIA and pressure from UFO researchers David Clarke and Gary Anthony resulted in disclosure of the Condign Study in 2006, in addition to numerous UFO-related documents and concise listings of recent sightings reported to the MoD. As with all previous releases, the documents infer (as a totality) that actual MoD policy and approaches to UFO reports reflected its publicly-stated stance. One significant fact which emerged is that the MoD generally ceased visiting witnesses after 1967; thereafter only conducting indirect enquires into sightings. The MoD UFO sightings desk was formally closed in 2009; doing as (in their view) some sixty years of monitoring reports failed to uncover any evidence of them posing a threat to the security of the British isles. All surviving MoD records relating to UFO have now been submitted to the National Archives as a consequence of the Freedom of Information Act.

UFO BASICS

To understand what a UFO actually is, one must first define both what the term means and what human experiences it is applied to. "**UFO**" is the acronym of **Unidentified Flying Object**, a term first popularized by Edward J. Ruppelt in the early 1950's. "UFO" was intended to replace the expressions "**Flying Saucer**" and "**Flying Disc**". These two earlier terms had (by the 50's) both become much derided by sensationalist media coverage and rendered inaccurate by numerous sightings of non-discoid "objects". However (despite Ruppelt's efforts) the expression "flying saucer" is still used by popular culture even today. There have been many attempts to define the UFO. One of the best was suggested by the so-called "Condon project" in the late 1960's, which defined "UFO" as equating to;

"...the stimulus for a report made by one or more individuals of something seen in the sky (or an object thought to be capable of flight but seen when landed on the earth) which the observer could not identify as having an ordinary natural origin..."

The fact that a plethora of differing phenomena are (probably) "grouped" under this (and every) definition of a "UFO" has resulted in extreme difficulties in determining the phenomenon's parameters. The fact that such events always occur out of the blue (and usually leaves no physical proof in their wake) has handicapped attempts to discover the nature of the phenomena to a considerable degree.

To determine whether an UFO report can be deemed truly anomalous, it is necessary to conduct an investigation into that incident; comparing the "UFO's" attributes to that of various mundane phenomena. When this is conducted (given the sighting-account contains sufficient information to permit a reasoned assessment) it is discovered that around 80-95% of all reports are explicable in terms of misperceptions of natural and man-made objects, hoaxes and hallucinations. Such "false" UFO sightings are collectively termed "IFOs" (or Identified Flying Objects).

However, around 5-20% of sightings also appear to be "True UFOs"; reports that (even following an intensive investigation) cannot easily be explained as misperceptions, hallucinations or fabrications. Most UFO investigator or researchers (collectively termed *Ufologists*) use the term "UFO" as a general description for all claimed sightings, whether explicable or not (hence the need to use terms such as "true UFO" or "IFO" when precisely discussing specific types of reports). Around 15% of all reports are too ill-defined to permit a reasoned evaluation (important details such as date and/or duration of observation being absent or poorly recalled). Such observations are referred to as "Insufficient Information" incidents. Technically, they are neither True UFOs nor IFOs, and are effectively set to one side in the (usually forlorn) hope that further data concerning them will be eventually uncovered.

Defining the UFO...

To further the cause of UFO research, UFO (& IFO) reports are placed into various (arbitrary) categories, based on either their reported distance from the observer(s) or on the general nature of what allegedly occurred. The system most often used in Britain today was originally devised by Dr. J. Allen Hynek in the early 1970's and later amended during the late 1970's by British researchers Peter Warrington & Jenny Randles. This system defines UFO reports in the following manner;

- The term **LOW DEFINITION (LD)** is used to define UFO reports involving claimed observations of a single pin-point of light, a "cluster" of multiple lights or a poorly-defined (often unilluminated) shape - the term **LITS (Lights In The Sky)** also being utilised to describe such events by many UFO investigators. On the other hand, UFOs described as having a well-defined shape are classified as **MEDIUM DEFINITION (MD)** incidents.
- UFO events involving alleged effects on a human, animal, machine or its surrounding area which cease once the UFO leaves the sighting location are labelled **CLOSE ENCOUNTERS OF THE FIRST KIND (CE1)**, while the term **CLOSE ENCOUNTERS OF THE SECOND KIND (CE2)** describes UFO events where alleged UFO-originated effects on humans, animals, machines and/or the environment reputedly occur and endure for some period following the sighting.
- **CLOSE ENCOUNTERS OF THE THIRD KIND (CE3)** define UFO reports which also encompass claimed observations of supposed UFO "entities". Additionally, some researchers specifically define a certain type of entity encounter - the so-called **UFO "abduction"** - or incidents featuring notable psychic elements as **CLOSE ENCOUNTERS OF THE FOURTH KIND (CE4)**, although the use of this particular definition class remains controversial.

- Ufologists often refer to UFO events classified as CE1's (or higher) as "**High Strangeness**" incidents, due to them being associated with more anomalous aspects than LD or MD reports.

- **INSTRUMENTALLY DETECTED (ID)** events - sometimes treated as a sub-category of the various other UFO "clades" - relate to UFO reports involving a stimulus reputedly recorded or detected by a device during the sighting; which can potentially range from a camera to a RADAR scope.

It is estimated (on figures derived from various "opinion polls") that 2%-7% of the British population (1.1 - 4 million people) have observed what they believe to be a UFO. It is further estimated that only around 10% of these witnesses report their sightings to a formal body and/or civilian UFO societies. This would suggest that a total of around 100,000-400,000 recorded British sightings exist, held by the various bodies involved in collating UFO data.

IFO Types.

Obviously, these substantial figures do not indicate that we have hordes of alien space vessels flying overhead! As previously explained, of those containing sufficient data to permit an investigation, 80-95% of any given sample of UFO events turn out to be explicable. Many such reports involve very basic text-book descriptions of various mundane phenomenon, so basic that they are often identified by simply asking a few basic questions to a witness over the telephone. Other IFO-based incidents are more complex, requiring a major effort to resolve them.

**FIGURE 1:
Sample of 1,003 UK reports investigated by the Northern UFO
Network during 1978-1979
(divided into UFOs & IFOs and grouped by sighting-class):**

	UFOs:	IFOs:
LD	14.0%	51.0%
MD	54.0%	45.0%
CE1	21.0%	3.0%
CE2	3.0%	0.3%
CE3	7.0%	0.3%
CE4	1.0%	0.3%

From Randles 1981: pp 24-27

Whatever their level of complexity, Ufologists have discovered most IFO reports are instigated by only a few types of natural and man-made phenomenon (with other causes appearing only occasionally).

FIGURE 2:

Common sources of IFO reports and the *approximate* percentage of explicable sightings they generate (based on a dataset composed solely of IFOs):

Stars & Planets.	33%
Aircraft.	40%
Bolides and Satellite re-entries.	10%
Other (birds, flares, clouds, etc.)	8%
Weather/Research Balloons	5%
Hoaxes	2%
Hallucinations	2%

Based on Hendry, 1980.

(see Figures **3a** and **3b** below for a more detailed breakdown of IFO types)

Aircraft and helicopters generate a considerable number of IFO reports. Depending on an aircraft's angle and distance to an observer, anything from one to four or more lights may be observed. Aircraft body-lighting follows precise regulations established many years ago by the C.A.A (Civil Aviation Authority). A white light must be located on a aircraft's tail, a green light on the left wing, a red light on the right wing, with one (sometimes two) red flashing lights mounted on the fuselage. Alternatively, brilliant white strobe lights can be used on the wings and tail, in place of the conventional steady white, green and red lights. Furthermore, all aircraft are equipped with brilliant landing lights. These are switched on long before touchdown during misty, nocturnal conditions and can be seen from many kilometres away. A physiological process called perceptual filling may result in an observers' mind "joining together" a configuration of lights, resulting in them perceived as being attached to a darkened, unearthly-looking (but spurious) form.

Aircraft can also assume very strange illusory shapes even under daylight conditions. If travelling directly towards a witness, an aircraft can

temporarily assume a "domed disc" like appearance, or a shiny cigar/disc shape object if viewed from sideways-on or below during a sunny day (its wings obscured by distance, angle or solar glare).

In the United States light aircraft are employed in nocturnal advertising ventures, employing a matrix of lights attached to a metal grid (located either below its wings or trailing behind it). When activated, it functions as a luminated bill-board, able to display a variety of computer-generated commercial messages. If viewed from some distance (on an odd angle), they can present a confusing, shifting light-pattern, often taken to be a rotating flying saucer by the unwary! Such advertising aircraft of this type are currently rare in Britain; airships using near-identical "bill-boards" (positioned on the sides of its gasbag) see limited use – but have nonetheless generated numerous "UFO" reports.

Airborne refuelling tanker-planes may be occasionally observed in certain parts of the United Kingdom (often near coastal regions and restricted military air-zones). They utilise a number of non-standard diverse lighting configurations located on their wings and fuselage. Operating at considerable altitudes, their engine noise is often muffled by their marked distance from ground-based observers.

Bright naked-eye **planets and stars** represent another common source of IFO reports; the planet Venus being the most commonly misperceived astronomical body. The majority of astronomical-derived incidents involve nothing too outlandish; usually observations of stationary distant lights visible for ten minutes or more. However, they can also be subject to numerous adverse perceptual and atmospheric effects. They can rapidly and repeatedly "flash" different colours of the spectrum (often white, red, green and blue). This effect is induced by atmospheric turbulence, a more extreme variety of the condition which causes stars to "twinkle".

Otherwise unnoticeable involuntary eyeball movements become starkly apparent when observing a bright light against a dark, featureless background. This phenomenon (termed the *autokenesis effect*) can cause a star or planet to make apparently erratic, stop-start "darting" motions confined to a limited area of sky. Similar motions can be induced by viewing an astronomical object through hand-held binoculars or a camera, (induced in this instance by involuntary hand-tremor). Finally, induced motion is another effect able to impart illusory motion onto a stellar body. A star or a planet viewed from a moving vehicle will seem to "follow" or "pace" it, stopping and starting when the vehicle does.

Bolides are super-bright, long-duration meteors which have generated a fair share of spurious UFO reports over the years. Bolides are usually seen during the night, but exceptionally bright ones may be visible in daylight. They often described as resembling a glowing sphere or (at night) a darkened cigar or disc with luminated "windows". These so-called "windows" are, in actuality, fragmented sections of a bolide luminated by atmospheric friction and following the same course as the original complete body. In either instance a long, incandescent trail is nearly always emitting from its rear. Bolides follow continuous straight or curved trajectories, and are usually visible for 10 seconds or less (up to 30 seconds in a few rare instances); a bolides' demise often marked by it exploding with a loud bang. Expended rocket-sections or satellites re- entering the atmosphere results in a similar phenomenon, but tend to be slower moving and visible for around two minutes.

Weather balloons are responsible for many daylight "UFO" observations. The majority of spurious reports are generated by large balloons used to accumulate data on upper-atmospheric conditions. The smaller (more common) "radiosonde" type balloons are harder to observe and burst within hours of launch, but research balloons can endure for many weeks, travelling a notable distance during their "lifetime". Balloons can (depending on lighting conditions, viewing angle and degree of inflation (which changes with height)) assume a spherical, tear drop, triangular or discoid shape. Their colour is dependent on the prevalent lighting conditions; white or silvery on a sunny day, greyish when overcast. They may even slowly "change colour" (from white to red) when observed around sunset. Balloons drift with the prevailing wind, but may suddenly shoot rapidly upwards and/or temporally dart off in a different direction if caught in a air-thermal. Really high altitude balloons can travel on upper-atmospheric winds, which may blow in a different direction to winds prevalent at lower altitudes.

Artificial satellites appear to the naked eye as a single, distant, whitish pin-point of light traversing along a swift, continuous arch-like path. A satellite may vanish suddenly near the horizon, as it becomes eclipsed by the earth's shadow. They can also seemingly assume a "zig-zag" course, an illusion also resulting from the autokenesis effect. Satellites were once a notable source of IFO reports, but are less so today.

Since their introduction in the early 1980's, **laser-light displays** have become a major source of IFO reports. Sightings from those unaware of their actual origin described either a multitude of swiftly-moving white lights executing repeating, rhythmic motions (such as circling, meeting at a single point and then shooting away) or a dark spinning "disc" with white lights

running around its edge. These displays can be seen from a considerable distance if the prevailing cloud base is fairly high.

Since the late 1990s luminous airborne “sky lantern” balloons commonly termed “**Chinese Lanterns**” (but also sometimes known as Khoom Fay, Khom Loy or Kung Ming) have become popular in the UK, mass releases being used to mark weddings and outdoor parties. These can be manifest as one (often 3 or more) glowing orange/red glowing orbs traversing across the sky often in a slow climbing motion and enduring for around 15 minutes, vanishing suddenly as the lantern burns up in flight. Their current popularity is such that they have quickly become a significant instigator of “UFO” reports in the UK and elsewhere in the world

Small disc-shaped helium balloons, up to one foot (30 cm) in diameter and coloured silver on one half and dark on the other, have instigated a significant quantity of “UFO” reports since the early 1980’s. These tend to be seen at fairly low elevation drifting with the prevailing ground-level wind. If perceived as a largish object some distance from the observer they will be reported as moving relatively fast. As these are often sold at fetes it may be useful for investigators to check whether such an event occurred downwind of the observer.

Solar Balloons are large dark tubular shaped balloons composed of very thin black plastic usually around 8 metres long. They are inflated by wafting air inside the fabric and then sealing the open end; exposure to ambient sunlight warming the air within it being sufficient to generate lift. They are usually only flown during cool, sunny days with little or no wind. While normally tethered, they can sometimes escape their owner’s grasp; thereafter capable of reaching high altitudes (up to 9,000 metres (30,000 feet)) and drifting hundreds of kilometres from their point of origin. A solar balloon can be perceived as a large dark vertical tube/cigar shaped “UFO” with rounded ends, often exhibiting a repeated slow “sew-saw” tumbling motion. However, they can be “bespoke made” from thin bin-liners - hence disc, tetrahedral and other (even exotic) shaped solar balloons are possible.

Birds, parachute flares, model aircraft, airships, drone aircraft, spotlights and highly-reflective "Mylar" kites also generate numerous reports, but much fewer in comparison to aircraft, balloons and astronomical bodies. Rarer still are sightings instigated by Ball lightning, mirages, lenticular or noctilucent clouds and sun (or moon) dogs (fuzzy glows created by free-floating ice crystals, reflecting the light of either the sun or the moon).

Almost as uncommon are sightings based on subjective causes, such as myopia (the so-called "spots before the eyes" effect) and "after-images" (transient "blurs" on the eyeball caused by staring at bright light-sources). Despite the remarks of various casual UFO detractors, few reports involve either alcohol or narcotic-induced hallucinations. Those that do appear mainly involve naturally-induced altered states of mental consciousness (especially common in people on the verge of falling asleep or waking up).

Hoax sightings are also quite rare, only amounting to around 5% of all reports. Fabricated "UFO" experiences tend to relate to photographs, purported physical traces and claims of "close encounters", rarely basic observations of aerial "objects"

FIGURE 3a:
Statistical break-down of 1,051 "UFO" sightings originating from Northern England during 1975-1979:

IFOS: 785 (74.60%*) INSUFFICIENT DATA: 111 (10.56%) TRUE UFOS: 155 (14.74%).

* or 85.20% if also incorporating all "insufficient data" reports.

Breakdown of IFO types....

**AIRCRAFT: 312 CONTRAIL: 9 HELICOPTER: 38 AIRSHIP: 2 BALLOON: 53
MODEL AIRCRAFT: 1 KITE: 4 FLARE: 14 METEORS: 84 SPACE DEBRIS: 4
SATELLITES: 48 STAR: 55 JUPITER: 1 VENUS: 20 MOON: 18
SUNSPOTS: 1 BIRDS: 20 CLOUD: 11 INSECTS: 2 FIRE: 4 MIST: 1
SUNSPOT: 1 AURORA: 1 GROUND LIGHTS: 9 DOG: 1 FUNGUS: 1
BALL LIGHTNING: 12 ELECTRICAL SPARKS: 3 CORONA DISCHARGE: 3
FILM DEFECT: 1 AIR RESIDUE: 1 OPTICAL PHENOMENA: 20
PSYCHOLOGICAL: 10 HOAX: 17**

From Randles, J (1983) *UFO Reality* London: Robert Hale; pp.25- 27.

FIGURE 3b:

205 UK reports Jan 1980- Dec 1982 (from BUFORA records):

IFOS: 118 (57.5%) INSUFFICIENT DATA: 57 (27.8%) UFOs/UAPs: 30 (14.5%)

Breakdown of IFO types.....

**AIRCRAFT: 28 METEORS: 18 C/L(?): 11 VENUS: 10 STARS: 7
BALLOONS: 7 SATELLITE: 5 BALL LIGHTNING: 5 SIGNAL FLARES: 4
HELICOPTER: 3 JUPITER/SATURN: 2 MOON: 2 HOAX: 2
HALLUCINATION: 2 KITE: 2 LIGHTHOUSE: 1 SEARCHLIGHT: 1
GROUNDLIGHT: 1 REFLECTIONS: 1 NOCTILUCENT CLOUD: 1 FIRE: 1
FARM EQUIPMENT: 1 MYOPIA: 1 VAPOUR TRAIL: 1**

From Wootten, N.R. (1985), "A Statistical Overview 1980-1982". *JTAP (Journal of Transient Aerial Phenomena) Vol 4, issue 1 pp.20-27.*

THE "WHO", "WHERE" & "WHEN" OF UFO REPORTS.

Who studies UFO reports?

The term "Ufology" defines the study of UFO sightings and the theoretical elements relevant to that issue. However, "professional" Ufology" as a subject does not exist, largely attributable to the scepticism this subject is within mainstream academic and scientific circles. While it is true that there **are** scientists who show an active interest in UFO's, such individuals initially acquire a degree (and, following their graduation, continue to work in) a conventional, long-established area of academic study; such as physics, chemistry, etc. It is fair to say such people are not so much Ufological scientists but scientists who happen to be Ufologists! They often have to tread carefully; aware that important funding at their university could be jeopardized through them making reckless statements to the media concerning UFO's. However, it has been known for students to sometimes be granted approval to write doctoral thesis on a ufological topic in the "soft" sciences, such as sociology, media studies and philosophy. But this practice is a much less accepted one in the "hard" sciences, such

as physics and chemistry; an attitude resulting in the formation of the so-called "**invisible college**"; a small, discrete group of physical scientists who happen to share an interest in the UFO problem.

Given the nature of this issue, the disciplines useful in the study of UFO's is **very** broad; covering such wide areas of expertise that no one person could possibly be qualified in them all. The most important of these subjects include Astronomy, Chemistry, Engineering, Geophysics, Information Technology, Meteorology, Physics and Statistics. Archaeological, Medical (or Veterinarian) skills also occasionally come into play.

However, the term "professional ufologist" can **also** be taken to mean someone who is **paid** to investigate and research UFO's. As a career, this is possible, but **very** difficult. The only people able to pursue such a calling are writers and journalists. It is very difficult to become an established writer; many hundreds try, but few ever get their work published by mass-circulation publishers. Being paid to write about UFO's obviously requires a large quantity of people interested in buying such material. Interest in UFO's is fickle, and a mass audience often tire of this subject for very long periods (UFO's only enjoying sporadic periods of notable public interest). Furthermore, for a writer's work to be acceptable to a mass audience, this often means writing material conforming to the mind-set of casual UFO buffs; i.e. copy implying, usually uncritically, that UFO's are extraterrestrial spacecraft! Articles dealing with UFO's from a sceptical or (even) a "paranormal" perspective rarely ever see print. There is a market for serious UFO material among "serious" Ufologists; however, they are insufficient in number to sustain one reasonably prolific author, let alone several. In the real world, a ufologist-cum writer/journalist writes about UFO's only occasionally, and usually has to branch out into other areas (such as the paranormal or more conventional topics) to make **any** kind of reasonable living.

While not officially accepted by society as a legitimate profession, investigating UFO reports even on a part-time, "amateur" basis far from represents a casual hobby, but a demanding, emotionally taxing and unpaid job. Investigators often have to deal with people who have been unsettled (even emotionally traumatized) by their experience. Because UFO investigators are, in effect, "filling in" for science, the **ideal** is to work to very high standards of documentation and objectivity. These entails documenting UFO claims in considerable detail, and make serious attempts to find rational solutions. UFO investigators must possess a good working knowledge of the natural causes responsible for false UFO incidents, and be able to interview witnesses **without** distorting their

testimony. Case studies are utilized in UFO research, and hypotheses are also formulated on them; therefore, it is essential that UFO investigations are both competent and comprehensive. To answer such concerns some UFO groups require prospective investigators to pass a training course, and (sometimes) to abide by a Code of Practice, which they must conscientiously follow whilst investigating sightings. Of course this is an ideal - many so-called UFO "investigators" lean towards almost theological levels of belief in UFOs and uncritical "assessment" of reports.

Hence, the average UFO investigator is usually a non-scientist conducting investigations on an unpaid, voluntary level. While some researchers continue their involvement within the subject for the remainder of their lives, most researchers only spend a few years of actively involved in "Ufology". This is largely due to the relatively prosaic nature of UFO "evidence"; the vast majority of cases involving very basic sightings of lights, which (nearly) always have a rational solution. Even in high strangeness cases, the only evidence that usually is a witnesses' insistence that "something wonderful" happened.

Who sees UFOs?

UFO reports have been made by members of every profession, from politicians, scientists to road sweepers. Sighting reports made by so-called "trained observers", i.e. those from occupations specifically tutored to quickly assimilate observed data (pilots, astronomers, policemen, etc) are outnumbered by about 4 to 1 by those made by "untrained" observers (such as blue and white-collar workers). This appears consistent with the fewer number of "trained observers" within society. Men report approximately the same proportion of sighting as women. It is not uncommon for UFO and IFO observations to involve two people or more, who sometimes may be situated at different locations. IFO types which manifest within the upper atmosphere (such as satellite re-entries) are often observed by hundreds of people at a time.

Observations of IFOs and UFOs involve the same types of people; IFO reports even being made by a considerable number of "trained" observers. This is because nobody (no matter how well schooled) are instructed in recognizing balloons and planes at every misleading angle and situation. Furthermore, certain IFO types do not fall within the scope of a persons' life-experience; an astronomer would recognize a stationary twinkling light as a bright star, but is as likely to mistake an aircraft travelling along his or her line of sight as a "domed" disc as anyone else. This said, some statistics do appear to show that skilled observers make fewer IFO reports.

The level of a witnesses' prior interest in UFOs is a matter of great concern to Ufologists. Some samples of UFO report data (based on those made largely by members of the general public) have shown that a higher proportion of witnesses (around 2 out of every 3 observers) were interested in the subject before their sighting, compared with those claiming to be just indifferent or uninterested in them. Whether reports made exclusively by pilots, policemen and military personnel to official bodies (such as the MOD) would show a similar bias is unclear. Not surprisingly, many UFO witnesses develop an interest in the subject following their experience. This again raises concern as to whether their report has been "contaminated" by their perusal of the subject. The fact that information on UFOs (albeit superficial and sensationalized) appears virtually everywhere in our culture suggests that there are **no** "UFO- innocent" witnesses; stereotypical portrayals of the phenomenon being known to almost everyone.

The majority of witnesses have only one sighting-experience during their lifetime, but a few have more. There are individuals (termed repeaters by Ufology) who report a greater number of UFO sightings than normal, often over an extended period of time. Close-encounter participants often have repeated close-encounter episodes, and usually also claim psychic abilities and/or "paranormal" experiences. Other "repeaters" report a constant stream of low/medium definition observations (which, on investigation, turn out to be probably explicable, with distinct indications present that the witness is over-keen to accept UFO phenomena as something more outlandish).

Astronauts and UFOs

UFO sightings by astronauts in space are highly prized by some Ufologists, and are a major topic of UFO conspiracy theories. Numerous claims have been made of UFO's being observed during various Apollo missions; either following the various capsules to and from the moon, or of landed UFOs being observed upon the lunar surface. All of these stories are, however, denied by the astronauts concerned.

There are, however quite a number of "genuine" observations of "UFO's" made during NASA's "Mercury" and "Gemini" missions. Unfortunately, nearly all these events seem to have reasonable explanations; ice-flakes from rocket fuel tanks, satellites, expended rocket-stages to ejected garbage from manned space capsules. None have any close similarity with "standard" UFO reports, the absence of any (known) "close encounter" type cases being particularly noteworthy. Others are proven hoaxes or forgeries. For example a photograph taken during the "Gemini 8" mission (showing a reflection from the capsules' window) was doctored by airbrush

trickery to look like two glowing oval-shaped "UFO's"! In recent years several shuttle missions have been associated with claimed UFO incidents. As with the early Astronaut UFO sighting claims, several are hoaxes or exaggerated prosaic events. However, a film taken from the Shuttle "Discovery" in September, 1991 shows several fast moving streaks. Although the majority opinion is that it depicts ice crystals, others strongly disagree with this evaluation.

When are UFOs usually seen?

All types of UFO experiences have occurred on every hour, day, week and month of the year. However, a few general temporal sighting-patterns have been uncovered. It is known that about three out of every four events occur at night; the majority of UFO and IFO incidents happening around the hours of 8-11pm (with activity peaking around 9.00pm). These times closely match those of when the majority of people are home from work. There is a notable bias for sightings to occur during summer and early autumn months (i.e. from June to October). In regard to day of the week, various studies have either shown no clear pattern or a different "favoured" week-day (Wednesday in one instance, Saturday in another).

