

---

## Exeunt Exeter?

*Should this 1965 New Hampshire classic finally shuffle off the stage?*

Martin Shough<sup>1</sup>  
April 2012<sup>2</sup>

---

---

<sup>1</sup> The author is a Research Associate for NARCAP; [parcellular@btinternet.com](mailto:parcellular@btinternet.com)

<sup>2</sup> Minor edits Jan 2014

## Exeunt Exeter?

Should this 1965 New Hampshire classic finally shuffle off the stage?

Martin Shough<sup>3</sup>

The Exeter, New Hampshire sightings on the night of September 2 - 3 1965 remain iconic. Amidst a continuing wave of sightings reported to the newspapers, police and Air Force by puzzled citizens, this one series of events in particular threw the issue into sharp public focus. And to this day it remains a significant case, representing some of the core issues of ufology in microcosm.

It was soon after midnight on that clear, calm, starry night when Officer Eugene Bertrand encountered an alarmed motorist parked on the outskirts of Exeter. The driver reported being followed for 12 miles by “a flying object which was encircled by a brilliant red glow”<sup>4</sup>. Officer Bertrand reassured her that it was probably just a star and returned to Exeter Police Station, there to find Desk Officer Tolland attempting to calm down a distraught young man who appeared scratched and dishevelled. Learning that Norman Muscarello had just arrived at the station claiming to have been terrified by a huge object with a row of brilliant red lights that lit up the Clyde Russell house in the small rural township of Kensington, Officer Bertrand was sceptical but curious enough to go back with him in the patrol car to the spot on Route 150 (see Figs.1, 2, 3 & 4).

The field over which Muscarello saw the object was dark and quiet and nothing was to be seen. Officer Bertrand decided to take a look in the field with his flashlight before calling it a day, and Muscarello went with him. Suddenly Muscarello cried out excitedly that the object was back, and Officer Bertrand turned to see a tilted line of brilliant, pulsating red lights apparently rising from behind the trees to the East and moving erratically across the field. Bertrand was alarmed for their safety, instinctively reaching to unholster his weapon, and urged Muscarello back to the shelter of the patrol car. The car interior was bathed in a red glow and horses in the Carl Dining paddock were going crazy. Bertrand radioed the station for assistance and Officer Tolland heard the frantic tone of disbelief in Bertrand's voice as he described what was happening. Officer David Hunt responded quickly in another car, arriving in time to see the pulsing red lights moving away across the treeline.

It would be hard to overstate the significance of this incident, or series of incidents, on the development of the UFO controversy in late-1960s America, in the years leading up to the process by which the US Air Force sought to divest itself of public responsibility for the problem with the commissioning of the University of Colorado project (Condon Report) and the axeing of Project Blue Book at the close of the decade. The Exeter sightings were striking for the vivid reports of an alarming close encounter made by multiple witnesses, including police officers on duty, and borrowed momentum from an intense wave of sightings and associated publicity on the east coast that year, particularly in Virginia and New Hampshire. Public interest was heightened further by an