Where are UFOs usually seen?

UFO's have been observed virtually everywhere in the world, from a variety of locations (outdoors, indoors, in cars and aircraft, cities, towns, countryside and wilderness). However, sightings tend to occur more often in rural rather than urban areas (a factor possibility attributable to "light pollution"; the powerful combined "glare" of urban lighting which swamps out all but the brightest lights in the sky). On occasion, it has been known for a "cluster" of many UFO incidents to suddenly occur within a period of a few weeks, or even up to several months. Ufologists call these periods of increased localized UFO activity flaps. Most active in ufology accepts that most flaps are caused by media publicity being given to a single UFO report (or a recently-formed local UFO group appealing for sightings), which encourages others to come forward with their observations. However, a few statistical samples do apparently show a disproportionate rise in "true UFOs" during some flaps; a situation obviously of considerable interest to ufology.

Flaps tend to be fairly localized events (effecting only a county or district). However, national surges in the number of UFO reports (termed Waves) have occurred on several occasions and often lasting for several months or more. Examples of notable "Waves" in past times and places include 1947,1950 (United States), 1954 (France), 1957, 1965-67 & 1973 (United

States), 1967 & 1977 (United Kingdom) and 1978 (United Kingdom, Italy and New Zealand). As with "flaps", the majority appear to be media-driven, but a few appear to have been host higher-than normal levels of "true UFO" activity (such as the wave that occurred in the United States in 1952, where the percentage of "true UFOs" was estimated to be around 20%). There have also been periods when the number of reports has fallen dramatically, often on a global scale (such the early 1970's and the early-mid 1980's).

A few areas on Earth appear to be host to higher levels of UFO activity than other regions, often for years (even decades) at a time. The Pennine Hills in Northern England and the Hessdalen valley in Norway are examples of two such places, termed "Ufocals" (or sometimes "Windows") by some UFO researchers. It is suspected that local geological features (such as earth-faulting) are responsible for naturally generating the majority of aerial anomalies seen in these regions. Other supposed ufocals, however, have a more dubious Ufological "history". From the mid-1960's (up to the late 1970's) the outskirts of the town of Warminster, in the British county of Wiltshire, were famed as a place of intense UFO activity. Unfortunately, the majority of sightings originated from non-locals, usually over-enthusiastic UFO buffs attracted to Warminster by books proclaiming it to be a UFO hot-spot. Given the town is adjacent to Salisbury Plain (home of the largest army testing-range in the United Kingdom). it is probable that many sightings were attributable to military activity, as well as satellites, astronomical bodies and aircraft.

ALLEGED ATTRIBUTES OF "TRUE UFO's

Unexplained UFOs have a wide variety of reported attributes, the recognition of which obviously brings us closer to understanding the "core phenomenon".

- **Basic UFO Shape Aspects:**

UFO forms can be divided into three basic types; "Soft", "median" and "Hard". The "**Soft**" (or "BOL") UFO category includes a variety of self-luminous forms, ranging from star-like points of light to rudimentary shapes (often round or spherical) with a "unstructured" appearance, more akin to a ball of glowing gas than a manufactured "device". They comprise the majority of observed "UFOs", most of which are probably explicable in mundane terms. Observations of nebulous, cloud or glowing "trail"-like forms are also included in this category. In between the "Soft" and "Hard" forms are "Medians"; UFOs with indistinct shapes, or with a "surface" which

appears to be partially luminated by "body-lights". The majority of so-called "flying triangle" events fall into this category. "Hard" or "Exotic" forms are UFOs which appears solid and substantial, possessing an elaborate, clearly-defined shape (such as a disc surmounted by a "dome") and are often endowed with one or more notable surface features (such as "windows", "rims", etc).

- **Size:**

The estimated sizes of UFOs are a highly variable attribute, and one usually impossible to determine with any accuracy against a near-featureless daylight or nocturnal sky. UFO size-estimates range from about half a metre (or less), up to 100 metres or more. Discoid forms tend to be longer than they are taller, with estimated diameters of around 8 metres or more. The majority of so-called "Flying Triangles" tend to be much larger; being reported on many occasions to be seemingly equal in length to several jet-liners (or soccer-pitches) placed end-to-end.

- **"Soft" UFOs; the BOL Connection.**

The majority of unexplainable "soft" UFO incidents relate to the observation (sometimes at close quarters) of a featureless, highly luminous mass, often stated to be round or spherical in shape. As a consequence, most UFO researchers term them BOLs (or Balls of Light). That stated, this phenomenon is also associated with other shapes, including glowing cloud-like or repeatedly shape-changing masses. BOLs tend to be fairly small in size (around 10-20 cms in diameter), but can also be much bigger or much smaller. They are usually coloured orange, red, reddish-orange, yellow, blue or silver. BOLs have been observed from high-altitude aircraft, but are more often seen floating (usually very close to the observer) several tens of centimetres or so above the ground. Both BOLS and Exotic UFOs exhibit identical motion attributes; sudden stops at high speed, protracted hovering, sudden rapid acceleration, etc. BOL manifestations are also associated with most (if not all) the effects attributed to "hard" UFO forms; radio disturbance, physical trace evidence and a range of biological effects ranging from "pins and needles" to skin swellings and blemishes.

It has been known for BOL manifestations to occur repeatedly in a given region, although areas host to repeat BOL "incidents" are also host to other types of UFO events, such as "Exotics" and entity encounters. Instances of "BOL" like phenomena are much more common than observations of "Hard" UFO's (some researchers claiming they comprise of around 75%-90% of all sightings). The light may sometimes be stated to act in a

"purposeful" manner (seemingly reacting to the presence of an observer, moving in a controlled manner, avoiding objects, etc).

Light-forms similar to BOLS are also encountered in a variety of "paranormal" events, ranging from spiritualist seances, psychic phenomena and also some apparitional encounters. A considerable number of observations of anomalous entities relate to figures enveloped by a circular "cocoon" of light. Other reports appear to describe BOL-forms seemingly "metamorphosing" into human-like forms.

Some researchers believe BOLs are extra-terrestrial technology (such as a miniature robotic survey probe). Others feel BOLs are, in actuality, an unusual natural phenomena, similar to ball lightning. If this is so, instances of supposed "purposeful behaviour" would be the result of a complex interplay between human expectation and actions determined by the laws of physics.

- **Reported UFO shapes:**

"Soft", "median" and "Exotic" UFO's usually possess at least some kind of basic geometrical form, even if in the case of the former two UFO types it is more suggestive than definite. The more common basic shape-types (which are given in no particular order) include;

- **"Disc"-like (resembling a double or single-sided convex lens, a hat or a coin).**
- **Oval/ellipse shaped (usually horizontally-orientated).**
- **"Tube" or "Elongated" forms (ends rounded or flattened, sometimes with outwardly-budging sides).**
- **Triangular (horizontally or vertically orientated).**
- **Spherical.**
- **Dome or hemispherical forms (flat end usually facing downwards),**
- **Cone/tear-drop/pear like (pointed end facing either upwards or downwards).**

Barrel, boomerang, coil, crescent, cross, cube, dart, dumbbell, diamond, heel, hexagon, lozenge, pyramid, and ring shapes are also occasionally reported. The dominance of the various shape-types has been known to

change through time. Prior to the late 1980's sightings of disc-like forms predominated (especially in "exotic" UFO incidents), but were superseded by observations of "flying triangles" during the 1990's.

- **Alleged Surface Features:**

"Hard" UFOs are either reported to have smooth, featureless surfaces or to possess a wide variety of external features, many which seem markedly artificial in appearance. As with shape-types, these can be divided onto a number of (arbitrary) classes;

Openings include features described as "windows", "portholes" (usually round, rectangular or elliptical in shape), "doors" (which - in the case of "landed" UFOs - are associated with ladders or ramps leading to the ground) and substantial "voids" within the UFO's body itself (which often emit a brilliant light).

Protrusions are features such as jet-like "engine pods", "fins" (and sometimes wings), "propellers", wire-like "antenna" (either hanging from bottom, protruding from the top or projecting all around its "body"), and (often rod-like) "landing gear" protruding downwards from the lower section of a "UFO".

Projections include "towers" resembling radio/light masts (often situated on a UFO's top) tubes/blocks (usually on a UFO's top or bottom) and domes (hemispherical, square or rectangular). Domes are usually located on a UFO's upper section, but have been observed protruding from every other body-location.

Texturals mainly refer to "tiled", "panelled", "pock-marked", "bumpy" or deep symmetrically-configured lines covering a large portion of the UFO's surface-area. A central rim or "ring" running around a UFO's diameter are reported from time to time, as are UFO's with rotating sections often centred within or around a static body-section.

The presence of such surface-features is one of the main factors that suggest that at least a few UFOs are advanced flying devices of some kind. However, it is possible that they are illusory, subjectively construed from irregular, darkened or oddly-luminated portions of a "UFO". Hence, unfortunately, they are insufficient evidence in themselves to disprove the notion that all UFOs are unusual natural phenomena.

- **Colour:**

Daylight UFOs are usually reported to be either (an often highly- reflective or shiny) white, silver or aluminium. Alternatively, they may also be either grey, dark or (less often) coloured blue, brown, green, orange, pink, red or yellow. Nocturnal UFOs are often described as being a "self-luminous" or "glowing" white, red, orange, yellow, pink, green, blue, or silver hued. Combinations of two of the aforementioned colours appear almost as frequently (red-orange being especially common). Sightings of UFOs with "bands" of differing colours have also been documented. Non-luminous nocturnal UFOs are almost always stated to be adorned with one or more "body-lights", which are usually coloured blue, white, red, orange and/or green. The reported sizes of these lights vary from that of a aircraft's anti collision-beacons to that of a large searchlight (or bigger). Night-time UFO's are stated on numerous occasions to change colour, especially when altering from one mode of motion to another. Patterns to these changes have been supposedly determined, but have yet to be conclusively verified by research.

UFOs are often associated with a substantial "halo" or "glowing mist" running around its edge. They have also been observed emitting one (or more) highly manoeuvrable "light-beams" on many occasions. Solid light is the name given to a particular class of light-beam; a conical or tubular shaped region of brightness that can be contracted or expanded to any degree, luminating only the area it is "directed" upon. Similarities between this phenomenon and laser beams have been noted by many UFO researchers. Whatever its nature, solid light is rarely alleged to cause physical injury.

- **Motion:**

The reported motions of UFOs are among their more extensive and variable attributes. A UFO's speed can range from stationary to faster than a rocket, and can alter from and between these extremes many times during a sighting. Even when estimated to be travelling at considerable velocities, UFO's are rarely associated with a sonic boom. They are seemingly able to traverse along all possible axis of motion, and also have the ability to hover for extended periods of time. The more puzzling aspects of UFO flight behaviour is their reported abilities to perform instant very high-speed, 90° angle turns, instantaneous stops whilst moving at rapid speed and instant, very high-speed acceleration while stationary (or hovering). UFOs travelling in a downwards (but also sometimes upwards) direction are described to exhibiting a side-to-side slewing motion similar to a "swinging pendulum" or a "falling leaf" in some instances. Most puzzling

of all their described motion characteristics are instances of UFO's which vanish suddenly in a (seemingly) clear sky.

- **Internal Motion:**

UFO's also exhibit forms of motion other than that associated with its flight-trajectory. Rotation of a UFO's upper and/or lower section (in either a clockwise or anti-clockwise direction) is probably the most commonly reported form of internal motion (most often noted in observations of discoid or ovoid-shaped UFO's). In a few instances the whole object itself may appear to rotate. Much less often, a notable side-to-side "wobble" or "fluttering" motion is exhibited.

- **Sounds, Smells, Trails And Discharges:**

UFO's are usually stated to be noiseless, but approximately one in every five reportedly emit a buzzing, cracking, humming, roaring, swishing whirring or whining sound. Rarer still UFO's are associated with a odour, although occasionally a acrid-like smell is noted, comparable with sulphur/ozone or burning hydrocarbons. Emissions of (mainly luminous) heat, trails, sparks, smoke or "vapour" are also occasionally reported.

Alleged Reactions and Effects induced by UFOs:

It is occasionally reported that some UFOs induce temporary or permanent effect on its surroundings, and on any people, animals and artefacts present during a sighting.

a: Biological Reactions:

CE I reports (i.e. those relating to UFO-induced transitory effects) often pertain to sensations of prickly skin (or "pins and needles"), heat, dizziness and nausea, static electrical-like "bristling" of body-hair, temporary paralysis or weakness/numbness in specific body-regions and feelings of externally-originating pressure and tension upon the body. Such temporary effects are harder to determine in the case of animals, but numerous incidents relate to pets, farmyard and wild beasts showing signs of agitation and alarm just prior to a UFO observation.

The lesser CE II-level effects (at least in regards to humans) relate to protracted body-pains, numbness and headaches. More seriously, both animals and people have exhibited rashes, tanning, hair/fur loss and skin-

burns following a reported UFO encounter. In particular, a UFO-induced reaction similar to "Klieg conjunctivitis" is often claimed; in humans this manifests as a reddish, watery puffiness around the eyes present for several days or more. Pet dogs have (in several instances) have shown apparent wariness (even fear) of supposed UFO "landing sites".

b: "Oz Factor" manifestations:

The "Oz factor" is a term (first coined by UFO researcher Jenny Randles in the early 1980's) used to describe an "aura of unreality" noted during some UFO incidents. Often this relates to an abnormal absence of traffic, people and ambient sounds just prior to a sighting. Possibilities related to the "Oz factor" are reports from witnesses of UFOs seen over highly-populated areas, which nobody else seemingly observed. Oz Factor events also involve sensations of "inner peace", states of personal "disassociation", distorted perceptions of the environment and marked differences between witness-estimated and actually-elapsed time.

c: Mechanical Effects:

UFO-induced transient effects on mechanical devices include the presence of heavy signal interference on radios and televisions, detrimental effects on compasses and watches, the dimming or extinguishing of lights and electrical power cut-offs; all of which reportedly return to normal once the UFO leaves the sighting-vicinity. Cars are also effected in the same manner; their headlights and engines falter (or stop working altogether), but kick back again into life almost the instant the UFO moves away. It is claimed that diesel-engine vehicles are less susceptible to this UFO-induced "stalling" effect, but this is by no means definite.

Permanent mechanical effects are much rarer than transitory ones. It is sometimes alleged that batteries are drained of their stored energy during a UFO incident. Sometimes, damage is supposedly inflicted on mechanical systems and electronic circuitry, and the external structure of some devices reportedly suffers impact-like damage.

In ufological literature these effects are often labelled Electromagnetic (or EM) phenomena, even though there is no real evidence (to date) that electromagnetic processes are responsible for generating them!

d: Environmental Effects:

As with all UFO-instigated effects they can be divided into transient and permanent categories;

Transient environmental effects relate to "strong-wind" like buffeting of trees, man-made features, grass, waves and dust lying directly beneath a UFO. Permanent environmental effects relates to damage supposedly caused by a "landed" UFO. These include spaced indentations suggestive of "landing-pad" marks, also extensive craters, furrows, holes, scooped-out areas of earth and even damaged tarmacadam surfaces. These may be associated with so-called "UFO nests"; an often circular area of burnt, bare, crushed or swirled and flattened grass or other flora. Surrounding tree-limbs and other adjacent plant-matter can also show signs of being burned, crushed, dehydrated and/or discoloured.

"Crop Circles":

During the summer of 1980 three round, swirled depressions (spaced some 137 metres apart) were found in a wheat field near Westbury, Wiltshire. Thereafter, throughout the 1980's many similar circles were appearing in arable land each summer, mainly in the counties of Wiltshire and Hampshire. By then, the "circles" had largely assumed more complex configurations; some surrounded by one or more concentric rings, others arranged in a cross or triangular pattern, others still with a single line - or "spur" - jutting out from one end (or a combination of these features). By the early 1990's even more complex crop-circle patterns (termed "Pictograms") had become notably common. These comprised of anything from a very large lineal arrangement of circles joined by a thin line of flattened crop (surrounded by several other level or bent lines), up to massive triangular, lozenge, dumbbell, snake-like, snail-like, wheel-shaped or "Mandelbrot set" configurations. The circles were, by this time, being extensively promoted by the media, virtually eclipsing UFOs in popularity.

Except in a very few notable occasions, there were no witnesses to the formation of the majority of crop circles. This resulted in considerable and varied speculation regarding their origin. Due to their similarity to so-called "UFO nests", some believed crop circles were the result of UFO activity (despite the lack of inexplicable sightings prior to their appearance). Others proposed an invisible "non-human intelligence" or a "plasma vortex" (a hypothetical natural phenomenon related to tornadoes and funnel clouds). All sides, however, agreed that a sizable proportion of circles could not be hoaxes; they were too many and their internal and external structure were too complex, showing no obvious indication of being fabricated. However, on the 9th September, 1991 the crop-circles community was shaken by a front-page "Today" newspaper story featuring the account of two middle-aged artists (Doug Bower and Dave Chorley), which stated they had faked the first crop circles (and others subsequently). To confound matters further, evidence was also uncovered of a diversity of crop-circle faking

groups and singular hoaxers, who had reportedly been fabricating circles independent of Bower and Chorley.

Despite these revelations, quite a number of circle advocates still maintain that anomalous crop circles do exist, rejecting outright the possibility that the "circles mystery" is totally attributable to hoaxing. The few documented eyewitness accounts of alleged circle-formation describe an invisible wind-like force (sometimes associated with glows and a humming/whirling sound) laying down crops in a basic singular, circular pattern. Coupled with some possible historical references to "crop circles" (such as the "Mowing Devil" pamphlet of 1678) a good case can still be made for a (albeit rare) circles effect phenomenon, able to create single circular depressions in flora. Whatever the case, there is still no good evidence to link UFOs with the modern deluge of crop circles. Does the fact they resemble "saucer nests" infer a direct UFO connection, or is it simply due to Bower and Chorley being "inspired" by reports of a "saucer nest" discovered at Tully, Australia in 1966? The circles controversy clearly shows the prudence of suspicion towards any "mysterious" ground trace whose mode of formation is totally unknown. In 2007 elaborate "pictograms" still appear in various parts of the UK (in particularly Wessex). Numerous groups have claimed responsibility, with even a crop circle fakers' handbook being published in 2005; but some still claim these patterns have an anomalous origin, although they are now predominantly seen as man-made "landscape art".

UFO Entities:

A small proportion of UFO incidents are associated with claimed observations of unearthly "entities". The question of their validity has always been a matter of great controversy within the UFO community. Whatever their actual reality-status, it is helpful to examine these claims from a historical viewpoint, as prevailing attitudes have always markedly influenced how they are perceived both by ufology and the general public.

The pre-Contactee Era (1947 to 1951):

The early UFO movement did not exist for most of this period. No-one had no clear conception of what piloted the UFOs. Their unearthly high-g manoeuvres suggested to early students of the phenomenon either robotic craft, or beings totally beyond human conception. The comic-book figure of the "little green man" had already existed for some time, inspired by

science fiction "pulp" magazines and speculation (dating from the 1890's) concerning the possibility of life on Mars.

The Contactee Era (1951-1960):

In 1953, via the book "Flying Saucers Have Landed", the world first learned of the claims of George Adamski. The second section of this work (the first portion containing a review of historical "UFO" reports authored by Desmond Leslie) gave an account of an alledged meeting in the Californian desert between Adamski and a tall, blond-haired man from Venus during November 1951. As a result his fame spread throughout the world. Throughout the 1950's other individuals claimed meetings with entities from various planets and satellites of our solar system (Mars, Venus, Jupiter, Saturn, the Moon, and - in one claim - a world called Charion, permanently hidden from the earth by our Sun). In almost every instance the entities resembled attractive human beings, hailing from utopian civilizations who had chosen the contactees to be their earthly representatives. The messages supposedly relayed by these aliens were mainly concerned with improving the spiritual development of mankind. The contactees were very much the Ufological "stars" of the 1950's. Numerous books were published detailing their experiences and lecture tours and conventions were held to promote their "message" to whoever would listen.

The UFO study movement (which was just being to coalesce at this time) recoiled in horror at such claims. They largely dismissed the contactees as charlatans who gave the subject a poor, unscientific image in the minds of the general public. Mainly as a result of the contactees, many leading UFO societies (such as NICAP) showed considerable scepticism towards all reports of UFO entities, and thus paid little attention to them.

The CE III Era (1955 to 1982):

However, as the contactee era began to slowly fade during the early 1960's some groups began to review their attitude towards entity reports. However this came too late for many early entity reports, which as a result of ufology's prevalent scepticism were often poorly documented (if at all). However, a few managed to survive this atmosphere of negativism. Some early cases (such as Kelly Hopkinsville (1955) and Flatwoods (1952)) tended to refer to "monstrous" beings, others to "little men" clad in "diving suits". This in itself was a hindrance to their serious treatment (having echoes of the 1950's B-movie "horror-aliens" and the humorous "little green man" of the "funny-pages"). In October 1957 one of the first recorded "abduction" events purportedly occurred in Brazil, involving the supposed capture of Antonio Villas Boas by several entities for breeding purposes.

Villas Boas had a clear recollection of all what supposedly befell him. However, the experience of Betty & Barney Hill in New Hampshire, USA in September 1961 first introduced the concept of missing time; both witnesses being unable to recall two hours of their lives following a UFO encounter. Attempts to determine what occurred during this period resulted in the first use of regression hypnosis in ufology. The Hill's hypnosis-sessions brought forth a tale of enforced boarding of a UFO and a medical examination by telepathic, large-eyed grey-skinned beings; elements which were to appear in numerous other incidents in the future. By the 1970's entity reports had become a largely accepted part of the UFO phenomenon, even taken seriously by figures such as Dr. J. Allan Hynek (who defined them in his famous classification system as "Close Encounters of the third Kind", or CE III's).

However, the majority of CE III's were consciously-recalled events, often claimed fleeting observations of evasive entities with a (very) wide variety of physical appearances. By the late 1960' the use of hypnotic regression in suspected instances of "missing time" was becoming almost routine. In 1976, New York-based sculptor Budd Hopkins became actively involved in ufology, a subject he was going to strongly influence during the next decade.

The "Abduction" Era (1982 and beyond):

As previously stated, pre-1980's CE IIIs were mainly fully consciously-recalled events, not requiring the use of hypnosis. However, this particular type of entity experience began to decline during the early 1980's and beyond. By the mid-1970's the term "Abduction" (covering instances of missing time and later hypnotically-retrieved "memories" of medical examinations by "aliens") had already entered common usage within the UFO community. By the mid-1980's Budd Hopkins had already established himself as a noted authority on abductions. However, the pre-eminence of such experiences began in 1987 with the publication of *Communion*, a book detailing the entity encounters of the writer Whitley Strieber. This work, the advertising campaign used to promote it (and also a film of Strieber's experiences made several years later) gave widespread public prominence to this aspect of ufology. From the groundswell of interest created by Strieber, the work of Budd Hopkins (and other American abduction researchers) grew in prominence as a result. By the mid-1990's they had become the predominant form of UFO entity encounter.

The typical CE III event:

The stereotypical CE III usually involves a single witness (but occasionally two or more people) who accidentally observe an unusual entity near (or within) a UFO whilst going about their everyday business. These beings are variously described as either simply observing its surroundings, operating "machinery" or taking samples from its environment. It is common for little substantial contact to occur between both parties (but communication may be alleged in some instances). The entities may either move normally or "float" some distance from the ground. CE III events usually occur within areas of low population, often around the evening/early morning hours and have a duration of around 10 minutes.

Of course (as with all stereotypes) the above description of a "typical" CE III event is a gross generalization; each case differing in many ways from this norm.

Common types of UFO Entities:

With a diverse variety of supposed UFO entity forms having been recorded to date, the expression "common type" can (at best) be considered a misnomer. Thus, this section simply aims to give a general overview of the morphology of supposed "UFO occupants".

The "Grey" is a very consistently described entity-class, commonly appearing in both abduction narratives and "conventional" CE III's since (at least) the 1960's. They are so termed due to their purported grey/greyish-blue skin coloration. Greys are often estimated to be around 1 metre in height, with a "spindly" humanoid stature and very long, thin fingers. Their heads are always described as being large, (usually) bald and pear shaped, with big (often opaque) oval "wraparound" eyes and a slit-like mouth and nose.

Human-like entities have also been reported. Standing around 5ft or more in height, the majority are very man-like in appearance, but a few possess abnormal features; a large bald head, oval eyes, pale skin, antenna, claw-hands, etc. The so-called "Nordic" is a particular class of human-like entity; tall and pale-skinned, with a high forehead, long blond hair and attractive (sometimes androgynous) facial features. They closely resemble the entity purportedly seen by George Adamski in 1951, but sightings of this entity-type are also claimed by many "non-contactees".

Observations of entities standing 7ft or more in height are claimed on rare occasions. These so-called Giants are mostly humanoid in form, but have a

tendency towards possessing markedly outlandish body-features (such as glowing, single or trinary eye arrangements, or abnormally proportioned/shaped body-members).

The previous three (general) "classes" of UFO humanoids are reportedly dressed in a wide variety of clothing. Skin-tight "Cover-all", "catsuit" or "jumpsuit" like attire is especially common. Alternatively, entities may be clad in a "diving-outfit", "michelin-man like costume" or "spacesuit". The head may be either be exposed, or enclosed within a "goldfish-bowl" or "motorcyclist"-type "helmet". UFO entities have a marked tendency towards luminosity (often stated to be either "glowing" or illuminated by externally carried lights).

A small proportion of entities (often termed Exotics) cannot be fitted into any of the above-mentioned categories. These include beings resembling mythical creatures (bat-like humanoids, "man-apes", goblins, fairies, dwarves, or trolls) and also the occasional non humanoid, such as those with blob-like, "praying-mantis", oblong, spherical or tubular body-configurations.

The Abduction Experience; an in-depth view:

"Abduction" is the popular (and, among Ufologists highly controversial) definition given to a form of close encounter experience which has almost dominated ufology (and popular conceptions of the subject) in recent times.

The majority of "abduction" claims initially spring from experiences of "missing time", a mysterious "gap" in an individual's recollection of events, covering an interval ranging from 10 minutes up to an hour or more. This may occur in any environment; a bedroom, a car or whilst the participant is outdoors. It may (or may not) be preceded by a consciously-recalled "UFO" sighting or other anomalous event. Shortly afterwards, not previously-noticed scars may be discovered and anomalous nosebleeds may occur. Vivid dreams with a notable UFO content are also experienced (at least portions of which resemble any subsequently "recovered" abduction memories).

Sometimes, instead of an instance of "missing time", a strange (often incompletely recalled) event may be reported (who's recalled duration may not equal the actual amount of time elapsed). Some UFO researchers term this phenomenon Screen memory as (following one or more hypnosis sessions) an abduction narrative is often recalled in place of the previously reported anomalous experience.

In an attempt to discover what happened during an interval of "missing time", some individuals undergo a procedure called regression hypnosis. This involves a qualified hypnotherapist placing the person concerned into state of deep, sleepy relaxation (via the use of repetitive but gentle suggestion). The hope is that this artificially-induced altered state of consciousness will break down any "barriers" hindering remembrance of the time in question.

When the participant is placed under a hypnotic trance, the period of missing time is often "resolved" into an alarming, prolonged encounter with strange non-human (but usually humanoid) entities. This "experience" often begins with the participant being "escorted" into a "UFO" (usually against his or her will). If the person "recalls" initially being in a room (or other enclosed space), both themselves and any accompanying "entities" are often stated to pass, in a ghostly fashion, directly through any intervening windows or walls! Whatever the situation, the participant is often reported to "float" as if weightless, either when being inducted into an airborne UFO or at other times during the "encounter".

Following this period of transition, the participant is then taken to a room, where something akin to a medical examination purportedly takes place. This area is usually stated to be sparsely furnished, containing only those items "used" during the encounter. The participant is placed (sometimes even "secured") onto what is variously described as a "table", a "bed" or a "chair". An examination (often exclusively focused on the head and/or lower abdominal regions) then occurs, utilizing "devices" often compared to a "scanner" or a "probe". During the examination, the entities may allegedly take samples of blood, hair, skin and genetic material; the enactment of these procedures often associated with notable sensations of fear or pain. In some instances, a participant may report that the entities' insert a small "implant" into his or her body (usually up his or her nose).

The extent of communication between a participant and entities during abduction experiences varies considerably. Sometimes the entities are said to ask questions about mankind and life on earth, responding to the witnesses in a surprisingly humanlike way. They are often stated to "talk without speaking", using a form of mental communication comparable to telepathy. In other accounts, the entities are uncommunicative and impassive, treating the participant much like a biologist examining a living animal specimen. An entity may (at some stage during the experience) stare intently at the "abductee" for a prolonged period, allegedly "probing" his or her thoughts via a "telepathic mindscan". The "witness" may also be shown (on a "monitor" or "screen") images of stars, the earth, other alien worlds and other (more cryptic and often gloomy) scenes.

"Abduction" accounts are often very surreal in their content; the entities often make cryptic statements, act in a very outlandish manner, or the recalled memories of the encounter may inexplicably "jump" to other unconnected events. The witness may recall (when regressed) that the entities enacted a procedure to make him or her forget the encounter. The "experience" then ends with the witness being "returned" to his or her initial location (or a short distance elsewhere). In the aftermath, the participant's may develop a more spiritual, "new age" attitude to life, even develop supposed "psychic" abilities. It is also not unknown for "memories" to surface of previous abductions (even of instances during the witnesses' childhood).

It is not unknown for "abduction" claims to involve more than one person (either at the initial stages or, less often, to be uncovered during its investigation). More than several accounts detail the "abductee" being taken before other people....who appear to be "frozen" in time and are thus unable to recall anything happening.

Despite their popularity, abduction claims have been extensively criticized on a number of counts. Despite common belief to the contrary, regression hypnosis is neither an infallible recover of authentic memories nor a "truth serum". An experiment in 1977 conducted by Dr. William McCall and Alvin Lawson created (via the use of mild leading questioning) detailed - but false - "abduction" narratives in various hypnotic regression subjects. The fact that an altered state of consciousness has to be relied upon to "recover" details of many abduction throws their reality open to considerable doubt. Furthermore (due to their very nature) abductions are often very difficult to authenticate; with the "aliens" being able to fabricate false memories, to freeze everyone in time except the abductees and use "implants" which turn out (on examination) to be fairly terrestrial in nature. There are also some noticeable "flaws" with the "technology" attributed to abduction "aliens"; who, although supposedly able to pass through walls, have to physically cut and probe witnesses to acquire biological samples!

Attempts to discover differences between abductees and non-abductees have met with mixed results. It is generally agreed that the majority of abductees are psychologically normal. Possible links with the "fantasy-prone personality syndrome" have so-far proved inconclusive. Some have detected a slight tendency in close encounter witnesses towards creativity and a greater-than-normal level of "traumatic" life-experiences.

A number of conditions and mental effects have been proposed to account for abductions. A condition called Temporal Lobe epilepsy has the potential to explain at least some "borderline" cases. There also appears to be a link

with sleep paralysis and Hypnagogic/Hypnopompic illusions (hallucinations occurring on the verge of sleeping and waking). Some experiments have shown that basic neurological sensations can be triggered by exposing a subject's brain to mild electrical stimulation. The extent to which these concepts will explain or some (or all) "abduction" events is currently uncertain, requiring further - and extensive - research.

UFOs - the quest for proof.

Throughout its existence, the UFO study movement has been engaged in an earnest quest for incontrovertible evidence of UFO reality. Unfortunately, the UFO's transient nature excludes them from detailed analysis under laboratory conditions. Therefore, ufologists are mainly restricted to less direct forms of physical evidence; photographic images and RADAR detections of "UFOs".

UFO Photographs and Films:

Photographic images of "UFOs" are a valuable form of evidence; even through (in isolation) they cannot conclusively "prove" their reality. In cases where photographic evidence exists, researchers are freed from a total reliance on eyewitness testimony. Providing the UFO-image is not taken against a featureless sky-scape, a picture can aid the reasoned assessment of a sighting in a variety of ways. For example, the alleged time of a sighting can be verified (or refuted) through objective analysis, by examining the shadows and lighting present within a photograph. In the case of a series of pictures, prevalent lighting can also be used to determine how far apart in time they were actually taken. At the very least - once photographic defects and hoaxes are eliminated - a UFO picture indicates that something was physically present during a particular incident.

In regards to evidential value, a proven sequential series of still photographs are more useful to UFO research than a single image, with changes in a "UFO's" motion and viewing angle being apparent. Motion-picture evidence is even more cherished, with its ability to permanently and objectively represent a phenomenon's trajectory; potentially the most anomalous aspect of reported UFO behaviour. The introduction of camcorders and similar image capture devices from the mid-1980 onwards resulted in many motion images of supposed "UFO's" being submitted to investigators. They often, however, lack the fine resolution of even average-quality still cameras. This is further compounded by the fact that

most are not designed to record images of distant light-sources at night, as is often the case with UFO incidents. Other drawbacks are less obvious. For example, "auto-focus" settings often have difficulty in precisely resolving distant points of light; the image (as a result of incidental defocusing) assuming a spurious diffused circular or diamond shape.

The circumstances underlying many photographic incidents often conspire to markedly reduce their evidential value. Often, the "UFO" appears as a mere dot of light against a featureless sky. The virtual lack of spatial references in such a picture makes reasoned assessment of it almost impossible. Furthermore, many nocturnal UFO photographs are often severely distorted by camera shake (involuntary hand tremor), causing the "UFO's" image to resemble an erratic, convoluted luminous swirl. Finally, it is commonplace for UFO pictures to be poor in photographic quality, the features within a picture being indistinctly defined. However, this is not automatically a point against its authenticity. It should be remembered that the majority of UFO pictures are taken by non-professional photographers at night, using basic equipment under stressful circumstances.

Contrary to popular opinion, most claimed UFO photographs are not hoaxes, but actuality depict IFO phenomena such as birds, meteors, missile tests, vapour-trails or weather balloons. Additionally, a host of equipment defects and effects can generate spurious UFO-like images. For example, an irregular white or dark "blob" may appear on a print during its development (either the result of minor chemical staining or dust contamination). Reflections of a bright light-source (i.e. a lamp or the camera's own flashlight) onto a window and lens flare (an off-angle reflection of the sun upon a camera lens) have both instigated a considerable number of spurious "UFO" photographic cases. This is also the case with accidental double exposure with film format cameras, where images from two different "shots" are superimposed onto one negative. This results from a photographer (or camera) not winding on the film after taking a picture. A good indicator that a photographic defect is potentially responsible is that nothing untoward was observed when the picture was taken (the anomalous image only discovered on the film being developed).

Hoaxing is also a notable source of false "UFO" photographs. Although less numerous than images of IFOs or photographic defects, they are featured more often within the UFO literature due to their more sensational appearance. Hoaxes may be perpetuated for financial reasons, but are more often simply attempts to "fool the experts" or gain publicity. It is relevant to note that many UFO photographic hoaxes have been perpetuated by children. A diversity of fabrication techniques are available to the would-be UFO faker. A crude - but often surprisingly effective -

method involves photographing a background scene through a window (or other transparent medium), upon which a cut-out paper (or painted-on) "UFO" is placed. This produces a fairly convincing (if somewhat dark) UFO-like image. Small model UFOs are also employed in pictorial hoaxing attempts. A frisbee, hat or hubcap thrown into the air, or attached to a (out-of-picture) support by thin wire can both produce fairly convincing still photographic images. These effects look convincing because a small model placed close to a camera has the same apparent angular size as that of a much larger (and more distant) object.

In regard to film format cameras, the photographic darkroom also provides hoaxes with additional methods of fabricating "UFO" pictures. Deliberate double exposures (superimposing the image of one film negative onto another) produce realistic-looking fake UFO images. Digital format images are even easier to manipulate in this manner, especially with the introduction of powerful, inexpensive personal computers combined with image processing software. It is relatively easy (especially if the fabricator possesses good computer skills) to create a realistic digitally-generated "UFO" and to superimpose it onto an actual "background" image; or place such an image within a totally synthetic picture with convincing landscape and lighting details.

Fortunately, there are many ways of detecting most hoaxing techniques, especially with film format cameras. A "close-up" model will appear to be quite sharply defined, but the background will be somewhat out of focus. An unnaturally dark image also indicates the same situation, as less light falls upon it in comparison with an object a greater distance away. A cut-out UFO stuck onto a glass plate is nearly always surrounded by a noticeable whitish "halo" running round its edge. In regards to a double exposure originated "UFO" image, its "contrast" nearly always markedly differs with that of other features on the photograph (the UFO and the backdrop being shot under different lighting conditions). A good way to check for all kinds of hoaxes (in particularly superimpositions) is to examine the negative, to determine whether it shows any sign of tampering. If possible, the whole reel of film that contains the "UFO" image(s) is examined, both to determine if they appear in the order claimed by the witnesses and for comparison with the other (non UFO-related) exposures.

Unfortunately, the sophistication of modern computer generated imagery is such that it is much harder to detect – and prove – hoaxing in relation to digital images. Nonetheless fabrication can be demonstrated through finding evidence of image alteration such as the use of cut and paste effects and/or digital "airbrushing". Features within a "doctored" image may also exhibit inconsistencies in scale, composition and lighting; while an

examination of the original picture file's processing history can detect the use of image processing software.

The widening and growing sophistication of the Internet over the past 10 years has created a further medium for relatively cheap audio-visual expression. The appearance of so-called "social sites" such as "Youtube" has resulted in the appearance of numerous short digital format movies - depicting everything from supposed aircraft gun-camera footage of a "flying triangle". Another example features footage reportedly taken by lunar astronauts on board "Apollo 20"; an anomaly in itself given the moon landings terminated with Apollo 17! The general consensus is that such "evidence" is only proof of the considerable CGI skills of their makers; and that even more convincing hoaxes will appear in future as CGI techniques improve with time. In the internet age, as before, claimed UFO footage is only as good as its supporting witness testimony...

Without doubt, computer imaging is the most powerful photographic analysis technique available to Ufologists. This technology, once very expensive and accessible to only a few, is now with the advent of powerful home computers becoming more widely available. A scanned or digital image can be enlarged, ambient contrast altered or specific picture elements colour-coded in order to better define features such as shading. An images' edge profile can be enhanced, useful in detecting the presence of wires (or attempts to hide them in regard to a digital image). Furthermore, precise scalar and other measurements of features within a photograph are possible; potentially able to determine whether a "UFO" has been "dulled" by atmospheric haze, suggesting it may represent a substantial and fairly distant object.

In the late 1970's Ground Saucer Watch (GSW), an American UFO study group who pioneered the computer analysis of UFO photographs, examined 1100 alleged "UFO" pictures with these techniques over a period of six years. On the conclusion of this survey only 45 pictures from that sample were deemed to be authentic.

Early Photographs of Aerial Anomalies:

Purported photographic images exist of all the notable pre-UFO era aerial anomalies. An alleged picture of the American "mystery airship", taken at Chicago on the 10th April 1897 was later admitted to be a hoax (involving a wire-suspended model), shortly after it was publicized by the news media of the day. There are several alleged photographs of Foo Fighters on record, unfortunately none of which have been authenticated. The only known photograph of a supposed "ghost rocket" was taken in Sweden at

about mid-afternoon on the 9th July, 1946. However, this incident (which was observed over a considerable area of that country), was probably instigated by a bright bolide meteor.

One of the first photographs of the modern "flying saucer" era was reportedly taken at Phoenix, Arizona USA at around 4.00pm on the 7th July 1947. The circumstances surrounding this image of a heel-shaped "UFO" (similar in form to that observed by Kenneth Arnold) are somewhat vague; the picture being neither validated nor explained as a result.

Classic UFO Photographic Cases:

At McMinnville, Oregon, USA at around 7.45pm on the 11th May, 1950 a farmer and his wife claimed to have observed a silent, slow-moving shiny disc, with what resembled an off centre "pole" protruding from its top. Two pictures of this "UFO" were allegedly taken during the course of this sighting. The "UFO" shown in these photographs is similar to another "UFO" depicted in a picture taken at Rouen, France in March 1954. The McMinnville pictures were evaluated as authentic by Ground Saucer Watch during the 1970's. Their findings suggest that the UFO was around 20-30 metres in size and about a kilometre (or more) from the witnesses. Sceptics have questioned this conclusion, pointing out possible inconsistencies in ambient shadow-features, suggesting the pictures were taken in the morning (rather than in the evening, as claimed by the witnesses). They feel the "UFO" is actually a small model suspended from a wire, whose diameter falls just below the resolution of the computer enhancement methods used to assess the photographs.

At about 12.15pm, on the 16th January, 1958 a Saturn-shaped UFO moving at high speed was reportedly observed - and photographed - from the deck of the *Almirante Saldanha*, a Brazilian Navy ship located in the South Atlantic Ocean, just off the coast of Trindade Island. The four photographs showing the "passage" of this "UFO" still remain unresolved (and highly controversial) to this day. These pictures were also deemed authentic by Ground Saucer Watch, but other commentators are highly sceptical of their validity. The cameraman is known to have - quite openly - previously faked pictures for an article debunking some "UFO" photographs taken at Barra de Tijuca, Brazil in May 1952. This suggests that he was sufficiently skilled to have fabricated the Trindade island photographs via superimposition techniques. Furthermore, it is unclear whether this object was as widely observed by the *Almirante Saldanha's* crew as some reports infer. In recent years relatives of the photographer and individuals also on the ship that day have provided further evidence suggesting the images were darkroom fabrications.

Classic Cinematic UFO Incidents:

In regards to cine films of "UFOs", two originating from the early 1950's and one taken in 1978 still remain noteworthy to this day.

On either the 5th or 15th August, 1950 at Great Falls, Montana, USA at around 11.25am a motion-camera film was taken of two silvery reflective oval objects moving swiftly in a South Westerly direction. It is known that, at around the time of this incident, two aircraft were airborne on the 15th August in the sighting's vicinity. It has therefore been suggested that the film shows these aircraft, their appearance distorted by reflected sunlight. Although the main witness was uncertain of the precise date of this incident, he did claim to have seen aircraft in conjunction with the "UFO's". The situation is made more complex as it is known that no aircraft were airborne near that area on the 5th August (which subsequent research favours as the actual date of this event!). Despite this confusion, three separate examinations of the Great Falls movie all suggested it was authentic, that the objects were some distance from the observers and that their circular shape was actual, not the result of solar reflection effects.

The second classic "UFO-movie" was taken near Tremonton, Utah, USA, at approximately 11.10am on the 2nd July, 1952. It depicts around 10-12 white ovoids of fluctuating brightness "milling around" against a featureless sky (reportedly) over the eastern horizon. These "UFOs" (widely spaced apart in fairly close "groups "of two) were eventually lost to sight as they moved to the west. It is quite possible these "UFOs" were actually gulls reflecting sunlight, although (questionable) estimations of their speed range from 760 to 12,167 kph, depending on their assumed distance from the observers.

At Wellington, New Zealand, on the 30th December, 1978, a Australian journalist and his film-team joined the crew of an Argosy cargo 'plane, to make a short documentary on a "UFO" event experienced by those aboard it some nine days previously. Just after midnight on the 31st December 1978, whilst the aircraft was bound for Christchurch, strange, intermittently visible lights were initially spotted (and filmed), and continued to be seen for a further 50 minutes thereafter. The presences of seemingly unknown objects in the aircrafts' vicinity were also tracked on RADAR at the same time. Following a refuelling stop in Christchurch, the aircraft took off again, bound for Blenheim. Several minutes into this flight (at around 2.15am) further unusual lights were again observed from the aircraft. At about 2.24am, a large luminous object described as resembling a "flying saucer" was sighted (and spasmodically filmed) for around eight minutes. Other unusual lights were seen almost until the aircraft touched down at Blenheim

at about 3.10am. Again, various RADAR systems (located on the ground and in the aircraft) had seemingly detected the presence of numerous unknown airborne "targets" throughout this "leg" of the flight.

The images taken that night by the film crew were subject to an extensive examination by (among other technical experts) atmospheric physicist Bruce Macacabee, who came out strongly in favour of them being inexplicable aerial phenomena. From the time it was first revealed, various theories have been proposed to account for the New Zealand film. It is variously proposed that the "UFOs" were mundane terrestrial light sources, squidboats, the planet Venus or mirages (either of astronomical objects or ground features). The RADAR images are explained as spuriously returns induced by atmospheric refraction effects, or returns from the ground mistakenly perceived as airborne sources during the excitement of the diverse "UFO" observations. None of these "solutions" have yet to be conclusively proven, but all still remain potentially viable.

IFF's : Infamous Flying Fakes:

Not surprisingly, Ufological history is littered with examples of probable or suspected hoaxed photographs. What follows is a brief worldwide run-down of the more notorious faked UFO pictures.

The image of a domed saucer-shaped "UFO" appearing in five daylight photographs taken at Barra de Tijuca, Brazil on the May 7th, 1952 are strongly suspected to have been fabricated via superimposition. Six photographs taken in New Jersey, USA on the 29th July 1952 are thought to show a hat tossed into the air. Deliberate superimposition techniques were probably also responsible for a "UFO" picture from Taormina, Sicily (taken in the summer of 1954), that purports to show several people "watching" two inverted aerial domed-discs.

Many of the 1950's "contactees" used photographic "evidence" to substantiate their entity encounter claims. These range from (often unimpressive-looking) images of flying saucers to equally unimpressive images - such as that taken by Howard Menger in 1953 - of a shadowy figure standing before a supposed "spacecraft". The most prominent of the contactee photographs were those taken by the first of their ilk, George Adamski. Some of them are claimed to predate his alleged 1952 encounter with an entity from Venus. This includes a photograph of a dark cigar-shaped "mother-ship" surrounded by several luminous blobs. But his most renowned pictures were a series of close-up shots purporting to show a "Venusian scout-ship", taken just after his 1952 "contact". This image of a bell-shaped "UFO" with an under section comprising of three small inverted

"domes" located around a larger central "bulge" has since become famous throughout the world. Whatever the truth behind Adamski's numerous (and highly dubious) claims, UFOs closely resembling his "scout ship" have been allegedly observed (and photographed) by other independent, non-contactee witnesses.

Four photographs of a hat-shaped "UFO" taken at Santa Anna, California, USA on the 3rd August 1965 were once highly regarded within ufology. However, investigators from the University of Colorado UFO Project were able to duplicate them fairly closely, using a small model hung from a wire. About 10 years later these pictures also failed a computer enhancement test conducted by Ground Saucer Watch. On the 9th January 1966, at Lake St. Clare, Michigan, USA two teenage boys claimed to have photographed a dark lenticular "UFO" with an antenna protruding from its rear. Again, they were widely believed to be authentic. In the 1970's the "witnesses" later confessed to fabricating them, using a model hung from a thread. Much less convincing were three photographs depicting a hat-shaped UFO taken by an Ohio barber on the 13th November, 1966. Almost from the onset, UFO investigators noted major inconsistencies in the pictures frame-numbers (when compared with the order they were reportedly taken), and shadow-features which were inconsistent with the incident's claimed time of occurrence. Several pictures of a white tub-shaped object taken on the June 1st 1967 at San Jose de Valderas, Spain were, some years later, proved to be a model suspended from a wire (via the use of computer enhancement technology).

In comparison with hoaxed pictures, fewer IFO-based photographs have assumed the status of "classics" (mainly due to their less impressive appearance). The "Fortune Photograph", taken on October 16th 1957 near Alamogordo, New Mexico, is now commonly accepted to show a lenticular cloud. A picture of a group of four luminous ovals taken at Salem, Massachusetts on the 16th July 1952 are probably ceiling lights reflected onto a window pane.

The Uncertain & Unconfirmed....

There are also many UFO photographs that remain unresolved to this day, due to the various uncertainties which surround them. A luminated form photographed by a 14 year-old boy at Tulsa, USA (but reportedly witnessed by others) on the 2nd August, 1965 look interesting, but show a somewhat indistinct image against a featureless sky. Another (taken around 1954 near Edwards Airforce Base, USA) of a small disc located behind the tailfin of a B-57 bomber is more clearly defined, but the circumstances

surrounding its taking (and the identities of those who photographed it) remain unknown to this day.

Sometimes, confusion can result from inconsistent photographic testing results. On the 3rd July, 1967 at Calgary, Alberta two pictures were taken of a disc reportedly observed by several witnesses. Monochrome prints of these photographs passed a Ground Saucer Watch examination conducted in 1976. In 1977 GSW discovered that the Centre Of UFO Studies possessed colour versions of the Calgary pictures, and (as a result) that organization sent GSW copies of them for computer analysis. The colour print of the first picture passed their scrutiny, but GSW described the second as being "the crudest attempt at a hoax" they had ever seen. Later, these conflicting findings were explained as resulting from the print of the second picture being accidentally blurred during copying (and also to them being separated and assessed at two different locations). This example shows that, for all its advantages, computer enhancement techniques are not absolutely foolproof.

A photograph taken near St. George, Minnesota USA of a UFO (said to have been witnessed by five people) at around 6.10pm on the 21st October 1965, is one example of how several elements of uncertainty can work to the detriment of a UFO picture. Although this image of a fuzzy luminous disc looks quite convincing, again it is taken against a (near) featureless skyscape. Furthermore, the photographers' statement regarding the UFO (which describes a physical, metallic object) appears inconsistent with what is actually depicted in the photograph. Controversy also still rages whether two luminous blobs located just below the "object" are stars, satellites or just incidental marks on the film.

UFO Photographic Cases in the British Isles:

There are a substantial number of alleged British UFO photographs, but few have gained the status of "classics" (due predominantly to most UFO books being written from an American perspective). The vast majority of these, sadly, are proven or suspected hoaxes.

One of the earliest English UFO photographs was reportedly taken by a 13-year old boy at Coniston, Cumbria on the 15th February, 1953. It shows a blurry image bearing a very close resemblance to George Adamski's "Venusian scout ship". As a result, most Ufologists dismiss the photograph as a hoax, but the witness (when questioned in 1995) still maintained it was genuine. The book "Flying Saucers from Mars" (detailing a supposed February 1954 encounter between a Mr. Cedric Allingham and a "Martian" in the Scottish highlands) features several (very unconvincing) pictures of

the entities' domed-saucer shaped "spacecraft". These images are, in all probability, extreme close up shots of a small model.

In February 1962 a 14 year-old boy claimed to have photographed a hovering formation of five domed discs at Mosborough, Yorkshire. A decade later the "witness" admitted to hoaxing this picture by photographing an outdoor scene through a glass plate, upon which the group of "UFOs" had been painted. In the evening of the 29th August 1965, at Warminster, Wiltshire (during a "wave" of UFO reports focused around that town) a 19-year old male reportedly photographed a fast-moving domed disc against a featureless sky. The authenticity of this picture remains a matter of notable controversy, although the photographer still claims it to be authentic. Two women at Cappoquin, Eire, claimed to observe a glowing elliptical "UFO" at about 3.15-3.30pm on the 26th December, 1965. One of the witnesses managed to take a photograph of the phenomenon just before it was lost to sight. Its veracity remains undetermined to this day. At Conisborough, Yorkshire, around 8.30pm on the 28th March 1966, a young boy (with four other members of his family) reputedly photographed a "throbbing" hovering orange light. When developed, the resulting picture did not show a luminous body, but a formation of 3 dark domed discs. Today, most British Ufologists agree it is a fake, involving "cut-out" UFO's stuck onto a transparent surface and then photographed.

Approximately 12.00pm on the 26th October 1971 at Enstone, Banbury Oxfordshire, an Anglia Television camera crew (in the course of shooting a countryside documentary) observed a stationary round silvery object, which suddenly ejected a "contrail" as it moved away towards the East. It was later discovered the "UFO" had been observed over a considerable area by other independent witnesses. This event is now believed to be instigated by a high-altitude aircraft illegally dumping aviation fuel. The static phase is attributable to the 'plane coincidentally traversing along the witnesses' line of sight.

On the 11th January 1973 a luminous orange sphere was filmed 6.5 kms S.W of Thame, Oxfordshire at around 9.05am. The same "object" was also seen by some primary school children and a teacher located several kilometres away at the villages of Chilton and Shabbington. Near the time and location of these sightings it is known that a malfunctioning F-111 aircraft had been incinerating "dumped" fuel with its afterburners, prior to a planned (but later aborted) emergency landing. The UFO incidents are therefore attributable to the ignited plume of aviation gas then being emitted by this aircraft (which eventually crashed at 9.46am, some 30km away, near what is now Milton Keynes). Another film, taken in October

1977 close to the Stonehenge Neolithic monument probably shows flares (the region around this ancient site being heavily used for military exercises). However the witnesses have disputed this explanation, alleging the lights caused severe effects on themselves and upon various electronic and mechanical devices.

On the morning of March 16th 1981, at the village of Cracoe, North Yorkshire, several individuals (including two police officers) witnessed a static grouping of three intense white lights, situated by the side of a distant, craggy fell. Six photographs of the phenomenon were taken during the course of this almost 1 hour-long incident. Several years later these "lights" were found to have resulted from solar lumination reflecting off exposed damp quartz-bearing rocks. More recently, on the 5th August 1987 at around 5.00am, a slow-moving dark domed-disc UFO was reputedly photographed in Barnsley, Yorkshire. Photographic analysis from several individuals and organizations (including Ground Saucer Watch) indicates this picture probably shows a cut-out image stuck onto a window. However, this evaluation is disputed by the photographer.

In March 4th 1989 (due to a wave of "UFO" sightings in NW London and SW Hertfordshire mainly instigated by the Virgin Airship) Hertfordshire police redirected a traffic monitoring video camera situated near Junction 6 of the M-1 motorway. On four separate occasions during this period the camera recorded images of unusual moving lights, and also two static aerial light-sources that were continuously visible in the distance. The stationary lights were subsequently identified as Mars & Venus. The moving lights are thought to be aircraft, shuttling to and from Heathrow aerodrome. Around 7.44pm at Corby, Northamptonshire, on the 7th May 1994, a family observed (and filmed with their camcorder for almost five minutes) a hazy, slow-moving silver & black coloured elliptical object with "round bubbles" located around its outer rim. A subsequent investigation discovered the "UFO" was probably a cluster of birthday-party balloons.

"UFO Entity" Photographs Worldwide:

A genuine "UFO entity" photograph would be a major step in proving the physical reality of such beings. Surprisingly, quite a substantial number of supposed UFO entity photographs do exist; unfortunately most (if not all) are probable hoaxes.

The first "UFO entity" photographs originate from the early 1950's, allegedly showing dead (or captured) "aliens" in the presence of one or more humans. One (which first appeared in a April 1st, 1950 edition of a German newspaper) depicts a single-legged "alien" with a bulbous cranium being

"escorted" by two American soldiers. This photograph is a proven hoax, involving (somewhat crude) airbrush doctoring of a pre-posed image. The other (said to originate from an early 1950's UFO crash occurring near Mexico City) shows a tiny humanoid being held by two trench-coated men, with two women standing behind them. It is almost certainly a hoax (again perpetuated by a German newspaper), the "alien" probably a image superimposed onto some people grouped around a pram.

At around 9.30am in 31st July 1952, eight photographs were reportedly taken in the Bernina Mountains, Italy of a landed domed-disc shaped "UFO" and an adjacent space-suited "entity". These pictures are generally accepted to be a hoax, involving a scale model backdrop, "UFO" and "Alien". A white-suited figure (not seen by anyone present at the time) appeared in a photograph of a young girl taken in Cumbria, England on the 23rd May 1964. A recent examination of this picture has found indications of the unseen figure having been deliberately placed within it by superimposition techniques. However, the photographer strongly denied

In October 17th 1973 (following an alleged landing of a UFO just outside Falkville, Alabama USA), a police chief took four pictures of a silver-suited figure, which then reportedly ran away at incredible speed. These images have never been conclusively explained, but could depict an individual attired in a protective fire-proof outfit. Another picture (first surfacing in the 1970's) is said to show a dead entity inside a downed "UFO". In reality it probably depicts a badly-burned human air crash victim; a quite terrestrial-looking pair of spectacles being visible to the left of the body.

At around 7.45am on the 1st December, 1987, a male walking on Ikley Moor, West Yorkshire, England reportedly photographed a green-coloured "entity" scrambling up a hill, to a "UFO" reportedly just hidden behind an adjacent knoll. The resulting image is intriguing, but is notably underexposed. Following this observation, the witness claimed to experience a period of "missing time" of just under 2 hours. Additionally, a magnetic compass reputedly on his person at the time was later discovered to have permanently reversed its polarity. In the course of a later hypnotic regression, the witness recounted an UFO entity contact experience, occurring during the interval of "missing time". Some researchers suggest the picture shows an insurance salesman known to have regularly walked the moor on visits to local clients. The case's main investigators reject this explanation, on the grounds that the salesman was not present at the sighting location during the time and date of the incident.

Since the 1990's several photographs of "dead aliens" have surfaced, most notably in Russia and Japan. All these images (to date) are known to show

human-sized manikins, speculative reconstructions of deceased extraterrestrial beings supposedly retrieved from UFO crashes. One supposed UFO entity film - the so-called Santilli Movie - caused a minor media sensation on its first public showing in May 1995. Raymond Santilli, (then managing director of the Merlin Group, a producer of videos, music tapes and books) claims to have accidentally discovered it in 1993, while in America seeking early footage of rock and roll giant Elvis Presley. What is commonly termed the "Santilli movie" is, in actuality, said to comprise of around 20 silent black and white motion film-reels. They were purported taken by an ex-military photographer, who somehow managed to keep the original (undeveloped) film-canisters in his possession for 46 years. They are reputed to show the examination of alien bodies and artefacts recovered from a UFO crash occurring near Roswell, New Mexico, USA in July 1947.

One alleged section of this footage, the first seen by independent Ufologists, show two men in white coats (with one person in the background) inside a poorly lit tent or cabin. They appear to be taking tissue samples from a partially-sheeted body lying on a table. Two other sets of footage seemingly depict the autopsy of a large-headed humanoid entity with six fingered hands, conducted by 2 men dressed in biological/radiation protection suits. During the course of the "dissection", black "membranes" are removed from the entities' eyes, its torso, abdomen and skull are opened up and various (unrecognizable) organs removed. A further section of footage allegedly shows wreckage taken from the entities crashed UFO. This comprises of irregular slabs of metal indented with several life-size impressions of a six-figured hand and "I-beam" like fragments adorned with hieroglyphics.

This footage is generally suspected as being a recent fabrication by many UFO researchers. A number of studies have concluded the "alien" bodies are likely to be custom-made latex manikins derived from a body-cast, with hollow internal sections filled with organic-looking matter to render a convincing "autopsy" effect. The "UFO" fragments are deemed equally questionable; the displayed wreckage being totally unlike that described by the witnesses of the "actual" Roswell debris. Suspicion is further aroused by a shot of an "I-beam" section, upon which are depicted "hieroglyphics" closely resembling the English words "Video TV".

In 2006 a comedy movie called "Alien Autopsy" (sanctioned by Ray Santilli) reputedly told the true story of this footage. This film (and subsequent interviews) claims Santilli did indeed discover a movie depicting the recovery and examination of "alien bodies" from Roswell; footage which deteriorated rapidly soon after he had acquired it. This reportedly inspired

him to fake sections of footage in his London flat, to replace the damaged sections, by using many of the methods previously cited by critical commentators - namely a special effects dummy filled with offal acquired from Smithfield Meat Market! Nonetheless, Santilli claims the film presented to the general public in 1995 contains some surviving sections taken at Roswell in 1947 - although he can no longer recall which portions are the authentic ones. While this facile explanation satisfies some, many others remain unconvinced, being more willing than ever to totally dismiss the "alien autopsy" movie as a complete fabrication.

RADAR and UFO's

Some Basic Principles:

RADAR (the acronym of RAdio Detection And Ranging) is a remote sensor system which first entered use during the late 1930's. In grossly simplified terms its mode of operation can be described as follows. A rotating transmitter broadcasts a narrow stream of radio waves, a proportion of which are reflected back to the transmitter by any sufficiently solid object falling within that units range. This return signal, or echo, is then received by the RADAR system and shown as a dot-like blip upon a display unit called a Plan Position Indicator or Scope. By measuring the delay between the transmission of the radio signal and the receipt of the echo, an object's distance from the RADAR dish (and other data such as its speed) can be precisely determined. A "blip's" brightness depends on the strength of its echo, which itself is governed by the composition of the detected object. So-called "Stealth" aircraft utilize materials (and surface configurations) that produces a much smaller RADAR "signature" than is typical for an object of its size.

Despite its great value as a defensive, navigational and research tool RADAR has several inherent deficiencies. To begin with, it can only show actual structural details of objects much bigger than an aircraft (which themselves only appear as a small, anonymous dot upon a RADAR scope). Furthermore, at some ranges, a group of objects at the same distance (but at slightly different altitudes) will be shown as a single large blip, until they move a greater distance apart.

RADAR is utilized for a variety of tasks. RADAR systems using specific radio frequencies are used to detect clouds, rain-belts, birds and insect swarms (whose echoes are less defined on units designed for air traffic control purposes). These differing RADAR systems all possess there own

unique range and coverage characteristics, and are prone to specific sorts of spurious targets and atmospheric effects.

For Ufologists, the most important RADAR systems are those used for aircraft flight management. Airport Control Towers monitor aircraft within their designated airspace (or Terminal Control Area (TMA)) passing them onto Air Traffic Control Centres (ATCC) once they move out of their jurisdiction. Air traffic activity on the average TMA/ATCC RADAR scope is such that a controllers' attention must be confined only to commercial flights. Those "returns" of no concern to them are ignored, unless they violate flight-zone regulations, move in a highly anomalous manner or trigger off a conflict alert by moving too close to another aircraft.

Modern air-traffic control RADARs are equipped with a data processing "filter" called a Moving Target Indicator (MTI). When activated, an MTI removes all non-relevant returns - or Clutter - (such as elevated ground features) from a RADAR display. A RADAR system reverts to a Primary setting when the MTI is switched off, resulting in all detectable objects appearing upon a unit's scope. Secondary RADAR depends on Transponders; a specialized radio transmitter carried by all commercial (and most private) aircraft. This device broadcasts the aircraft's call sign, altitude and destination to a RADAR unit, which then displays this data on its Plan Position Indicator.

It is well known that anti-ICBM defence RADAR systems, such as those utilized by NORAD, often register "unknown" returns (termed UCT's, or UnCorrelated Targets). As far as is publicly known, no work has ever been conducted to determine their actual identity. Officially, they are deemed to be generated by mundane objects such as meteors, satellite re-entries and launches.

Most ufologists prefer RADAR cases where an "anomalous" return is noted in conjunction with a visually observed "UFO". This is because RADAR can be "fooled" by a variety of atmospheric conditions (or even malfunctions within the RADAR mechanism itself). Under certain atmospheric conditions anomalous propagation can occur. This effect (induced by temperature inversions) causes ground features not normally detectable by a RADAR set to temporarily appear on its scope. On some RADAR sets, a "ghost" signal of an already "ranged" object is sometimes "detected" close to the originating "target", precisely mimicking its motion(s). Angels are the semi-official term for a specific class of natural RADAR return. Typically, this phenomenon manifests on an RADAR scope as an erratically moving and intermittently visible "return". They are variously thought to be caused by moving "pockets" of air (who's temperature differs to that of the surrounding

environment), swarms of insects or electrically-charged atmospheric particulates.

The existence of all these phenomena emphasizes the need for apparent RADAR detections of UFO's to be associated with a visually-observed stimulus. Even in those instances, the possibility of a false "return" always renders this form of UFO evidence open to some doubt. There are many cases where a "UFO" is not detected by an adjacent RADAR unit (such as was the case with the 1991 Manchester "UFO air miss"). The reasons for this are potentially manifold. For instance, a "UFO" could be (for some reason) a poor reflector of RADAR waves. If so, it could not comprise of electrically-charged gases (such as is the case with a conventional "plasma"), as these produce very clear RADAR returns. More prosaically, the UFO's presence could be effectively "deleted" by RADAR "filter" systems, or it could be much further away than it appears. Even with all the technical advances over the past 50 years, the human operator remains the key element of any RADAR system. In order to judge the "outlandishness" of any "unusual" return, an operator must be both well versed in the equipment he or she is responsible for, and be acquainted with how local conditions commonly affect a given RADAR unit.

RADAR-UFO Encounters:

Why are RADAR-UFO cases so important to UFO research? As with photographs, a validated RADAR detection of a "UFO" goes a considerable way to proving its material nature. Secondly (and more importantly) they provide an objective assessment of a "UFO's" speed and trajectory. The motion attributes of "UFOs" in the more notable RADAR-UFO events are identical to those reported in "conventional" visual sightings; sustained or sudden bursts of rapid speed, long-duration hovering, and swift tight-angle turns. Thereby, such instances go some way in demonstrating that these UFO motion aspects are actual, and not attributable to subjective factors. In the 1960's the Director of Blue Book was asked to state (under oath) whether the project had any unexplained RADAR cases on record; he replied that it did not. It is true that most RADAR-UFO events in the Blue Book files (such as the Lakenheath/Bentwaters incident) are listed as resolved. However, the explanations cited for some of these cases (again, such as with the Lakenheath/Bentwaters event) have been deemed highly unlikely by several notable RADAR experts.

On the 19th-20th July, 1952, around the vicinity of Washington D.C, USA, RADAR units located at Washington National Airport and Andrews Airforce Base detected anomalous targets performing a variety of manoeuvres (hovering, flying in formation, as well as a rapid 90 degree turn). Several

lights were seen in association with the RADAR returns, but F-94 jets sent to investigate them found nothing on reaching the area. RADAR detected another unknown target in the same region a week later. Again, an aircraft was sent to investigate. The pilots involved observed a light in the region originating these RADAR returns. However, shortly on being observed, it appeared to move away from this vicinity at very high speed. These events are now held in lesser regard by ufologists than they once were, it now being generally accepted that the RADAR returns are explicable in terms of anomalous propagation.

At West Freugh, South West Scotland, on the 4th April 1957, an anomalous target was plotted by three widely separated RADAR systems. Initially stationary, the target then seemed to rise vertically and (after making a very sharp turn) moved to the South East, appearing to gather speed as it did so. As this juncture, two RADAR units noted the alteration of this single "blip" into four distinct targets (each estimated to be comparable to a ship in apparent size). An official report into this incident concluded they were "five reflecting objects of unidentified type and origin...unlikely to be conventional aircraft, meteorological balloons or charged clouds". Although an important RADAR-UFO case, the fact that no visual UFO's were observed makes viable a diversity of potential natural explanations.

England's prime RADAR-visual UFO encounter event occurred at Lakenheath, Suffolk, on the 13th-14th August, 1957. Over a period of several hours (commencing at around 9.30pm), very fast moving echoes were detected by RADAR systems located at both USAF/RAF Bentwaters and Lakenheath. They were seen (by several independent observers) in association with rapidly moving bright white lights, whose motions closely matched the RADAR returns. Many sceptical investigators (including those associated with the Condon Project) consider this event to be significantly anomalous.

Few RADAR-visual UFO cases are reported today. Some researchers believe this is due to improvements in RADAR systems, resulting in modern units producing fewer spurious returns. Others state that more recent RADAR-UFO events are deemed to be classified information. The main reason for this secrecy could be that any indication of the range, sensitivity and coverage of a specific RADAR set-up (especially those used by the military) would be of considerable use to any potential hostile power. Despite this, it is not uncommon for "leaked" rumours to circulate within ufology of comparatively recent RADAR/UFO incidents (from supposedly semi-official sources).

Direct Physical UFO Evidence

Physical matter originating (or resulting) from a "UFO" manifestation is probably the most highly desired form of UFO evidence. Unfortunately, no example of such "proof" presented to date has resulted in the conclusive validation of extraterrestrial visitation (or other anomalous event).

“Angel Hair”.

“Angel Hair” is a very rare form of alleged UFO-related discharge. It reportedly manifests as a white fibrous substance seen to fall from airborne UFOs, sometimes in great quantities. Especially puzzling is its inclination to dissipate into nothingness a few moments after being handled. It has been proposed that "Angel hair" (and any associated "UFO") may be natural in origin, either the result of "balloon-spider" migrations or industrial discharges. Other researchers feel a less mundane solution is required to account for some instances. They propose that bona-fide "angel hair" is composed of matter liberated from the atmosphere and bound together by UFO-generated ionizing/electrostatic processes.

Direct Physical UFO Evidence.

The first claim of a UFO supposedly generating direct physical evidence reportedly occurred near Maury Island (a peninsular 5 kilometres from Tacoma, Washington USA). At this location on the 23rd June 1947, a formation of 6 silver doughnut shaped "UFOs" were purportedly observed, one of which discharged light metal "flakes" (and later rock-like slag) directly onto a boat containing two men, a boy and a dog. During this "rain" of debris, the boat was reputedly damaged, the boy injured and the dog killed. Those who saw examples of the metal "recovered" by the "witnesses" stated it resembled scrap material derived from surplus WWII aircraft (quite commonplace in that era). The slag may have been naturally occurring rock or (as stated by UFO researcher John Keel) radioactive material illegally dumped from the air.

In September 1957, metallic fragments supposedly originating from a disc-shaped UFO which exploded over a beach at Ubatuba, Sao Paulo, Brazil, were sent (with a letter detailing this event) to a Brazilian newspaper columnist. Initial examinations of this metal suggested it was a totally pure form of magnesium. But a later examination by the University of Colorado UFO Project found it to be no more purer than other test batches of magnesium made during (or even before) 1957. Other examinations of the

Ubatuba fragments were conducted after this date, some which suggested the metal was unusual, while others indicated that it was fairly mundane in composition.

A few claims have also been made concerning the "recovery" of small "UFO"-like artefacts. One of the best documented instances relates to the discovery of an unusual object reportedly seen falling to earth near Silpho Moor, Scarborough, Yorkshire, on the 21st November (or the 1st of December) 1957. This 46cm diameter disc-shaped construct weighed 16 kilograms, and had a "hieroglyphic" inscription running around its lower section. When cut open, it was found to contain a copper tube which itself held 17 thin copper sheets adorned with further "hieroglyphic" writing. A supposed translation of this text relayed a message from the disc's extraterrestrial creators, describing how and why it had been dispatched to Earth. On examination, the object was found to be constructed from copper and lead; the composition of both being terrestrial in nature. Needless to say, this case is widely dismissed as a hoax today. It is claimed (but not irrefutably documented) that the hoaxers responsible for constructing the saucer later confessed to their involvement in this affair. In some ways this case shares some similarities with an elaborate student hoax perpetrated in September 1967, involving several small flying saucer models placed in a line spanning a considerable portion of Southern England.

There is reference in the early UFO literature to a substance termed "space grass", which some researchers suggested was associated with UFO activity. This was, in actuality, Chaff; thin metal strips dumped from aircraft in order to "spoo" RADAR systems during military exercises. Similar claims were also made in relation to small spherical RADAR calibration targets, occasionally discovered by those unfamiliar with their true nature. One of the most unusual forms of alleged UFO physical evidence were several pancakes supposedly given to a witness by UFO entities encountered in April 1961, at Eagle River, Wisconsin, USA. An examination by the American Food & Drug Administration revealed them to be terrestrial in composition; comprising of a mixture of fat, buckwheat, bran and soybeans (but notably lacking in salt).

Recovered Implants & "Black Light" Marks.

Many UFO abduction narratives involve claims of its participants being inserted with "implants" during their experience (mostly in the nose and head region). In addition, there are also allegations of suspected "implants" coming to light during X-ray, MRI or CAT scans. Few of these instances are associated with a subsequently retrieved artefact. Of those implants which are supposedly recovered, few such instances have been adequately

documented. The majority of "implants" are claimed to "dissolve" or suddenly turn to powder when removed from the body, and those located by MRI/CAT scans have a tendency not to appear on later examinations.

In 1989, an "implant" was recovered from the genital region of a long-term abductee (who claimed repeated entity encounters dating back from his childhood). This item (and several others recovered shortly afterwards) was elongated in form, about 4mm long by 1mm wide in size, and composed of a brownish non-metallic translucent material. A detailed examination of these "implants" revealed them to be composed of a combination of calcified human skin cells and cotton fibres.

In Houston, Texas, USA an examination of several alleged UFO abductees conducted in late 1995 resulted in "implants" being discovered within their hands and feet. On removal, these artefacts were found to comprise of a dark metallic "core" enveloped by a dense organic "membrane". When this "membrane" was scrapped away, these "cores" were revealed to be two separate (but tightly joined) t-shaped objects, just under 5mm in size. Furthermore, it was claimed that there were a greater number of nerve endings in the flesh surrounding them, and that a gauss meter exposed to one of these "implants" reacted wildly to its presence. To date, independent evaluation the Houston "implants" have yet to be conducted.

Neither of these examples involves objects of a proven extra-terrestrial origin. Indeed, in one instance their composition was very strikingly mundane. Some researchers suggest that the "aliens" responsible for UFO abductions are able to create sophisticated "implants" from any material. Sceptics point out such speculative thinking places such claims beyond scientific validation.

In the mid-1990's some American UFO researchers began to report finding strange markings upon the skins of some UFO abductee claimants. These patterns (sometimes stated to be highly elaborate in configuration) are visible only under the lumination of a ultra-violet lamp (which is known as "Black Light" in the United States). Its common attributes are currently unknown, as no systematic examination of this phenomenon has yet been conducted. Little has been written of this effect in recent years.

CSI comes to UFOlogy - DNA sampling and other forensic techniques

The scope of forensic science has been markedly expended since the discovery of the PCR (Polymerase Chain Reaction) technique in 1983. This method utilises bacteria to reproduce strands of DNA on a large scale; offering a means by which genetic material can be recovered from

crime scenes and victims in order to identify perpetrators. The potential of using this and other similar forensic methods to retrieve evidence has not escaped the notice of UFO researchers. While the expense of such techniques precludes its commonplace utilisation, several attempts have been made to employ these methods to acquire proof of UFO events. During the late 1990's the 500 year-old malformed skull of a 5 year-old child of possibly central American origin became widely discussed in the UFO literature. This so-called "Starchild skull" has been advocated as evidence of pre-Columbian alien contact involving supposed human/alien hybridization. In 2006 mtDNA (or mitochondrial DNA - which indicates maternal origin) was successfully recovered from this skull; the results of nuDNA ("nuclear" DNA, which indicates paternal lineage) is presently being conducted.

In regard to abductions, one element of the Australian "Khoury encounter" (a series of events mostly involving a single witness spanning the 1970's up to the 1990's) involved the recovery of a strand of hair associated with a sexually-charged entity reportedly encountered in the witnesses' bedroom in July 1992. Subsequent mtDNA analysis discovered this hair was associated with a rarefied Asiatic and Celtic DNA profiles, while an attempt to recover nuDNA was unsuccessful. DNA analysis has also recently been attempted on the dress worn by the late UFO abductee Betty Hill reputedly during her 1962 experience. Other comparable use of "forensic" style methods also includes the mass spectroscopy analysis of the small desiccated body of an alleged "alien" corpse found in Israel in 1997. This examination (funded by BUFORA) determined this body was, in actuality, a terrestrial amphibian.

Crashed Saucers:

Undoubtedly, the ultimate form of direct physical UFO evidence would be an actual "UFO" itself. Rumours of crashed flying saucers recovered by governmental agencies (termed "**Retrievals**" by some UFO researchers) have been a part of ufology almost since its inception in the late 1940's. The first widely publicized retrieval claim was featured in a book entitled *Behind the Flying Saucers*, first published in 1950. This work (authored by Frank Scully) gave details of the supposed recovery of three spacecraft (and their dead alien crew) by the United States Air Force. Two of these saucers had allegedly fell near the town of Aztec, New Mexico, another close to Phoenix, Arizona. In September 1952, *True Magazine* publicly exposed this claim as being a hoax perpetrated by two notorious confidence tricksters. It is thought that the hoaxed 1950's "dead alien" photographs from Germany (discussed previously) were inspired by this allegation. A later (but lesser known) retrieval relates to the "recovery" of a

crashed saucer and several charred crewmen discovered at Spitzbergen Island (located approx. 420km North of Norway) during the middle part of 1952. Again, this is thought to be a hoax derived from Scully's book.

Much later, during the mid-1970's, veteran American UFO researcher Leonard Stringfield authored a series of articles and papers detailing several new UFO retrieval allegations originating from the United States. The testimony relating to these events were often anonymously submitted (or came from third-hand sources) and were unsupported by any material proof. However, these claims set the stage for the return of a once-forgotten retrieval event that would eventually take on major importance within Ufology.

An alleged 1947 "UFO crash" near the town of Corona, New Mexico was quickly forgotten following a USAF press conference which "explained" the recovered debris as originating from a weather balloon. However, new interest in the case was ignited in 1980 by a book called The Roswell incident, authored by Charles Berlitz and William Moore. This was eventually followed by numerous reports, books, documentaries and films covering the various claims associated with this event.

This affair began at the Foster Ranch, a farm located 48kms from the town of Corona, New Mexico, USA (and some 120 Km from the town of Roswell). On the 3rd uly, 1947 (or, according to some sources, the 14th June) the ranches' foreman, William W. ("Mac") Brazel, came across diverse fragments scattered widely around a field. These reportedly comprised of unusually strong shiny "foil", threadlike material, "I-beams" and tape decorated with "hieroglyphics". Personnel from the Roswell Army Air field eventually visited the site and recovered the fragments, which were then flown to Fort Worth Airbase for examination. A short time later (after some notable press excitement) the military claimed the debris were actually pieces from a weather balloon. Great controversy remains over whether the pictures of the fragments released to the media show the material actually recovered from the Foster Ranch. Rumours and first-hand claims surfaced many years later stating that a more complete section of the "UFO" (along with several "alien bodies") was discovered a few kilometres from the main "debris site".

Due to pressure within American government circles for full official disclosure concerning the Roswell incident, The US General Accounting Office (GAO), conducted an enquiry into this event, issuing a report on their findings in 1995. This enquiry found no evidence for a cover-up and discovered no new major documentation relating to the event. It further suggested that a formerly secret military reconnaissance balloon

programme called Project Mogul was the source of the Foster Ranch debris. The findings of this report are rejected by those who are convinced the incident involved a crashed UFO, who state its negative findings are based on incomplete data. Sceptics point out the report uncovered nothing to refute a down-to-earth solution for the event, and actually strengthened the case for one.

The UFO "Cover Up":

A considerable number of UFO researchers believe that the official policy of most governments of deeming all UFOs to be explicable (and publicly issuing statements to this effect) is, in actuality, a smokescreen utilized to "cover up" the "truth" about UFOs. The nature of this "truth" is sometimes claimed to involve the "fact" that official agencies are aware that some reports are truly inexplicable, but conceal this knowledge due to their inability to stem the tide of unidentifiable incidents. Other researchers allege that at least some governments know the true origins of UFOs, acquiring this knowledge either through direct official contact with aliens or via crashed UFOs and "extraterrestrial" cadavers which incidentally came into their possession. A variation of this concept claims some governments are directly responsible for most UFO events (which, in actuality, involve classified spying missions and secret technology, even - in the case of abductions - illegal mind control experiments). It is further alleged that Project Blue Book (and the limited UFO report monitoring efforts of other countries, such as the UK) were (and still remain) a "public relations front" to conceal more covert and elaborate projects relating to UFOs.

The most prominent critic of the Air Force's UFO policy during the 1950's and 1960's was the writer (and NICAP director) Donald Keyhoe. Both in his books and through NICAP he espoused his suspicion that the government were fully aware that UFOs were extraterrestrial devices. He suspected that covert forces within officialdom (which he termed the "Silence Group") were attempting to conceal the truth about UFOs by falsely "explaining away" all sightings and controlling information on inexplicable reports. This was due, alleged Keyhoe, to governmental concern over the detrimental effects which official acknowledgement of extraterrestrial visitation could have on society. Others since that time have promoted revised conceptions of the "UFO cover-up", which in general essence differs little from Keyhoe's original interpretation of it.

It is clear from the historical record that the USAF projects did enthusiastically indulge in a policy of debunking, by attempting to explain all UFO sightings by any means possible. Debunking in its most detrimental sense did (and does) occur when totally inappropriate and improbable

explanations are proposed for "account" for a specific UFO incident. But it is also equally clear that - most of the time - the USAF approach was actually valid. This is reflected by the fact that the majority of reputable UFO societies active today use the same methods of case evaluation as the USAF, which uncover the same causes for IFO events cited by Project Blue Book; astronomical bodies, weather balloons, aircraft and so on. Furthermore, the majority of civilian groups even arrive at a percentage of unknowns comparable with the old USAF sighting statistics! The only way which UFO groups differ in their approach to the USAF is in their conviction that the "Unknowns" represent extraordinary aerial events.

Hence, it is just as likely that official attitudes towards UFO's may not be the consequence of a sinister, world-shaking cover-up, but just a mistaken official interpretation of the evidence! The USAF attitude of explaining all sightings may have resulted from a predominant conservative social and scientific attitude towards such (at that time) novel and extreme events. This view would have seemed all too justified by the considerable number of IFO incidents received by (for example) the USAF. It may have equally arisen from Cold War-era fears of sightings being utilized in psychological warfare by hostile powers. It may have come about as the consequence of both these factors combined. This alone could well have resulted in some anomalous events being incorrectly "evaluated" or "overlooked", hence condemning any "true" UFO report to conceptual oblivion.

Whatever the truth, it is clear that the American government did have regulations whose intentions were to control the flow of UFO reports. For example, JANAP (Joint Army Navy Air force Publication) 146, issued in 1951, governed the reporting of any missile, submarine, aircraft or UFO. It made all those potentially covered by this regulation (both civil pilots and military personnel) liable to prosecution if they prematurely released such information to nonofficial sources. Another regulation issued in 1953 (AFR 200-2), required those involved with assessing UFO reports to reduce the number of "unidentified" reports to a minimum. It also forbade air-force personnel from talking to the media on UFO matters, stating that any queries relating to the subject were directed to Project Blue Book. Furthermore, it ruled that details of a sighting were not to be released until the Air Force was satisfied it was explicable. According to Edward Ruppelt AFR 200-5 was intended to encourage reporting of UFOs to Blue Book, as negative publicity about the subject were making witnesses reluctant to come forward.

In 1974 (long after the termination of Project Blue Book) changes to the Freedom of information act in the United States encouraged a court action by Ground Saucer Watch, aimed at obtaining any UFO-related information

held by either the CIA or the NSA (National Security Agency). By the early 1980's (after some considerable effort on GSW's part) several thousand pages of data had been released. This information included translation of foreign articles, copies of letters to and from ufologists, details of foreign UFO reports and internal memo's mainly dealing with the Air Forces' UFO projects. Some of these documents are heavily censored (many lines of text being overwritten with black "masking" pen). Furthermore, a considerable number of documents remained withheld on alleged national security grounds. These documents remain highly controversy and are open to a variety of interpretations. Some claim they prove the existence of a long-term UFO conspiracy by both the CIA and the NSA, others that they simply indicate the subject was monitored at a low level by these agencies.

Officially, the English political establishment has always been highly sceptical of UFOs (basing this attitude upon the findings of the Blue Book and the Condon Report). In England the Official Secrets Act controls the flow of classified information within military and governmental channels. Official documentation about various subjects (including UFO's) are, at the earliest, released 30 years from their date of origin. For particularly sensitive documents this interval ranges from 70 up to 100 years. It is believed, from statements made by M.P's and civil servants, that some early UFO documents (such as those relating to the 1957 Lakenheath/Bentwaters incident) were destroyed as part of a file-clearing policy enacted after every 25 years. However, other documents from the same era have resurfaced. Why these (and later discovered) items "survived" is currently unclear.

All the above makes it clear that official enquiries relating to UFO matters have been rated as "classified information" in some circumstances. It also indicates that claims and evidence which seemingly supports the reality of a "UFO cover-up" requires as much carefully assessment as the UFO reports themselves. Are the instances where the government has withheld information on UFOs attributable to some earth-shaking hidden knowledge about the subject? Alternatively, could it be due to more mundane reasons, ranging from unease about certain documents demonstrating official uncertainty as to the nature of UFOs, or fears that they may publicly reveal the infrastructure of military establishments, modes of communication and the capabilities of "sensitive" military technology? This is still very much an open question, although current evidence seems to suggest the latter possibility.

The Cover-up's Wilder Side; MJ-12 To "Area 51":

Before the mid-1980's, the majority of governmental cover-up allegations were relatively mild, involving the suppression of important cases and the misrepresentation of sightings. This changed drastically during the mid-1980's, when a series of astounding allegations were made which, if true, inferred that the American government's had considerable knowledge of the origin of UFOs. By the beginning of the 1990's these allegations had become highly influential aspects of popular ufology (and remain so today).

The most important of these relate to a supposed top secret American UFO study group called Majestic 12 (reputedly also known by the abbreviations "MJ 12" or "Majic-12"). Evidence of this alleged organization first surfaced in 1984, when a roll of an anonymously-submitted microfilm arrived at the residence of television producer Jamie Shandera. The group's name supposedly derives from its administration panel, which comprised of 12 high-ranking individuals with notable scientific, political and military backgrounds. It is said to have been founded in 1947, as a direct consequence of the so-called "Roswell incident". The "main" MJ-12 paper is a 5-page document dated the 18th November, 1952, and appears to be a "briefing" dossier issued to President-elect Eisenhower. This lists the members of this covert group and, additionally, gives information relating to the Roswell incident (and the UFO reports which preceded it). It describes in some detail the discovery, recovery and analysis of a crashed extraterrestrial device from that region, which the "dossier" claims contained 4 dead aliens. The second "core" MJ-12 document is a letter dated September 24th, 1947, addressed to alleged MJ-12 member James V. Forrestal and purportedly issued by President Harry Truman, outlining the project's brief. Some UFO researchers feel the MJ-12 papers are conclusive proof for the reality of extraterrestrial UFO's and the cover-up, and vindicate the "crashed alien spacecraft" interpretation of the "Roswell incident". Others state that the documents show many indications of being fairly recent forgeries. A steady flow of fresh documents relating to Majestic-12 have continued to appear throughout the 1980's and 1990's.

Following the appearance of the Majestic-12 "documents", several individuals came forward with yet more "revelations" concerning the American governments' alleged cover-up of UFOs. A host of astounding allegations were made by a variety of documents, mainly the so-called "Beta Report", "The Lear Document" and the "Dulce Papers", all of which first appeared in the late 1980's. These documents alleged that living alien "hostages" were being held by the American military establishment, and (more astounding) the American government had officially sanctioned extraterrestrial "harvesting" of UFO abductees and livestock. Detailed

claims of alien bases upon the earth and secret deals between aliens and various world governments became commonplace during this period. Although all these allegations were (to say the least) fantastic and poorly substantiated, they indirectly formed the basis of a revamped extra-terrestrial belief system that would dominate public discussion of the UFO phenomenon throughout the 1990s.

In recent years much attention has been being focused on the Nellis test range complex, a large area of highly-restricted (and heavily-secured) land in Southern Nevada, USA, used to develop various classified aircraft. Past examples of devices tested and perfected in this locale include the U2 spy plane, the SR-71 and the F-117A and B-2 stealth aircraft. Sites within this region (semi-officially termed "Area 51") include Groom Lake Air Force Base. Film taken from just outside the bases' parameter show lights moving in an anomalous manner; performing turning manoeuvres which would render unconscious any human pilot contained within such a device). However, most Ufologists feel that (at least) the majority of this footage depict UAVs (remotely piloted vehicles) developed at Groom Lake, which (due to being teleoperated or robotically controlled) can perform manoeuvres impossible for a manned aircraft. The USAF refuses to make any detailed comments concerning their activities at Area 51. The mystery surrounding this region deepened with the allegations made by Bob Lazar, an individual who claimed to have worked as an outside technical contractor on an installation called "S-4" (reportedly located some 16 kilometres from Groom Lake AFB) during the late 1980's. Lazar and others were supposedly employed to "back-engineer" nine disc-shaped devices of alien origin, said to fly via "amplified gravity-wave" propulsion units and anti-matter power plants!

The Government (or someone) is watching...

A few UFO researchers allege they are (or have been) "monitored" by governmental agencies; citing possible instances of mail-tampering and 'phone-tapping as evidence to support their assertions. Documents have surfaced (the majority of which are probable forgeries) claiming certain Ufologists are government "plants", who's aim is to spread false information about this subject. However, it is a matter of record that several American UFO researchers have openly claimed to have acted in this capacity on behalf of certain intelligence agencies.

UFO witnesses have (from many countries) have claimed visits by one (usually more) individuals alleging to represent various government departments. Usually, such visitors appear to be what they claim. A few such claims refer to visitors who appear or behave outlandishly. They may

act in an idiotic manner, ask strange questions, dress in out-of-date outfits and/or drive decades-old (but "showroom fresh") cars. They may give military credentials which, following later enquiries, turn out to be false. In some instances they confiscate - or attempt to confiscate - UFO photographs or other "evidence". They are also claimed to "advise" witnesses not to discuss their sighting, often issuing "B-Movie gangster"-type threats in the process. It is to this peculiar category of pseudo-official visitor that Ufologists give the title Men in Black, or MIBs (named after their supposed preference for dark attire).

These so-called "Men in Black" made their first appearance during the early 1950's in a sensationalist book written by Albert K. Bender (who, incidentally, founded one of the first civilian UFO groups) called *"Flying Saucers and The Three Men"*. Most ufologists dispute the (very) wild allegations made in this tome, but it set a precedent for such visitors. Views about the true nature of MIBs vary from them being direct representatives of aliens, government agents from a secret UFO governmental study group or merely eccentric UFO buffs passing themselves off as officials in order to get access to witnesses.

Recent Trends in Ufology.

The belief in a UFO cover-up (along with other, more extreme, aspects of the subject) has been markedly popularized (and doubtlessly reinforced) in recent years by several media conceptions and innovations. Equally, these same trends may have also contributed to its decline during the first decade of the 21st century.

In 1993 British television first broadcast a horror/Si-Fi series called the "X Files". Upon its initial showing many TV critics wrote the programme off as badly-acted "escapist" garbage. Even those involved in its production (such as its creator, Chris Carter) believed it would not even last a single series! But (against all expectations) the "X Files" became a global phenomenon, succeeding largely by reflecting the beliefs, concerns and ideals of contemporary culture. The "X Set in the present day, the "X Files" deals with the adventures of several FBI agents who's brief is to investigate unexplained phenomena. Many episodes featured stories based around UFO sightings, crashed flying saucers and alien abductions, loosely derived from actual claimed experiences. In regards to UFO's, the "X Files" underlying narrative is that UFO's are from outer space and covert forces within the government are involved in a secret "war" to suppress evidence capable of proving their existence, by any possible means. This programme is thought to have largely instigated the current 1990's obsession with the paranormal. The "X Files" further resulted in bring many

previously obscure Ufological claims to the attention of a mass TV audience, thereby allowing them to permeate mainstream society. However, by the time the show ended in 2002 (after nine seasons) interest in Ufology had experienced a marked global decline.

Nonetheless, while it lasted, the popularity of the "X-Files" alerted TV producers to (the then notable) substantial interest in UFOs and the paranormal within the general viewing demographic. Prior to the 1990's UFO documentaries were few and far between, with nearly all that did appear adopting a highly sceptical approach towards the subject. But, in the wake of the "X-Files", UFO's began to be covered on a more regular basis. With VCR (and later DVD players) followed by internet based digital formats) becoming commonplace in most English households a wave of special interest productions dealing with UFO's began to appear; the number currently available now being quite considerable. The rise of digital TV during the early 21st century and the consequential mushrooming of new TV channels provided further incentive for the production of UFO themed series and one-off documentaries.

The scientific (and sceptical) community have, however, expressed concern over many of these prolific "new wave" of UFO "documentaries", due to their marked tendency of avoiding balanced discussions of the UFO phenomenon (with any negative evidence relating to a specific case being usually ignored or, at best, played down). The majority unquestionably advocate an extraterrestrial origin for those "UFO" events they deem to be "unexplained". Even more controversially, many utilize speculative dramatized "reconstructions" of notable UFO cases, which often give the viewer no reason to doubt they truly involved phenomena of a highly anomalous nature. As a result, many UFO sceptics condemn these programmes as being mere "paranormal propaganda", whose aim is not to inform, but to deliberately pander to the pseudo-mystical yearnings and credulity of the public.

At around the same time, various glossy newsstand magazines dealing with UFO's appeared on the market. Although there had been previous attempts at producing a publicly - available UFO magazine, few such efforts lasted more than a few issues, no more than one ever appeared in a specific moment of time and, in the main, their circulation tended to be quite limited. However, in the "X-Files era" a prolific number of competing UFO journals lined the magazine shelves, some remaining in circulation for several years or more. Like many contemporary TV and video UFO documentaries, the majority of these publications were notably uncritical and tended to be predisposed towards an extraterrestrial-based interpretation of the subject. By the early 2000's they had all ceased

newsstand publication, although a number of new (relatively short lived) UFO magazines have subsequently appeared over the past two decades.

This marked popularization of UFO's coincided (or, perhaps, was aided by) the rise in usage of the Internet; a global computer-based communication medium which has had a major influence upon Ufology in recent years. Prior to its general availability it was virtually impossible to circulate "fringe" ideas among a mass audience; the associated printing and distribution costs involved rendering this an impossibility. With the arrival of the Internet and powerful, compact mobile computers the need to physically "print" ideas is now no longer required. The Internet can curate and display textual, visual and audio data in an easily updatable format, making such information swiftly available on a global basis. The fact that most Internet providers exercise little control over what can be uploaded (regardless of how loathsome or spurious) has greatly aided the mass dissemination of various Ufological and other "fringe" topics; albeit at the cost of flooding such topics with a torrent of low quality information.

As a consequence, conspiracy theories once deemed so ridiculous as not to merit discussion (such as speculation that the moon landings were hoaxed by NASA) now receives mass public exposure via this medium, and, as a consequence, appears more often in other media (such as TV, magazines and books). It has provided an easy conduit for once fringe conspiracy theories to reach an audience of millions. These theories have become so prevalent in society that they attract a similar (if not greater) degree of interest as UFOs did during the late 1990's. Most of these claims represent virtually omnipotent governments who only experience negative events either because they directly plan them or due to the opposition of an equally powerful secret group (for which little evidence usually exists). Some of these claims infer various world governments are working for - or are directly controlled by - extraterrestrials; the most prolific of these claimants being the New Age writer David Icke. As consequence, conspiracy theories have come to dominate discussion of UFOs over the past decade.

The Internet has also had a notable effect in making information on UFOs directly available for virtually little cost, through discussion forums and internet-based mailing lists; often working in conjunction with other "web-able" digital technologies such as pdf data files and flash/mpeg video excerpts. This trend has accelerated the decline of mass-membership UFO societies, once a notable part of the subject from the 1960's but who began to fade from existence by the late 1980's. Some of these bodies, such as the British UFO Research Association (BUFORA), have survived this trend by becoming limited membership societies composed of active

researchers and investigators, who use websites as their main communication medium. This latter approach mostly avoids the need to physically print information, replacing it with a cheaper media format capable of the inexpensive reproduction of high quality copy such as colour images.

What Lies Behind UFO Reports?

Despite more than half a century of sightings and speculation no clear consensus has yet emerged regarding the origin of UFO events. There is, however, a plethora of (often wildly) divergent opinion concerning their possible nature. Conventional scientific wisdom still dismisses all UFO events as misperceptions, hallucinations, hoaxes or optical illusions. Within the Ufological community there is a considerable lack of consensus regarding the origin of UFOs, with notable differences of interpretation existing even among researchers sharing the same ufological perspective! The only thing that Ufologists can all agree on is that some UFO events require extraordinary explanation schemas to satisfactorily account for them. Therefore, any attempt to objectively explain "True" UFO events must involve the examination of a wide variety of hypothetical possibilities.

For a given UFO hypothesis to be both truly viable and scientific, it has to be demonstrable, falsifiable, possess clearly defined parameters and satisfactorily account for the diverse reported attributes of "true" UFO phenomena. Furthermore for a theory of UFO origin to be acceptable to the scientific community, it should (as much as possible) be consistent with our current understanding of the natural world. It is quite apparent that many currently popular UFO theories fail on nearly all these counts. Many are effectively incapable of validation, possessing wide and ever-changing conceptual parameters and often depend on intensively enforced high-level conspiracies to account for a lack of supporting physical evidence. Others are based on novel reinterpretations of the "laws" of physics (or the existence of "occult" forces), their validity thereby requiring a "natural" order markedly differing from our current understanding of the universe. Finally, any good UFO theory should never lose sight of the fact that most sightings are explicable in normal, already well-understood terms. Furthermore, it must also give due consideration to the powerful psycho-social forces influencing the perception of both IFO's and "true UFO's" at every conceivable level.

The mark of any viable UFO theory is that it can account for the variously reported and distinctive elements of UFO behaviour. As a consequence it therefore has to explain;

A: *The reported "total air capability" of UFO's; their claimed ability to move like aircraft and hover for extended periods like helicopters, whilst also exhibiting variable rates of speed ranging from nil to (estimated) velocities in excess of 1000kph.*

B: *Their ability to make very fast, tight angle turns, to stop instantly while travelling at very fast velocities and instantaneously accelerate to very fast apparent rates of speeds when at rest. Furthermore, it must account for all these actions in a way which does not result in the generation of a sonic boom.*

C: *The various shapes associated with UFOs (which range from balls of light to domed discs) and other appearance attributes intermittently associated with this phenomenon (colour-changes, changes of shape, noise and smell emissions, or the lack thereof, and so on).*

D: *The various "Close Encounter" effects, which range from alarmed reactions exhibited by animals, physiological and physical reactions on humans, detrimental effects on mechanical devices up to physical trace evidence.*

E: *The occasional psychical and "Oz-factor" manifestations claimed in association with certain "high strangeness" UFO events.*

F: *The "semi-material" nature of "true" UFO's; the phenomenon capable of both being photographed and of leaving physical traces but (especially in the cases of "Close Encounter" experiences) never being observed (or photographed) by great numbers of witnesses within (or over) densely populated areas.*

G: *Explain the presence and the connection between UFO's and alleged "UFO occupants".*

With these attributes of the UFO phenomenon in mind, let us now look at, in turn, at the most prominent UFO hypothesis proposed to date.

1: The "Radical Misperception" Hypothesis:

The first question which Ufology must address relates to the most important aspect of this subject; the matter of whether "true" UFOs actually exist as distinct and unique phenomena. It is all too apparent that many sightings involve misperceptions of man-made objects and natural phenomena. A few, however, seemingly involve manifestations quite unlike that currently known to conventional science. From that fact alone, one could claim that

"true UFO" incidents are of scientific note and merit. However, against this, little good physical evidence is available to support the existence of "inexplicable" UFOs.

Therefore (based on this dearth of physical proof) orthodox scientific thought holds firmly to the singularly stark premise that UFOs do not exist. The majority scientific opinion expounds the view that the mundane phenomena responsible for IFO events are also responsible for "True UFO" sightings. This is the view also espoused by the majority of high-profile "UFO sceptics".

The "orthodox" scientific attitude regarding the diverse (and seemingly highly anomalous) UFO motion-attributes are that they result from the various deficiencies inherent within human perception. The fact that many reported UFO actions are impossible based on our current understanding is taken as further proof that "True UFO's" are not physically real. Other UFO attributes, such as colour and shape-changes, are stated to involve atmospheric aberrations that induce comparable manifestations in some natural phenomena, such as mirages. Reputed UFO- induced mechanical effects and other "trace" evidence are accounted for in terms of either hoaxes or (often incidental) natural occurrences. Claims of UFO-originated biological reactions are regarded as yet more fabrication or by temporary hysteria, generated by the stress of a witness encountering what he or she believes to be a "UFO".

Those who doubt the reality of UFO's make particular note of the fact that the majority of "Close Encounter" experiences hardly ever involve mass observations in highly populated areas. UFO occupant claims are explained as hoaxes or hallucinations, "abductions" narratives as resulting from "false" hypnotic memories. "Missing time" is thought to involve nothing more than simple time-estimation errors or (at most) a fruge state; a form of amnesia evoked by either trauma or naturally induced shifts in consciousness (akin to the so-called "highway hypnosis" effect), in which the person concerned is capable of performing highly complex actions such as safely and competently driving a car.

Those sceptical of UFO reality often feel that the key to comprehending UFO's lies within the influential social conceptions and beliefs which permeate ufology at every conceivable level. The first "modern" UFO events occurred at a time when "Cold War" fears were at their highest, when the onslaught of scientific progress, the crumbling of established religions and the detrimental consequences of the (then) recently concluded Second World War also began to notably effect society. But the emergent rocket technology (primarily spawned by WW2) gave hope of

new saviours - extra terrestrial visitors - who would "plug" the spiritual "gap" left by previous belief-systems, which then seemed baseless and discredited by wartime vileness such as the holocaust. Sceptics further propose that circumstantial evidence suggests that when these old fears passed away the popular conception of UFOs altered to fit new social and spiritual needs (such as the cultural dominance of the concept of "flying triangle" UFOs and "alien abductions", both of which were consolidated during the late 1980's). Cultural and technological factors have always determined the nature of the "divine"; angels and devils being prevalent during the medieval era, advanced extraterrestrials in today's space-age culture. With a planet-spanning media transmitting the concept of UFO to a global audience, virtually everyone knows of the attributes which UFOs (and their occupants) are reputed to possess. These expectations and beliefs subsequently colour observations of any "UFO" sighted by those aware of this conceptual stereotype.

As surprising as it may seem, most advocates of UFO reality agree with a substantial portion of the sceptical argument! It is a fact of ufology that the "populist" view of the subject comprises mainly of apocryphal events and wishful thinking. However, UFO advocates adamantly reject the total dismissal of "True UFO" reality for what they deem to be (in their view) several very sound reasons. To begin with, UFO proponents feel that the nature of some sightings are so spectacular as to be very difficult (if not impossible) to "debunk" in terms of exaggerated observations of mundane phenomena. While it is true that sceptical solutions can be proposed for all such cases, these involve so many (at times wild) assumptions that it seems just as probable that some novel phenomena were actually responsible!

Furthermore, what of sighting-events where it is discovered that no natural phenomena was present which is realistically able to account for the experience? Why are the attributes of "true UFOs" in such cases totally different to the well-understood attributes of the various IFO phenomena? If UFO motion-attributes are (as orthodox thinking propounds) the result of optical illusions why are they so consistently described? If UFO's are total bunk, why are the diverse Close Encounter effects also consistently described; a concordance present in all such manifestations ranging from "UFO-induced" reactions on humans and animals right up to the so-called "Oz Factor". Finally, can orthodox science say with total certainty that no UFO report involves any novel effect or phenomena, especially when our understanding of the physical laws of reality are still notably incomplete? Is it surely "bad" science not to be open to the possibility that some UFO events could involve non-standard effects, devices or phenomena! A total dependence on a "radical misperception" solution for "True UFOs" merely

as an expression of partisan loyalty towards current orthodox scientific thinking may result in events of scientific importance being "overlooked".

2: The "Unusual Natural Phenomena" Hypothesis:

While it appears that some "True UFO" events appear not to involve conventional natural phenomena, does this automatically mean that wildly extraordinary explanation schemas are required to account for them? Are there indications of the existence of any rare natural phenomena possessing the appearance, attributes and characteristics of UFO's?

To begin with, there are a diversity of natural high-energy effects and processes currently known to science. Furthermore, there are many manifestations of the natural world which still eludes the comprehensive understanding of contemporary physics. An example of one such phenomenon is ball lightning, an energy manifestation known of by science for many hundreds of years. The majority of ball lightning events refer to a yellow, red or whitish-blue coloured spheroid around 30 cms or less in size, with a duration of usually no more than 5 seconds. It may either slowly float past an observer, or rapidly traverse along a highly erratic trajectory. Its demise is sometimes marked by a loud bang and a back-blast of warm air (and the ejection of "sparks" or "streamers" of light in various directions), other times by it suddenly fading inoffensively into oblivion. As its name suggests, this phenomenon is nearly always seen in association with thunderstorms. Nobody to date has any clear idea how ball lightning is generated, but numerous theoretical models have been proposed. Most of these hypotheses involve various dynamic energy processes that generate luminosity by altering the electrical potential of the surrounding air (usually via ionization).

Therefore, could some UFO's be a form of ball lightning, or a closely phenomenon? There is much compelling evidence to suggest that high-energy processes are implicated in at least some "True UFO" manifestations. This is apparent to such a degree that many Ufologists already accept that some UFO's are so naturally generated, classifying such events as **UAPs** (Unidentified Atmospheric Phenomena). Although our knowledge of plasma physics is incomplete, what we do know suggests that such hypothetical "plasma" phenomena could possess a wide variety of possible attributes. Fast, dynamic motions would be expected, and rapid stops and starts and tight turns could be quite viably exhibited by this phenomena, due to its highly energetic, semi-solid and lighter-than-air composition. The various UFO shapes could result from its formative characteristics. Spheroid-based forms would be the expected norm; in this regards it is interesting to note that the majority of common UFO shapes

(such as "discs", "cones" and "cigars") can be derived from either an elongated or contracted spheroid!

Furthermore, various natural phenomena (from lenticular clouds to galaxies) can evidence rudimentary discoid forms. Unusual cloud and wind vortex phenomena (such as tornados, funnel clouds and "barrel" clouds) are capable of producing tubular, conical and elliptical shapes. Protean (i.e. shape-changing) behaviour would also be possible (this phenomenon being a semi-solid energy manifestation). The colours of such a "plasma" would derive from its present energy-potential (as is the case with lasers and stars). Colour changes could reflect changes in the plasma's energy potential; air (for example) fluoresces a bluish-white when highly energized, or reddish-brown when subjected to much lower levels of energy. Both these colours are similar to those attributed the majority of unexplained UFO's. Humming & buzzing sounds are commonly produced by conventional whirlwinds & tornadoes (and also by artificial electrical generation processes).

Plasma's could also theoretically manifest many of the recorded "Close Encounter" effects. Exposure to heavy doses of ultra-violet or microwave radiation may produce a number of the physical symptoms reported by witnesses involved in diverse high strangeness events (i.e. feelings of warmth, nausea, dermal tanning and burns). Others, such as radio and T.V interference (and possibly others like ground traces and "car-stopping") could equally well result from close proximity to a natural plasma manifestation. Plasma's would also be better observed in areas of low lumination (i.e regions of low population), therefore resulting in more observations in rural districts.

"UFO" entity observations and Oz-Factor effects are a special case. Although it would initially appear that plasma's are an untenable cause for such incidents, some researchers have suggested that electromagnetic energy theoretically induced by such phenomena could affect the human brain in specific ways, inducing "visionary" experiences. Furthermore, if close encounter events only result from close exposure to plasma-forms, it could explain the dearth of mass-witness close encounter experiences. The fact there is often a history of previous psychic experiences claimed by many "high strangeness" event witnesses could suggest that such people are particularly sensitive to the hypothetical "brain-scrambling" emissions "broadcasted" by these (equally hypothetical!) plasma-forms. Could such "emissions" also induce black-outs, transitory trance-states and affect the bodies' ability to make reasonable estimates of elapsed time; resulting in episodes of "missing time"? In this case the "time lapse" would be all that objectively exists; any subsequent "abduction" narrative the result of a

collectively created fantasy generated by a hypnotherapist and the "witness".

Despite these compelling links, there is no incontrovertible evidence that such exotic plasma effects exist. The greatest problem is explaining how such phenomena can come into being, and then continue to exist for up to several minutes (or more). All the artificial plasma phenomena created to date are either formed under special conditions (such as within an artificial vacuum) or endure only for a few seconds. It is clear that any such plasma phenomenon would either involve a singularly incredible burst of electrical energy, or a mechanism which continuously re-energizes it.

Recently several potential modes and basis for plasma-form generation have been proposed. One recent suggestion is that "plasma" manifestations involve the natural liberations of so-called Vacuum or zero-point energy (the massive energy potential inherent within quantum-scale fluctuations continuous occurring within "empty" space). Another mechanism involves the Plasma-Vortex Effect; a hypothetical plasma manifestation related to tornadoes. It involves a swiftly rotating mass whose rate of spin is sufficiently rapid to induce cascade ionization (i.e. a sustained series of ion collisions), causing the ions within this form to contract, generating a "pinching" in the magnetic field around them. This may result in the formation of a low pressure "cavity"; a natural semi-vacuum environment where the air's electrical resistance would be much lower than normal (in which any trapped air would likely fluoresce). It is proposed that this plasma vortex may (depending on its rate of spin and ion content) assume a conical, cigar, spheroid or discoid form. It is speculated that a continuous input of air would be "piped" through the plasma vortex's conducting funnel, replenishing consumed ions with new ones. This would result in a plasma phenomenon with a much longer duration than "conventional" ball lightning.

The main drawback of the Plasma Vortex hypothesis is that was largely inspired by crop circle events; the vast majority of which, however, have subsequently turned out to be hoaxes. Fortunately, this ill-favoured association by no means destroys the viability of this hypothesis. The theories underlying physics remains sound, and there are many allegations of so-called "saucer nests" being formed by "UFO's"; a sizable number of which pre-date the modern crop circles phenomena by a decade or more. It is therefore suspected that many UFO sightings associated with "saucer nests" may pertain to observations of plasma vortexes (or another similar natural phenomenon).

A number of statistical studies have discovered that a considerable amount of UFO "activity" appears to cluster around geological fault-lines. Many of these reports describe mysterious lights seemingly following the course of a fault-line, originating from the ground or disappearing at very low altitude. These various colorations suggest the existence of Earthlights; a luminous, free-floating manifestation created by geophysical processes. Increasing this concept's viability is the presence of earth-faulting in areas host to high levels of protracted UFO activity; a correlation which occurs in "Ufocals" as diverse as Hessdalen in Norway and the Pennine Hill region of Yorkshire, England. Additionally, there is also good circumstantial evidence of extreme long-term activity, with repeated "UFO" events occurring in places rich in local folklore, often with place-names containing "devil", "goblin" or "dragon" elements (suggesting these regions were known for many hundreds of years as "places of mystery").

It has been long accepted by the scientific community that faulting can produce luminous emissions. Numerous, well-recorded observations of Earthquake Lights have been made prior, during or after many major earthquakes occurring throughout the world. Although it is clearly evident that earthfaults can generate various types of light phenomena during earthquakes, it is still uncertain how they could do so as the result of more modest tectonic activity. This is a distinct problem for the concept of earthlights, with the "UFO" events potentially explicable by this effect often not being associated in any way with any obvious geological activity. However, in these instances, much more subtle geophysical processes could be involved; for example miniature (often undetectable) earthquakes, a slow, gradual, build-up of minor earth-stresses, solar and lunar induced fault-stressing or a combination of all these factors.

There is also considerable debate as to what actually empowers earthlight manifestations. The presence of quartz-bearing rock in various earthfaults have been noted; this is of some importance as it has been long known that quartz can produce transitory luminous emissions when placed under a breaking strain, via the piezoelectric effect. However, even many advocates of earthlight believe that this factor alone is insufficient to account for their instigation, feeling an interplay of various energy processes are probably involved. As a result other possible modes of generation, such as *triboluminescence* (lumination induced through friction) or trapped sub-atomic particles, have also been suggested. It is further speculated that underground water or mineral veins are involved in the transmission of this geophysical energy from the ground (eventually) up to the lower atmosphere.

Earthlights and plasma vortexes, although scientifically viable, have a number of conceptual hurdles to cross before their existence is generally accepted. In the case of plasma vortexes it has still to be demonstrated that this effect occurs within nature, even if its hypothetical attributes closely matches those of some "true" UFOs. Earthlights, however, face fewer such problems. The basis of this concept is supported by the occurrence of earthquake lights, and is based on processes known to exist within nature. However, some problems remain in explaining the (hypothetical) presence of earthlights under conditions of very low seismic stress. However, even in this situation energy processes exist which could give rise to them.

Some critics of the earthlight hypothesis have questioned the correlation between faulting and increased levels of UFO activity, stating that the data samples used to "prove" this link are poorly screened (and hence would contain large quantities of IFO events). However, this in itself does not invalidate the possibility of such a link, for if faulting does generate unusual lighting manifestations, clusters of "anomalous" events around earthfaults would still naturally occur in unfiltered samples of UFO reports. Furthermore, a lack of filtering rules out any subjective bias affecting that particular data sample. It should also be noted that an apparent correlation with earthfaults is actually more startling within a data sample containing a wide range of possible phenomena! Thus, it was probably necessary for unfiltered samples to be used the initial stages of ascertaining the viability of such a connection. It is abundantly apparent that more refined studies (using samples totally comprising of "true UFO" events) will be required to determine whether this connection holds up under rigorous statistical conditions.

The "Electro-staging" Hypothesis.

Emissions from radio and TV transmitters, power-lines, electrical sub-stations and even certain home appliances all contribute in creating an extensive (and ever-present) background "smog" of electromagnetic energy. The electro-staging hypothesis proposes that many forms of UFO experiences are directly generated by exposure to this energy "pollution". This theory predicts that the majority of high-strangeness events occur within radio "hot-spots"; often a location directly between two radio masts where a "space wave" (an unintended earthing effect associated with a radio signal) reflects off from the ground and "arcs" back to the receiving transmitter. Geophysical features (such as valleys, quarries, fault-lines and large areas of water) are stated to enhance the intensity of such "hot-spots". These artificial energies may generate visible plasma manifestations (termed "electroforms" by the electro-staging hypothesis) or other, more major, effects.

The electro-staging hypothesis explains the detrimental health effects experienced by some high-strangeness UFO witnesses as being attributable to a condition termed Electro-Hypersensitivity. This is an allergic reaction said to afflict individuals residing within an electromagnetic hot-spots for prolonged periods of time. People suffering from this condition exhibit distinct physical ailments and symptoms, and other indirect effects such as anomalous malfunctioning of electrical equipment within the affected area. The electro-staging hypothesis explains rashes and swelling said to affect certain close-encounter witnesses not as the result of exposure to intense ultra-violet or microwave radiation, but to an allergic reaction to the encountered "electroform". Entity events are thought to be hallucinations induced by exposure to electrical emissions effecting specific parts of the brain. "Missing time" is explained as either arising from a Drop Attack (a fainting fit induced by exposure to electromagnetic energy), automatic behaviour (an active trance state, in which those affected are capable of fairly complex actions) or desynchronization (a direct effect on the brain's time-estimation ability).

The electro-staging hypothesis is particularly noteworthy for its ability to theoretically produce a definitive (and finite) series of biological and environmental reactions (and also, more importantly, explanations for these reactions). It is a theory which is capable of refutation or vindication through detailed scientific examination of its proposals. At present, this theory has yet to be fully validated by a large-scale examination of UFO events, but it holds out the promise of a solution to many types of reported UFO experiences.

Mirage Anomalies.

The difficulty of identifying viable mechanisms for plasma-form generation has resulted in some researchers suggesting alternative natural origins for "True" UFO reports. One such hypothesis proposes that many (if not all) notable UFO sightings are instigated by anomalous mirages of first-magnitude stars and naked-eye planets (but also potentially of other suitable natural phenomena or man-made objects, such as aircraft, lighthouses, runway lights and so on). Mirages are among the oldest unconventional "conventional" phenomenon cited as an explanation for seemingly anomalous UFO events, being initially proposed by astronomer Dr. Donald Menzel back in the mid-1950's. His mirage-based solutions for various classic UFO events were always highly conjectural, depending on numerous assumptions and hazily-applied atmospheric and optical physics.

It was only with Steuart Campbell's work "UFOs; A mystery Solved" (first printed in 1994) that definitive atmospheric mechanisms were firmly

proposed for a mirage-based explanation for UFOs, along with a cohesive explanation schema able to potentially account for the great range of reported UFO characteristics through such a theory. Campbell's Astronomical Mirage Hypothesis (AMH) proposes that certain mirages can manifest a variety of rudimentary shapes, akin to those commonly attributed to UFO's (i.e. spheroids and lenticular forms); the exact shape manifested depending on the degree of "merger" between the two resulting images of the refracted object. This form of mirage could hypothetically manifest as a dynamically-moving phenomenon, visible several degrees or so from the horizon. The existence of such extreme variations of conventional mirages remains controversial (current scientific thinking only accepting mirages with an elevation of a mere half a degree, of objects located directly on an observers horizon). The theory has however reopened an old debate about the actual boundaries of mirage phenomena, which will probably result in at least a few classic UFO incidents being re-evaluated.

One good aspect of the astronomical mirage hypothesis is that it possesses definite parameters and causative elements and only involves fairly minor (and reasonably plausible) extensions of the current laws of optical and atmospheric physics. Furthermore, a mirage-image is potentially capable of apparent (albeit illusory) "motions" and "speeds" impossible for any physical object. It also accounts for the nocturnal increase in the number of UFO reports and why the majority of events occur in rural areas (i.e. in areas of low light-pollution). Whilst it is able to explain "low" and "medium" definition UFO events to some degree, a hypothetical solution to UFOs totally based on mirages obviously has a hard time accounting for UFO-originated effects on humans, animals and mechanical devices, not to mention psychic aspects, entity experiences, abductions and the "Oz-factor". And what of incidents - high and low strangeness alike - where the perceived phenomenon was definitely seen in very close proximity to an observer? The only way such aspects of UFO behaviour can be explained by a mirage-based solution to UFO's is to utilize the same concepts suggested by advocates of the radical misperception hypothesis (i.e. hoaxes, hallucination and hysterical reactions).

3: The "Unconventional Technology" Hypothesis:

The world's various military establishments are in the forefront of development of new technological innovations, in a continual quest to gain significant tactical advantages in future conflicts. This tactical advantage

depends as much on secrecy than on hardware. Cutting-edge military technology often utilizes processes which are both expensive and have only strict military applications (i.e. the infiltration and elimination of hostile forces). The end result of this situation may be "UFO" observations initiated by a variety of unconventional military devices.

The most minor extent of such technology relates to the usage of non-standard aircraft lighting or camouflage configurations. This ranges from the unconventional running-light patterns occasionally employed by the Americans during the Vietnam war, to the (often) exotic body-lumination sometimes utilized by air refuelling tankers.

The military establishment are constantly striving to discover new processes of flight, in order to achieve improvements in speed, size, manoeuvrability and reduction in infra-red and RADAR signature. Many of these "concept" aircraft utilize lifting-body, flying-wing or discoid configurations. Ancient examples of such technology include the AVRO disc and the "Flying Flapjack", with the SR-71, F117-A and the B-2 being more contemporary instances. Aircraft of this nature can only be rendered even more exotic when coupled with other innovative technology, ranging from sound baffling to visual "invisibility" systems utilizing miniature liquid crystal display units or laser "holography".

An *Unmanned Aerial Vehicle (UAV)* or "drone" is an unmanned teleguided aircraft usually smaller than a conventional 'plane. They are often deployed for aerial reconnaissance missions but are also used as remote weapons platforms in combat zones. The majority of UAVs use conventional aircraft bodies, but rocket, tub or disc shapes are also occasionally utilized. Being small and remotely-piloted, an UAV can perform high-g turn manoeuvres not practical in manned aircraft (due to the stresses these severe, rapid turns place upon the human body). An UAV enacting such radical motions would look anomalous to an observer unaware of its actual nature.

The final extreme of covert technology is mind-altering devices (which are sometimes grouped under the wider heading of *Less-Than-Lethal (LTL)* weaponry). These aim to neutralize the combat effectiveness of individuals by disrupting any number of neurological processes (such as perception and consciousness). They are reportedly based on a variety of technological processes; mind-altering stroboscopic lights, microwave beams and highly concentrated ultrasound emissions. Other processes which are not electrically-based (such as exotic hallucinogenic or mood-altering gases) also exist and can be utilized to achieve the same ends. The nature, extent and capability of these weaponry systems are currently

little known, as the details relating to their research and development are (for obvious reasons) shrouded in considerable secrecy.

There have been several decade-old rumours relating to the supposed deployment of unconventional technology on the battlefield, as well as the testing of highly sophisticated "secret weapons". For example, both the so-called "Angels of Mons" of WW1 and the Foo Fighters of WW2 have been alleged (without any real evidence) to have resulted from German psychological warfare technology. Furthermore, there were several rumours concerning the experimental use of car-stalling (or death-dealing) "rays" by both the Germans and the British during WW2. None of these claims have ever been verified to date. There have been few (if any) documented concrete examples of any major deployment of mind-altering hardware, let alone any instances where it was successfully used.

Finally, there are "ultra-modern" devices and technologies, aviation hardware employing notably exotic propulsion concepts and body-configurations. At its ultimate level this equates to a man-made flying machine with all the attributes of a classic "flying saucer". It has been proposed by some UFO researchers that recent new-concept aircraft (such as the B-2) employ technology based on crashed extraterrestrial spacecraft retrieved by governmental agencies. Even before this suggestion was made there was already a substantial mythology in existence pertaining to supposed man-made UFO's. The most extreme of these concepts advocate powerful covert groups (ranging from descendants of Nazi scientists hiding in Antarctica to Atlantean survivors with access to incredible technologies residing beneath the earth. Others have suggested the existence of a secret world order who have deliberately nurtured a belief in alien visitors, in order to influence the world for their own (somewhat obscure) ends.

It is fairly obvious that unconventional aircraft, no matter how special, are unable to account for the majority of "exotic" UFO reports. Although exotic military hardware can have an unusual appearance and while UAVs are more manoeuvrability than conventional aircraft, neither possess the other attributes associated with "true" UFOs. Furthermore, there is no evidence that any government has access to large numbers of unconventional aircraft which it uses solely to make repeated low altitude over flights over foreign countries! The high expenditure alone required to develop and build a new-concept aircraft makes this prohibitive, even on an extremely generous "black" military budget.

Whilst it is true that some UFO effects can be explained in terms of novel technical processes known (to at least a rudimentary level) by

contemporary science, they require extreme (and unlikely) conspiracy theories to explain how and why they are deployed in the manner suggested by UFO sighting claims (i.e. repeatedly "used" against private citizens and their property in public areas). These "solutions" become even more untenable when considering exotic aspects of the phenomenon such as UFO occupants, psychic aspects or "Oz-factor" manifestations. In the real world, most unconventional hardware would be usually confined to military exercise zones and proving grounds, although aircraft (especially remotely controlled hardware such as UAV's) may well, more through accident than by design, leave the confines of such areas.

Most Ufologists currently accept that unconventional military technology is a minority cause for "True" UFO events, but those few events that can be so potentially explained do keep open the possibility that other incidents less obviously explicable in these terms also have such a cause. The proportion of sightings that covert technology may account for depends on how advanced secret military technology truly is and how often such hardware is deployed. In reality, all cases originated by military technology are in essence merely high class "IFO's", elevated to a higher apparent "status" only by the virtue of the secrecy surrounding them.

4: The Extraterrestrial Hypothesis

On initial consideration, it is difficult to accept that observations of elaborately-configured UFOs (such as the classical "domed disc") could be generated by "plasmas" or any other form of - albeit exotic - natural phenomenon. The possibility of any prosaic solution seems further confounded when these same types of "UFO" are stated to possess apparent metallic surfaces and detailed surface features (such "portholes", "jet-pods" and "antenna"). What also of those supposed observations of "occupants", who have been reputedly observed within, entering and exiting such UFOs?

Combined, these factors can only jointly reinforce the conviction that these UFOs are anomalous constructs of some kind.

Observations of such "Exotic" UFOs are potentially one of the most profound elements of the UFO phenomenon; paradoxically, however, they can also be among the most subjective. Such events are often only involve single witnesses and have not in **any** instance to date (despite thousands of such prior claims) generated any incontrovertible proof. Thus, the possibility exists that "exotic" UFO reports may represent a purely subjective experience, akin to a hallucination. The fact we have many types

of "flying saucer" is that we have as many types as the mind is able to conceive.

That said, there are some "exotic" events which do involve more than one witness and are associated with both physical "traces" and photographic "evidence". Indeed, some of the more noteworthy potentially authentic (and also equally controversial) UFO photographs depict "structured" UFOs. Thus, if it is deemed at least possible that some UFO's could be anomalous physical constructs, ufology is left with the problem of finding a source of origin for them. Their attributes suggest that if they are constructs they must be very advanced ones; based on a technology which exceeds that presently known to our civilization today.

The **Extraterrestrial Hypothesis** (commonly known within Ufology as the **ETH**) proposes that these "exotic" UFO's are spacecraft originating from another solar system, manufactured by an extra-solar culture possessing technology many years ahead of our own. The ETH ascribes the amazing motion attributes of UFO's to modes of propulsion currently unknown to humanity. Other effects (from colour changes to the various claimed "close encounter" attributes) are deemed to be by-products of this propulsion system. The ETH views claimed observations of "UFO occupants" and "abduction" incidents as being literally true; the "occupants" are viewed as the "pilots" of these craft, and the "harvesting" of human genetic material - referred to in many abduction accounts - is deemed to be an important (if not the main) motivation for repeat extraterrestrial visits to earth.

As stated in the radical misperception section, the popular conception of UFOs as extraterrestrial devices became a notable cultural force in western society during the late 1940's; i.e. at the dawn of the space travel era and the atomic age. All these factors made belief in alien visitors seem more viable at this time than at any other period during our planet's long history. Today - both on a popular level and within the UFO research community - the conviction (or the refutation) of an extraterrestrial constituent to the UFO phenomenon dominates all aspects of the subject, at every conceivable level. In recent times, the ETH has become such a strong cultural force within popular western culture that belief in the existence of alien life is often based on UFO sightings, or (inversely) mass popular acceptance of UFO's is based on the latest scientific findings concerning possible extra-solar life. The conviction is so powerful that many critics of the ETH feel it has coloured many sighting accounts, and can even cite numerous instances where this may have occurred

The majority opinion of contemporary science accepts that life probably exists somewhere else in the cosmos, other than on Earth. The size and the age of the universe (around 9-12 billion years) and the tremendous number of G-type (i.e. Sun-like) stars contained within it, gives massive scope for the formation of life. The fact that the various chemical elements essential for the formation of life "as we know it" are present throughout the universe (such carbon, oxygen and water) makes the prospect of extra-solar life almost certain. This view can only be further consolidated by the recent discovery of numerous extra-solar planets, some of which are theoretically capable of being abodes for life.

However, the gap between the presence of life in the cosmos and the existence of advanced alien societies able to construct UFO's is still a massive one. Firstly, an extra-solar lifeform must evolve sentience equal to that of mankind's, and then develop a technological civilization more advanced than our own. Both steps are littered with numerous caveats. Is human-like sentience a common consequence of evolution? Prehistoric Earth teemed with various life forms that existed for millions of years; none of which, however, were "gifted" with human-like levels of intellect. Is the development of an advanced technology-using culture always a consequence of sentient life? Mankind has been in the Stone Age for the majority of its existence; our flirtation with technology having comprised the tiniest fraction of our species' history.

Finally, even if an extra-solar species possesses both intellect and an advanced technology, their culture must fail to succumb to the diverse potential hazards encountered by (probably) all technological civilizations; catastrophic ecological change, nuclear war, over-population and exhaustion of natural resources. Not only must they survive these hazards but triumph over them as well, by retaining their technology for a protracted period of time. They must also possess the inclination to explore space; can we be sure that "curiosity" is a galactic constant, or that extraterrestrial minds share the same priorities and dreams as humanity? Lastly, there are the results of our (admittedly limited) quest to locate Extra-Terrestrial civilizations. Although astronomy has found much circumstantial evidence to support the conviction that life does exist elsewhere in the universe, it has never (to date) stumbled on anything suggestive of intelligent - let alone technologically advanced - life. Every **SETI** (Search for ExTraterrestrial Intelligence) research effort conducted to date has found no evidence for radio-capable aliens and no astronomical observations have been made which convincingly demonstrates the existence of technological extraterrestrials.

However, the most major problem facing any prospective race of starfarers are the restraints placed upon interstellar travel by the laws of physics. Light emitted by our closest stellar neighbour - Alpha Centauri - takes around four years to reach Earth. Contemporary physics is certain that nothing can travel faster than light (at least in the "conventional" manner). Thus other objects considerably heavier than a photon - such as, surely, even the most highly advanced of spacecraft possible - would be limited to speeds considerably slower than this. To illustrate the reasons for this, let us suppose that a civilization somewhere in the galaxy develops a highly advanced propulsion system, capable of incredible speeds for prolonged periods of time. As this - hypothetical - vessel attempts to accelerate to a speed approaching that of light, physics predicts that it would gain inertial mass (resulting in the craft having to increase its thrust by an exponential rate to compensate for this). Eventually, this situation would become untenable as the starship attempts to reach a velocity equalling 99% of light-speed; as the level of energy required to move a craft at this speed equals infinity (and is probably therefore unattainable!)

However, this in itself doesn't rule out interstellar travel, but only limits it to Slower-Than-Light (**STL**) velocities of around half the speed of light (or so). In this circumstance an average star voyage would take decades or hundreds or years to complete, depending on the starships' rate of speed. If it was possible to move at speed equal to 80%-90% of light speed - maybe by (somehow) reducing a vessel's mass to almost nothing - time dilation could be utilized for space travel. This effect results in time passing at a slower rate inside such a starship, in comparison with the universe outside. Although time dilation theoretically allows astronauts to survive long stellar voyages (given they would age "only" a few tens of years in the process), time would pass normally on their point of origin, i.e. Earth. Thus, on their return these astronauts could well discover that hundreds of years had elapsed on their homeworld.

If life forms throughout the universe are limited to slower than light speeds, it greatly limits the extent to which interstellar travel could be utilized. It probably renders any economic exploitation of interstellar travel largely invalid; an important factor to consider as commerce is the main reason for anyone to travel anywhere (what shareholder would - or could - wait three hundred years for a return-dividend on a cargo?) An alien space endeavour of this nature would resemble the "only (mostly) for science" based-efforts of the Russian and American space programmes. Although these in themselves generate a small income for the countries involved and result in many technical spin-offs, they are nonetheless heavily criticized for being non-productive and, as a consequence, are either grossly under-funded or axed!

Faced with such problems, ETH advocates suggest UFOs employ Faster Than Light (**FTL**) propulsion systems, in order to traverse interstellar space in comparatively short periods of time. One suggestion involves utilizing spacewarps, a hypothetical effect that would allow instantaneous travel between two selected points in the cosmos by interconnecting them via a temporary distortion in the space-time continuum. Our current understanding of such processes allows for their theoretical possibility, but also shows that they would require monstrous levels of power to initiate, at least equal to that generated by a supernova explosion! This makes travel at 90% of light speed a realistic aspiration in comparison... This in itself raises another point; given the massive energies required, both STL and FTL starships would represent a considerable potential hazard to any worlds they encounter. A STL starship impacting a planetary surface while moving at any percentage of light-speed would inflict massive global destruction upon that world (due to its tremendous kinetic energy potential). A FTL "spacewarping" vessel would require even greater levels of power, literally making it a potential "death-star".

However, there is one possible solution to the problem of interstellar travel, which **is** consistent with our understanding of both physics and the UFO phenomenon. Could it be that some "Exotic" UFO's are self-aware extraterrestrial robotic devices? Such a highly advanced construct - being a machine - would be unimpeded by the limitations faced by biological organisms attempting to travel at speeds in the 6g+ range. Such a device would be capable of performing the sudden decelerations, accelerations and high-speed turns allegedly exhibited by some UFO's. Furthermore, the construct would also be effectively rendered immortal if it possessed self-repairing/self-replicating capabilities. This would allow it to traverse great distances (at STL speeds) and - on arrival - conduct extended surveys of its destination world. Furthermore, the "Robot Probe" theory is also consistent with the length of time the phenomenon has been on-going without any instance of formal, "open" contact between humanity and the "UFO intelligence". The only compunction that such a device might conceivably possess is a requirement to transmit information of its findings to its planet of origin. This could be done either via radio or laser-beam; either of which would relay that information much faster than the robotic device could physically return it. The probe would neither have an urge (or the need) to contact the "subjects" of this study or a psychological desire to return home; possessing only the directives programmed into it by its makers.

The lack of any full scale contact between extra-terrestrials and humanity is often cited as one of the prime deficiencies of the ETH. However - as the above possibility infers - it is not in actuality the major negative factor it

appears on initial consideration. Any ET race (biological and/or mechanical) which discovers our world would need to balance the benefits of open contact with the possibility that this action may destroy earth's unique culture and way of life. The fate of Australian aborigines and also of the Native Americans - both North and South - are graphic examples of the carnage which can result when two cultures of widely differing technical abilities and social organization encounter one other. It may also be that the earth itself could be as interesting (or more so) than its inhabitants. If inhabitable worlds are rare, an extraterrestrial race may be keen to discover the reasons why our world is an exception to the general rule. They may be as equally interested in monitoring the climate-changes resulting from our increasing technical sophistication (such as the greenhouse effect, ozone layer depletion or other phenomenon we have yet to experience), in order to gain valuable insights into "their" own past.

The humanoid appearance of most alleged UFO occupants makes them difficult to accept as being genuinely extra-terrestrial in origin. Both their manlike form and the ease in which they appear to cope with our world (an environment that they themselves could not have possibly evolved in) infers they originate from a planet with an almost identical climate, gravity, chemistry, biology and atmosphere. Additionally, the large number of different UFO entities appears to suggest that there is not just one "twin earth" elsewhere in space, but (at the very least) several, if not more. The chances of a another world possessing near-identical conditions to earth occurring twice in our universe (let alone many times) is unlikely at best. The humanoid appearance of "UFO entities" shares many similarities with the cinematic B-movie/T.V tradition of "space-men"; human-like extraterrestrials entities possessing only (relatively) mild cosmetic differences in comparison to us. Variations of the ETH, such as the concept of UFO's being self-aware robotic devices, require ufology to discard the vast majority of entity and abduction cases; the very claims which encouraged belief in the ETH to begin with! UFO entity encounters have now become such a major component of the UFO phenomena that many Ufologists would doubtlessly be loathe to dismiss them as being a valid anomalous component of this subject.

Furthermore, the considerable length of time the UFO phenomenon has continued suggests a massively funded space programme on the part of the hypothetical alien culture(s) concerned. Compare the fifty plus years in which the concept of UFOs has existed, with Project Apollo, which lasted only for a mere half-decade and resulted in only six landings on the moon before its cancellation (due to its colossal expense and doubtful scientific merit). This problem, again, can be sidestepped by the concept of self-aware robotic "UFOs" capable of sustaining their own space exploration

efforts indefinitely, given a reasonably abundant source of raw materials (such as an asteroid belt). However, the vast range of different UFO types (along with their alleged occupants) poses serious problems for any version of the ETH, being explicable only in terms of many visits by many different alien cultures. This could only be the case if the extra-terrestrial component to the phenomenon was highly active; a situation which seemingly contradicts the low quantity of physical evidence relating to "exotic" UFO events. Another option is to reject a sizable proportion of this "contradictory" data. This, unfortunately, would also equate to rejecting a sizable proportion of the UFO phenomenon. Given that no clear evidential datum exists to ascertain the validity of UFO events, how would we know exactly what to reject and what to accept?

There are also aspects of the UFO phenomenon which are difficult to account for in terms of a strict materialistic interpretation of the ETH. What, for example, of the links between UFO's and psychic phenomena? What also of the "Oz factor" - which, paradoxically for the ETH - is often reported in association with "Exotic" UFO encounters? Many of these aspects of ufology are so markedly a part of the UFO phenomenon that they cannot be simply ignored (in the same way entity claims cannot be discarded out of hand merely because elements of these experiences are inconsistent with an Extraterrestrial origin).

In summary, the ETH is a theory which has some good cosmological evidence - albeit indirect and circumstantial - to support its viability. At the most simplest level, it is a theory that can be valid without requiring major revisions in our current understanding of cosmology or physics, or which requires the existence of supernatural forces. On the other hand, this theories' actual evidential basis (the UFO reports themselves) seems, ironically, to be the ETH's weakest element! The lack of irrefutable physical evidence for any alien presence on Earth has always been this hypothesis' Achilles heel. This problem both affects the "conventional" ETH (involving star faring "organic" extraterrestrials) and its revisionist interpretations (such as the "alien space-probe" theory). That stated, the potential of an Extraterrestrial component to the UFO phenomenon can never be fully discounted, even if all current UFO events can be better explained in other ways. The possibility would always remain (even in that instance) for extraterrestrial visitors to be the cause of "UFO" incidents. in the future.

5: The Alternate Universe Hypothesis (AUH)

The problems inherent within the ETH have not gone unnoticed by some UFO researchers. However, those who accept "Exotic" UFO reports have a physical causation (and discount the possibility that they have a natural

explanation) obviously still require a viable source of origin for them. Thus, it has been proposed that some "Exotic" UFO's may originate from some alternate realm, separate but adjacent to our world. Obviously, to make this a theory worthy of consideration, the nature of this hypothetical "other realm" must be scientifically defined. Could this realm be another dimension, one additional to the other long accepted four of length, depth, width and time? Some modern cosmological theories do indeed allow for the existence of more than four dimensions; in fact many of the deficiencies of modern cosmological theories dealing with subatomic matter, light and gravity are resolved if their existence is allowed for! For example superstring theory predicts the presence of a further 6 dimensions. However (as a direct consequence of the "big bang") these "higher" dimensions cannot be currently perceived, having compacted into an area hundreds of billions times smaller than an atom (while the remaining four "familiar" dimensions have expanded)! It is therefore unlikely that the former could be the source of any "alien" technological culture!

However, another new cosmological concept does present us with another potential realm which other lifeforms could viably inhabit. The existence of alternative universes is a logical consequence of several cosmological theories. These theories conceive of an ultimate reality comprising of a myriad of universes, each sealed from the other within their own "bubble" of space-time, all residing within an empty, timeless void. The fact that conditions suitable for life arose in our universe at all is one good reason to consider the viability of a "multiverse". The fact that our universe has formed in such an ordered state (when even the most subtle subatomic difference could have kept it in lifeless disorder) suggests that billions of other (mostly "failed") universes may exist, in order for our own to have arisen as the result of chance random natural processes. As a result, the organization of matter in these other universes would greatly differ from that within our universe (mostly in ways contrary to the formation of a structured cosmos).

It has also been suggested that transitory connection termed wormholes could - via natural, random processes - form between any two of these (hypothetical) universes. A *Wormhole* is a hypothetical "fold" within the fabric of the space/time continuum, spanning two points in the universe (or in this instance two separate universes). This - theoretically - would allow instantaneous travel to and from the locations linked by it. The fact that humanity has never noticed the presence of wormholes is attributed to them being transient manifestations, billions of times smaller than a subatomic particle, which occur only every few billion years or so! However, some have disputed whether wormholes are always this unstable, and

even theoretically allow them to possess diameters wide enough for a physical object to pass through.

Let us suppose, however, that one of these theoretical alternate universes were inhabitable, and those who resided within it were somehow aware of our existence (or at least the possibility of it). Let us also suppose this culture was sufficiently advanced to construct an "artificial wormhole". To begin with, such a process would require a power-source of stellar proportions to sustain it. Furthermore, this culture would then have to devise a way to link this wormhole to another universe, and make it both wide enough (and keep it "open") sufficiently long enough to permit travel through it (a highly complex task, given that the majority cosmological view on innate wormhole instability is correct). Furthermore, they would also have to cope with the intense radiation believed to be generated by them. However, any device sent through such a "wormhole" would not itself require massive levels of power (the - probably massive - wormhole generator itself existing somewhere "off stage").

Presently, nothing overtly suggests that any UFO event is the result of such a hypothetical (and extremely speculative) scenario, although a few aspects of UFO behaviour are potentially consistent with this concept. There are, for example, reports of some UFO's which reportedly vanish (or appear) suddenly in a clear sky. Additionally, the "Oz factor" could possibly be a consequence of a wormhole-like phenomenon, given that it reputedly involves apparent distortions in the flow of time, among other (reputed) spatial and perception anomalies. However, neither of these two elements is sufficiently evidential in themselves to render such a wild theory viable. The existence of wormhole-traversing "UFOs" are as unsupported by convincing physical evidence as the "conventional" spacecraft-UFO's postulated by the ETH. It should always be remembered that wormholes and other universes are only hypothetical concepts, for which **no** conclusive physical evidence currently exists to vindicate them. Speculative cosmological theories such as these have often been rendered obsolete as our knowledge of the universe increases.

6: The Time Travel Hypothesis (TTH)

The basic premise of the **Time Travel Hypothesis (TTH)** is that "exotic" UFOs represent the time machines of a future human civilization. As previously noted in the preceding discussion of the ETH, UFO occupants seem to cope **too** well with our environment - and the majority **too** close to ourselves in their morphology - to be extraterrestrial. Thus, could both these factors suggest that at least **some** UFO occupants represent variant human races from our planet's distant future? Could the wide variety of

UFO and entity types result from "time machines" of different future eras visiting our present? And, finally, could the sudden disappearances of "UFOs" and reputed chronological anomalies - such as "missing time" and the "Oz factor" - suggest that they result from the endeavours of a time-travel capable society?

The archetypical "Grey" UFO entity is slightly more believable when considered from this theoretical perspective. Various "projections" of mankind suggests that our species (in the very distant future) may eventually - as the result of living in a sedentary, intensive machine-using culture for thousands of years - evolve longer fingers, greater brain-mass and a physically underdeveloped body. Additionally, if the "greys" **were** a future variant of *Homo Sapiens Sapiens*, their body-chemistry would obviously be more compatible with that of humans than if they were extraterrestrials from a distant star system. This would render allegations of UFO occupants "harvesting" human reproductive matter a little more credible.

That stated, it should never be forgotten that (as with the existence of other universes) the concept of time travel is merely a theoretical concept, often more based in philosophy (and science fiction) than in physics. Orthodox science views backwards time travel as either a total impossibility, or at best a theoretical (if remote) possibility, barely existing on the extreme fringes of physics. In regards to UFO reports, the TTH shares many common elements (and the objections) of both the ETH and the AUH. As with both these other theories, the TTH requires the existence of physical craft (i.e. a "time machine") perceived as a "UFO" by an observer unaware of their true nature. This being so, the TTH suffers (as does the ETH) from a dearth of objective evidence to support its validity. Time machines, after all, would probably **not** be governed by any special, exclusive principle which prohibits them from being seen or photographed by large numbers of observers!

Furthermore, the TTH suffers from a notable drawback which the ETH itself is free from; the very basis of its viability (i.e. the possibility of backwards time-travel) is probably forbidden by the laws of physics! The main objection which contemporary science has regarding time travel is that it violates causality (the law of cause and effect). The most minor of actions by a device and/or individual from the future could easily disturb the previously "unblemished" past (which itself, indirectly, originated that future time-travelling civilization!). This is not to mention the even more serious violations of causality cited in numerous science fiction tales; i.e. people going back in time to kill their great-grandfathers, major historical figures or even themselves (or, more benignly, to marry their great-grandmothers!)

However, even if the consensus view of modern-day physics is wrong and the past can be visited by future civilizations, another serious objection to the TTH remains; the lack of any incontrovertible evidence of visits by time travellers within the annals of history. There are no accounts of the use of anachronistic technology (or of people possessing anachronistic knowledge) from the records of any past era. While there are some unusual historical artefacts (such as Stonehenge, the Pyramids, the Antikythera mechanism and the so-called "Baghdad battery"), they are **not** sufficiently unusual in themselves to require time travellers to account for their existence. However, it **is** possible to "explain away" the lack of evidence for time travellers, due to a fear on their part of changing the past to such a degree that they - and maybe also the future which originated them - suddenly "winks" out of existence!

Furthermore, even if backwards time travel is possible, this would not in itself automatically mean that some UFO events involve time machines. Some theoretical conceptions of time-travel suggest that a time machine could only visit alternate versions of the past; as the very act of visiting a past era (which was not originally visited by a time machine) "creates" another version of that past time, one which was visited by a time machine! As a result, any changes to that "alternative" past due to this visit would only affect the alternative version of the past, not the original one! Obviously, if time travel did work along such lines, it would be impossible for observers from this "unblemished" time-line to observe time machines under any conceivable circumstances.

Results garnered from sub-atomic physics experiments suggest that a time machine would disassemble itself back into its constituent atoms the moment it reaches a time pre-dating its construction. This, again, seems to rule out the TTH in regards to UFO's, as the capability to build time machines would be the product of a highly advanced **future** society. Hence, any time machine this civilization could construct would be unable to travel back to our era (as it clearly predates this hypothetical future age). However, it has been suggested that humanity might discover, sometime in the future, a time machine constructed hundreds, thousands, even millions of years previously by an advanced extraterrestrial civilization. Theoretically, such an artefact could be used to travel back to any period of earth's history not predating the time of its construction. Although this intriguing possibility is consistent with our current "understanding" of "time-travel physics" it is little more than science fiction-level speculation, unsupported by any obvious aspect, element or attribute of the UFO phenomenon.

In summary, the TTH is an intriguing theory of UFO origin. While a few of the more exotic aspects of the UFO phenomenon could be potentially explicable through it, this hypothesis depends on (and evokes) so many convolutions of both logic and physics that it is rendered at best problematical. It will remain an unproven (but possible) concept until mankind has a clearer idea whether backwards time travel is either viable or impossible.

7: The Paranormal Phenomena Hypothesis (PPH)

The term "paranormal" can be applied to several diverse types of purported anomalous experiences; ranging from telepathy, psychokinesis and precognition up to alleged encounters with poltergeists, apparitions and other "supernatural entities". Paranormal phenomena have (at the very least) a definite peripheral connection with ufology, given the considerable number of "high strangeness" UFO events associated with various forms of "psychical" manifestations. The occurrence of such phenomenon raises the question both of why they occur within the context of a UFO experience, and whether they are the result of currently unrecognized natural processes, actual "psychical" manifestations (external or internal to the witness) or the product of a culture possessing a seemingly "magical" technology.

Many "materialistic" ufologists dismiss any connection between UFOs and the paranormal, as it is inconsistent with a strict "nuts and bolts" interpretation of the phenomenon (such as is envisioned by most versions of the ETH). However, this automatic rejection is contrary with a truly objective approach towards the UFO problem. If a witness reports an effect, it hence becomes a claimed aspect of the phenomena, and therefore **must** be considered in any objective attempt to account for UFOs. Rather than being a hindrance to a true understanding of "true" UFO incidents, an examination of the "psychic" aspects of the subject could well aid our understanding of them. This may eventually lead to three possible outcomes;

1: That the psychical elements of ufology are fairly minor and can be mostly ignored

2: The subject involves a combination of psychical and non-psychical elements

or-

3: The majority of the more exotic UFO events are full-blooded "paranormal" manifestations.

The first step in such a process is an examination of the various forms of "supernatural" phenomena, in order to determine what common elements they share with "true" UFO events. Whatever the outcome of this process, it would both aid our understanding of why some UFO events involve psychical manifestations and also (as a consequence) our understanding of UFOs themselves.

a: UFOs And "Apparitional" Phenomena:

Apparitions (commonly termed ghosts) are a long-standing form of anomalous experience, instances of which have been recorded over many hundreds of years, by virtually every culture on earth. The majority of these events involve the observation of a fully animate human-like form attired in archaic clothing and associated with a variety of outlandish attributes; it may be observed passing through walls or other solid obstructions, or to "glide" or "walk" a few feet above the ground. Many apparitions are also reported to literally disappear suddenly into thin air whilst in full view of its observer. A specific apparition is often associated with or said to *haunt* a specific locale, where they may be repeatedly observed over an extended period of time. These apparitions are claimed to repeat the same actions each instance they are observed (i.e. follow the same pathway or route through a dwelling, even to vanish on "reaching" a specific location).

The folkloric "explanation" for ghosts are that they are the unquiet spirits of the dead, "trapped" on earth for a variety of reasons (either as the result of a sudden, violent death or not having the correct funeral rites performed over its body, and so on). However, some elements of apparitional experiences appear to hint at a more materialistic explanation than "restless souls". The fact that ghosts pass through walls, or appear to be partially hidden by (or float above) the ground they "traverse" can often be explained by changes to the "haunted" area occurring **after** the time period which seemed to have "originated" them (such as floors being raised or doors being walled up). Both this, along with the "fact" that a specific ghost

is often observed repeating the same mundane actions, suggests apparitions are a form of "recording", based on a process that currently eludes human understanding.

Some psychical researchers have suggested this effect involves certain types of stone, perhaps in combination with other suitable forms of matter (such as bodies of water), whose composition is amenable to "storing" this "recording". It is further postulated that apparitions result when this "recording" is activated by specific environmental factors (such as a rare combination of weather conditions and/or various forms of geophysical activity). However, essential to this process is a person able to perceive this "recording". Both the creation and reception of this "recording" would be likely to utilize telepathy; the supposed psychic (or Psi) ability involving the "transmission" of thoughts, images and sensations from one person to another (sometimes at great distances), using a means divorced from all known forms of natural or artificial communication. Conventional "telepathic" experiences are often reported to occur when the "perceiver" is in a restive state, and most relate to crisis situations (such as accidents) involving a person known to the person experiencing the telepathic event. Other instances involve deliberate attempts at telepathic communication in parapsychology laboratories (again, involving individuals in a restive state, or an artificially-induced condition of sensory deprivation).

To many people, this solution is too unnecessarily complex, involving as it does a process of recording environmental stimuli currently rejected by science (not least because it has yet to be convincingly demonstrated or duplicated under laboratory conditions). The fact that it depends on telepathy, a Psi ability (like all other claimed psi abilities) whose existence is, again, rejected by science makes this so-called "stone-tape" theory for ghosts untenable in the minds of many people. Hence, the scientific community feels that apparitions have a simpler explanation. To begin with, there are as many potential spurious causes for ghosts as there are for UFOs; false shapes being "read" into random patterns of shadow and light, patches of mist, swarms of insects, shirts on washing-lines, people in fancy dress and various classes of hallucinatory effects.

However, whatever the causes of apparitions they retain considerable importance in regards to the understanding of UFO's (if only because these events are useful in terms of comparison, being a separate type of anomalous experience). However, there are distinct indications of apparitional-like elements in some "close encounter" experiences, with "ghost-like" behaviour supposedly exhibited at times by both UFOs and their supposed entities. UFOs may suddenly disappear (or are seen to "float"). Some UFO entities are reported to move by "floating" (or gliding) a

short distance from the ground, as well as having transparent forms. Furthermore, they have also been reportedly observed to appear and disappear suddenly, even to pass through solid objects. The "Oz factor" is related in some ways to the "uncanny aura" sometimes associated with apparitional experiences. There are as few (if any) mass observations of ghosts as there are few mass UFO close encounter events; apparitions often only being observed by a few select people out a larger group of potential witnesses.

There are also some notable differences to "conventional" apparitions. Ghosts do not (for example) travel at great speeds or exhibit sudden changes of colour! Furthermore, a given apparition is reportedly seen repeatedly at the same location; an attribute which they do not appear to share with UFO's. That said, notable "repeat" UFO activity occurs within limited geographical areas (i.e. **UFOCALs**), and many close encounter witnesses report a long, ongoing "chain" of apparitional and psi events, as well as repeated UFO encounters. In such instances it could be stated that the UFOs experienced by such individuals (and also "repeater" witnesses) are effectively "haunting" the participant! Apparitions are also associated with some effects on physical devices, but neither to the same degree or extent as that reported in UFO "Close Encounter" events. Another very major way in which UFOs do differ from "apparitional" phenomenon is their "one-off" nature, unlike the majority of apparitions which (as previously stated) are repeatedly seen in the same limited locale over an extended period of time. This suggests that either the concept of UFO's as apparitions is a flawed one, or that "apparitional" UFO's "work" on different principles to "conventional" phantoms.

Therefore, in what ways could the various mechanisms potentially able to generate apparitional experiences be responsible for certain exotic UFO events? It is known that although the majority of apparitions relate to observation of human figures, there are also a few reports of phantom buses, ships and aircraft; hence allowing the apparition-generation process to "evoke" inanimate objects. However, all of these events involve "objects" which once had a definite existence in the material world (such as a Spitfire, a London bus, a clipper ship, etc). It is unheard of for people to observe apparitions of things which never existed on earth sometime during its history (although there are few claims of "ghost dinosaurs" or other prehistoric lifeforms!). This is a further indication that if some UFO's are the result of apparition effects, they must involve markedly unconventional ones! The way and means in which apparitional phenomenon could be related to UFOs basically depends on the actual nature of apparitions themselves;

a1:- Given that exotic processes such as the "stone tape" effect do **not** occur, some UFO experiences may involve the same hallucinatory processes involved in apparitions, but "framed" within a different context (hence explaining both their differences and similarities). "Ghost" images of people "behave" like people and aircraft because this "behaviour" comes from a store of expectation (based on common experience of people and aircraft) held within the brain. Likewise, images of "spacecraft" behave in the manner "spacecraft" are believed to behave by popular culture (such as moving at fast rates of speed, hovering and so on). In this perspective, ghosts (and some UFO's) are a form of "waking dream" experience, triggered by physiological factors, and perhaps geophysical and/or meteorological ones as well. Even if some apparitions are the result of natural (albeit exotic) "recording" effects, it is likely some ghostly phenomena would still involve the above comparatively mundane psychological processes. Hence, this would allow (and account for) any similarity between these experiences and subjective UFO-type experiences utilizing the same neurological "wetware". Furthermore, this view would not require such UFO events to be explained in terms of telepathic-based phenomena.

a2:- Another possibility is that some apparitions are generated by an unusual natural phenomenon other than the "stone-tape" effect. If geophysical features such as earthfaults are capable of generate UFO-like phenomena, could they also be responsible for some "ghostly" experiences? This suggestion is made plausible by the "fact" that many apparitions are notably vague and basic in appearance (many accounts involving stereotypical misty, luminous "white ladies" or dark forms reputedly resembling "cowled monks"). Could repeat low-level earthlight manifestations occurring within a specific locale be interpreted by those unaware of its true nature as spectral activity? In this context it should be noted that a considerable number of "ghost origin" legends (such as, for instance, the tale of evil squire Travellain who murdered a girl on Dartmoor in the 1700s, where her phantom wanders to this day...etc...etc...) often turn out to have a highly dubious historical basis. Could a re-occurring geophysical effect result in such stories being invented to account for the event? There are many instances within history of legends being composed to explain various meteorological, geological and biological phenomena.

The process which could result in an "earthlight" being perceived as an anthropomorphic figure may easily involve the natural tendency within human perception system of subjectively "reading" ordered "forms" into suitably irregular natural manifestations. More exotically, exposure to electrical emissions from an earthlight could induce vivid hallucinatory experiences in any person encountering it (or, alternately, only within specific individuals).

If this effect only occurs within a select number of UFO/apparition witnesses, repeat anomalous (but subjective) experiences involving only a small percentage of individuals may well result whenever a suitable geo-electrical "imbalance" occurs within the witnesses' locale (possibly involving other influences other than "earthlights"). This would effectively account for the high-strangeness UFO "repeater" participant who's experiences often appear (in the main) to be subjectively based. The concept of "ghosts as earthlights" would account for the tendency of apparitions to "haunt" specific areas, also their repeated, limited "path of motion" and sudden disappearances.

a3:- Some UFO's could involve "apparitional" like phenomenon originating from the future! Several possible instances of this have been recorded in the annals of parapsychology. Another form of paraphysical experience, **precognition**, involves apparent foreknowledge of events prior to their actual occurrence. The concept of experiencing knowledge and perceptions from a future time is thus far from an alien one in psychical research; in fact it is a long-standing and integral part of it. A **timeslip** is a form of anomalous experience similar to a conventional apparition event, but involves the participant's **whole** environment appearing as it might have looked in past eras. A particularly noteworthy aspect of "timeslips" is that some incidents describe effects and sensations similar to that reported during Oz-factor manifestations (which strongly suggest a common link between these two phenomena). However, there are **no** (presently known) instances of people seeing futuristic landscapes during a UFO experience; which - despite occasional instances of Oz factor - remains contemporary in appearance. The possibility of some UFO's involving "future phantoms" need not involve telepathy, precognition or any other "paranormal" phenomenon, as it could just as easily arise from natural (but currently unrecognized!) transient distortions within the space-time continuum. It may result, for example, from a malfunctioning FTL drive system created by our ascendants (given that many proposed FTL concepts involve travel by way of "distortions" within the space-time fabric).

a4: Elements such as the Oz factor and "repeater" witnesses may involve exposure to telepathic (or telepathic-like) "transmissions" originated by extraterrestrial (or other) exotic lifeforms. Such a concept, of course, is only valid if telepathy exists and can be used as a reliable mode of communication! The fact that many close-encounter witnesses report only images pre-existing within western popular culture (i.e "humanoid" aliens, "flying saucers" and so on) may result from "conceptual reconstructions" of this "message" being "visualized" by the participants brain. This could be due either to differences between the thought processes of aliens and humans, or limitations inherent within the "telepathic" communication

process itself. If this process has limitations it may be utilized despite of them, if it permitted faster-than-light communication (and is swifter than radio waves, laser beams or neutrinos). The most notable element which appears to discount this theory (other than that it requires both the existence of aliens and telepathy!) is the worthless aspect of these "communications"; which relay nothing more than empty visions and useless contactee platitudes. These messages appear to give no real (or notably anomalous) information, and are, hence, only convincing to those believing in such experiences to begin with! This, of course, may be accounted for by stating these experiences result only from incidental and accidental exposure to an anomalous "signal", transmitted for reasons other than direct communication with humans (such as a "remote viewing" based scan of the earth's surface)! As with all paranormal-based "explanation" schemas, the concept of "alien telepathy" is both difficult to either prove or disprove, making its scientific veracity doubtful to say the least.

It is unfortunate that the possibility of a link between some UFO experiences and paranormal events is an area neglected by both Parapsychological and Ufological research (doubtlessly due to the rigid paradigms and conceptions dominating both subjects). As with all psychical-based theories, examination of this possibility is hampered by a lack of understanding of the processes responsible for apparitions. Orthodox science remains unconvinced of their reality, dismissing apparitions as being hallucinatory in nature. However (as previously stated) even if this is true it does not excuse Ufology from not examining common links between apparitions and UFOs, as closely-related neurological processes could well be involved in both classes of experience.

b: UFOs And The Collective Unconsciousness.

It has been suggested by a variety of commentators that the totality of human minds upon this planet may (on a subconscious level) form a large interlinked awareness, possessing shared values and ideals, along with a common "store" of symbolic representations of these concepts. This so-called **collective unconsciousness** may comprise solely of the minds of humanity, or of the totality of all living organisms upon this planet. This "greater mind" is often deemed to exist both everywhere and nowhere, being composed (much like a "parallel" computer system) of a mass of smaller "units" of varying complexity; ranging from ants to humanity. The existence of a collective unconsciousness may also account for the existence of telepathy (as it would make an ideal communication medium to weave these diverse elements together as one unity).

If this "collective mind" does indeed exist, some UFO events might involve manifestations of this "unity of consciousness", either representing attempts to alter our level of consciousness or the enactment of some form of "psychodrama". Either of these possibilities could well be related to the sudden "devaluation" of past archetypal concepts and major changes in the human perspective resulting from (comparatively) recent scientific discoveries. This "group-mind" may be using the new "dream" symbols of our contemporary scientific age (i.e. flying saucers and space-alien) and "update" it's old ones in order to express the new fears and hopes of mankind; the dread of nuclear war, climate change and species-extinction on one hand, and the dream of "easy" interstellar flight and "magical" technology on the other. This might be an attempt to expanding the consciousness of mankind, allowing the "group mind" to further increase its level of awareness. This mental unity might instigate "UFO" experiences through subjective process or via a visible intermediary (such as a Ball of Light-type phenomenon). By aiding mankind, this group-consciousness would both expand its own awareness and ensure its own survival, by orientating mankind towards a way of thinking involving both ecological concerns and the possibility of interstellar spaceflight.

The greatest weakness of this astounding theory is the lack of firm evidence for the existence of such an "overmind". Whilst it is true that all life on earth is interconnected to a degree (via geophysical, ecological and climatic factors), there is **no** firm evidence proving that the consciousness of all terrestrial life is equally closely interlinked. With the "evidence" for the existence of a mental unity deriving from anomalous subjective experiences (and this concept being heavily dependent on the existence of scientifically doubted "phenomena" such as telepathy) it is a very difficult - if not impossible - proposition to validate or disprove. Furthermore, if telepathy does **not** exist it is hard to see how else this "overmind" could function as a coordinated unity, with no obvious (mundane) means of "interconnection" being known to biology.

c: UFOs & "Otherworldly" Beings.

One oft-unmentioned aspect of this subject are the apparent links between UFOs and fairy lore. To begin with, the various supposed "elfkin" races are - at least superficially - identifiable with the main classes of "UFO occupants." "Goblins" and "Pixies" are comparable with the "Greys", as the Elves (or "Alfair") of Norse mythology are comparable with the "Nordics" of ufolore. Equally, the hideous, misshapen giants of numerous fairytales are akin to the hideous, misshapen "giants" appearing in some UFO entity-encounter claims. "Fairly changeling" myths, relating to the "fair folk" stealing mortal children and substituting them with ugly, wizened "poppets",

share basic similarity with the "hybrid breeding" accounts of UFO mythology. Tales of fairies kidnapping humans appear - at least on superficial examination - to share many common (if basic) elements with UFO abduction narratives.

The association of elves with "fairly rings" - places where the little people were supposedly seen to "dance" - have parallels with UFO's that reportedly leave circular ground traces in their wake. As with UFO's (and UFO entities), the "fairies" of many cultures could reportedly appear and disappear at will, and manifested in a wide variety of forms. Some societies accounted for the latter aspect by attributing shape-changing abilities to elfkind. Fairies also possessed the supposed ability to fly through the air (either bodily or in aerial "sailing ships"), and to smite people with paralysis; further aspects they also share in common with UFO's and their reputed occupants. Accounts of people who reportedly entered the "fairy realm" often state that little time appeared to pass while they resided there; however, on their return, these visitors to "elfland" would discover that many years had elapsed in the world of mortals! The time-abnormalities associated with these tales are comparable with those associated with instances of "Oz-factor" and/or "missing time" - although the chronological differences noted in the former are considerably greater than that reported in the latter!

From this evidence, one could conclude these tales of fairy encounters were (at least) inspired by encounters with an actual class of anomalous entity. The realm of the "fair-folk" - a land within our world (but also seemingly outside of it), where "magic" and "supernatural" beings exist - could be compared to an alternative universe where different physical laws apply!

Connecting mythical beings with the modern theoretical concept of alternative universes could also account for other types of anomalous entities. Semi-mythical creatures such as North America's "Bigfoot" are improbable when considered to be normal inhabitants of this world. However, could they originate from another universe, deposited onto ours by a "wormhole" of some kind? Many of the more extreme types of anomalous entities are reportedly associated with powerful repugnant odours, or even - in some instances - are alleged to drip "ichor". Could this result from cellular decay (i.e. akin to a rapid form of skin necrosis), resulting from an "incompatibility" between the composition of the entities universe and our own? Could something similar also account for tales of "fairy gifts"; which vanish or crumble to dust shortly after being received by mortals? Stretching this reasoning to its extreme, this could also explain the lack of physical artefacts relating to UFO's. This does **not**, of course,

account for the dearth of convincing pictures and physical trace evidence, which such "UFOs" would still be quite capable of generating whilst in possession of a viable physical form!

However, an even more convincing case can be made for a psycho-social origin for fairy lore entities. The links between UFO's and fairy lore could be accounted for by the fact that UFO's are an updated variety of the "otherworldly encounter"; both being instigated by lucid subjective mental phenomena sharing common attributes. The "changeling" myth is likely to have been a pre-scientific explanation for malformed and/or handicapped babies (which were deemed in those times to be "poppets"). The changeling myth could equally be inspired by rare genetic traits such as **Williams syndrome**, which results in individuals with classical "elfin" facial features and a mind-set notably different from those unaffected by this condition. The marks commonly termed "fairy rings" are, in actuality, the result of a common form of fungus. However, it is possible some may have been generated by a "plasma-vortex" like phenomenon (which would have consolidated the belief in an otherworldly origin for all "fairy rings" in the minds of historical peoples). Likewise, it is now known that a "stroke" results from a blood clot damaging nerve-functions, and is not the consequence of a magical elven curse!

The impact of all these various natural phenomena on a pre-scientific people must have been profound; to their minds they could **only** have been the work of the "fairies". Indeed, the old superstition of referring to them as the "fair-folk" was not done out of love, but fear; these creatures often being viewed as cruel and fickle. This is doubtless a reflection of the hard subsistence-level world inhabited by pre-industrial cultures, who's often malevolent, uncontrollable nature seemingly confirmed the reality of every nightmarish folklore entity conceivable! Despite this, we do have actual claimed observations of the "little people" occurring even in today's world. In this context it should be noted that many forms of clinical (and drug-based) hallucinations involve observations of small anthropomorphic figures.

The biggest problem when considering the influence of elflore is the great uncertainty over its "reality" status. Were these accounts simply just stories and constructed myths, or do they represent (at least in part) genuine anomalous experiences? Given that the latter is true, do we evoke the possibility of parallel universes to account for them, or opt for more down-to-earth explanations? Whatever the case, the answer to this conundrum has a considerable bearing upon certain aspects of the UFO phenomenon (given their shared common elements).

Summary of the PPH.

The term "Paranormal" covers a wide range of anomalous human experiences; thus any attempt to explain some UFOs in these terms has to cover a diversity of possibilities. The biggest negative factor hampering any paranormally-based "solution" is that orthodox science rejects the Psi abilities and manifestations forming the very bedrock upon which these conceptions are based. However, that in itself does not invalidate efforts to assess the ufological reverence of the paranormal. Even if the processes underlying such happenings are in actuality quite mundane, they could **still** give invaluable insights into certain classes of "UFO" events. That stated, it should be noted that some mundane "explanations" cited for certain paranormal phenomena do appear to fall short of being totally conclusive. Thus, there is a possibility that certain paranormal experiences **do** involve processes which are truly anomalous in the context of current scientific understanding. Thus such possibilities **remain** - for the present at least - as possible explanation schemas for UFO incidents (regardless of their apparent improbability!)

Another problem is that paranormal-based UFO hypothesis - or even the mere occurrence of paranormal events in certain UFO experiences - appears to contradict the popular conception of UFOs being extraterrestrial devices. As a result of this, such concepts and experiences tend to be shunned (even denied) by a considerable number of UFO researchers. This in itself raises another question; how paranormal is the paranormal? What if (for example) telepathy was one day proved to be a genuine human ability, quantifiable by the laws of physics? Or if the mechanism for apparitions were discovered and found to be explicable in "materialist" terms? If this **did** occur they would, as a result, effectively cease to be "paranormal", and join the plethora of other natural phenomena known and accepted (if not fully understood) by conventional science. Hence, there is considerable danger in ruling out possibilities merely because they seem to be "nonsense", or contradict popular conceptions of the UFO problem. It is all too evident that little work has been conducted to determine how much of the UFO phenomenon may potentially involve "paranormal" manifestations. This is due, in the main, to the (intense) emphasis UFO research places upon the ETH, to the extent that other, equally important, avenues of research are neglected. This imbalance in UFO research requires redress, as the hints of a link between certain paranormal phenomenon and UFO's cry out for intensive scrutiny.

8: The Living Organism Hypothesis (LOH):

A small quantity of sightings relate to seemingly intelligent "behaviour" exhibited by UFO's either too small or too (seemingly) immaterial to carry a sentient, living entity. As a consequence, it has been suggested that such "UFOs" are, in actuality, highly exotic lifeforms originating either from the upper atmosphere, the sun, outer space or another universe! It is further claimed that mankind's lack of knowledge of these creatures is due to them being (normally) invisible to the human perception system. In support of this notion, strange, irregular images appearing on infra-red film are cited as evidence for their continual (if otherwise unnoticed) presence of these "beings". "UFO" sightings - according to this theory - occur on the very rare instances when these normally invisible entities are (somehow) rendered visible to us.

A more extreme version of the "living organism" hypothesis proposes that some UFOs are ultraterrestrial lifeforms, "sentient energy" originating from "another order of reality", either an alternative universe or even the electromagnetic spectrum itself! According to this conception of UFOs, UFOCALs are the "windows" by which this "sentient energy" gains access to our realm. These "energy-forms" are supposedly capable of assuming various shapes; ranging from a ball of light, a structured domed disc right upto a "UFO entity". This accounts for the reason why the **same** level of "intelligent control" is exhibited by both "mundane" and "exotic" True UFOs! It also "explains" the lack of physical proof for UFOs, as the phenomenon is here seen as the immaterial consequence of an exotic electromagnetic energy process! Advocates of this theory state that this "lifeform" (variously thought to be either a collection of separate entities or a single "overmind") actively encourages belief in extraterrestrial visitors, in an attempt to "control" mankind through these ideals (for purposes known only to itself)...

The two main points against this wild concept are that this theory is very hard (probably impossible) to scientifically validate, and that the form of "sentient energy" these "UFO's" supposedly comprise of is not - and probably could never be - scientifically defined! The precepts of this theory hinges on conspiracy and paranoia in equal measure, with every strange instance, coincidence and rumour adding speculative fuel to this nightmarish conception. As with all theories based on conspiracy and paranoia it is next to impossible to disprove. Any data which apparently contradicts this theory could be deemed - by its supporters - to be manufactured by the ultraterrestrials (who created this negative evidence to "cover their tracks")!

The concept of "living UFOs" is predominantly supported by displays of what is variously deemed either "controlled" or "intelligent" behaviour" by some UFOs. However, most witnesses would likely interpret **any** motion displayed by a UFO as "purposeful", due to popular belief in their "extraterrestrial spacecraft" origin. Thus, given that the determination of this supposed "intelligent" behaviour is largely a subjective process; the distinct possibility exists these actions could be accounted for in other, less outlandish ways. The actions of such "UFO's" could, just as likely (if not more likely) be generated by geophysical/electromagnetic influences present within the sighting environment. Or, less exotically, the UFO's motions were nothing really special at all, just random motions which human perception interpreted as "controlled" or "guided".

Lastly, some elements (and varieties) of the "Living Organism" theory seem more concerned with explaining its own shortcomings than accounting for the diverse attributes and aspects of the UFO problem. As yet, there is little evidence within the annals of Ufology to support such theories, at least which cannot itself be more easily explained in other ways.

CONCLUSION

As this study has shown, it is all too apparent that the majority of "raw" sightings are explicable in terms of conventional IFO stimuli. However, it is also equally clear that **every** study of UFOs (no matter how sceptical) nearly always results in a small residue of incidents that cannot be easily accounted for in terms of prosaic phenomena.

It is to this residue of "True UFOs" that Ufology must obviously concern itself with. Unfortunately, it is when attempting to determine the nature of "True" UFOs that Ufology encounters some of its greatest conceptual difficulties. A considerable number of these "unexplained" cases are explicable in terms of a high-energy plasma phenomenon, with these UFOs possessing (reported) attributes consistent with such an origin. However, although evidence for the physical reality for such a phenomenon exists (and there being many potential sources of "plasma-UFO" generation being available), the concept of "exotic-natural UFOs" has yet to be conclusively vindicated.

Other events relate to "True UFO's" that appear to be structured and artificial in nature; but the majority of such events suffer from a lack of supporting proof to fully validate their evidential existence. Although some evidence suggests that such "exotic" UFO's **may** physically exist, it is scant and often open to prosaic interpretation. The small number of these cases (and the low quantity of this physical evidence; given their claimed anomalous nature is accepted) suggests these "Exotics" comprise a very small percentage of the "True UFO" phenomenon.

As the above discussion of the various UFO theories expounded to date show all too well, there are many potential sources which could initiate "true" UFO events, "mundanes" and "exotics" alike. Some hypotheses appear more viable than others, but the best have at least a few aspects which make them worthy of further examination and consideration. Many of these theories - especially the more exotic ones - possess "drawback" factors, which cause them to be as conceptually flawed as the next. However, this situation could well change with the advancement of human knowledge, which may either resolve these conceptual problems, remove a theory from consideration or even uncover some new possibilities! However, the above examination of the various UFO hypothesis indicates another problem facing Ufology now (and in the future). It is this; although

many theories can explain some (or many) aspects of UFO's, they cannot (in isolation) account for them all.

This in itself leads to the most important question pertaining to the UFO phenomenon; does it involve a "core" phenomenon that has only **one** source of origin, or an intermingling of phenomena with widely differing origins? It should always be borne in mind that the only thing one "true" UFO has in common with the next is that it is a "true" UFO. This is merely a label of convenience, only an admission of our gross ignorance. The fact that these reports cannot be easily explained says nothing about their source of origin in itself. It does **not** guarantee that the phenomenon seen in one sighting is the same as that observed in another. IFO reports are a prime example of this; although all IFOs relate to explained "UFO" occurrences, there are estimated to be around 150+ distinct causes for them (and around half a dozen commonly-recurring types).

Therefore it is likely that there is **no UFO phenomenon**, but a UFO **phenomena**, composed of diverse stimuli, with an escalating degree of strangeness. IFO's comprise the first level of "UFO phenomena", with exotic plasma and mirage effects comprising the next. Following them, perhaps, are those UFO events with extreme exotic origins; such as extraterrestrial devices, paranormal effects and anything else not ultimately forbidden by the laws of reality.

This is, however, only a conception. Only continued research can address the question as to where this "escalation of strangeness" terminates; does it end with IFOs, plasma-forms or alien visitors (and maybe even beyond)?

However, there is a strong inclination within Ufology to believe in a "True UFO" **phenomenon** with a singular origin (which is often unquestionably deemed to be extraterrestrial). This perspective can take several forms. The first accepts concepts such as earthlights but effectively relegates them to the status of IFOs. The second (more hard-line attitude) rejects the possibility of earthlights and other similar novel natural causes, and is equally hostile towards the possibility of "paranormal" or other similarly exotic origins for "True UFOs". Furthermore, a deep suspicion is exhibited towards any attempt to account for all but the most obvious IFO reports in rational terms; with any such efforts attempted by more "liberal" Ufologists being vehemently dismissed as "debunker propaganda" or "psycho-social claptrap". Equally, there are researchers who take the opposite approach. They are more open to the view that true UFO's may not just involve alien visitors; some can even conceive of a UFO phenomena which is totally based on novel forms of unusual natural phenomena (such as earthlights).

It is clear that dogma and blind belief remains one of the greatest obstacles to our true understanding of the UFO enigma. Only when the chains of these outdated conceptual shibboleths are cast aside can a true comprehension of the UFO phenomenon be attained. Ufology is finally reaching a stage where a reasonable understanding of its subject matter could be realistically acquired. The nature of the UFO phenomenon is now much clearer than it was in 1947, which many potential sources of origin having been identified. However, much work is still required to determine the **true** extent and parameters of the UFO. This will be achieved both through the documentation of new reports and closer examination of those UFO incidents already on record.

As with most scientific research, a fuller understanding of UFOs will not happen as the result of a single breakthrough, or through astounding "official" revelations. The UFO phenomenon appears too diverse in nature to be effectively cut down with a single conceptual blow; although a sudden breakthrough could occur in relation to one particular source of "True UFO" events. The quest for further and full understanding of the UFO problem will not prove to be an easy one, and remains the greatest challenge facing ufology, both today and into the foreseeable future.

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Ufology E=Entities H=Historical S=Sceptical T= Theoretical
UK = focus on British Ufo events**

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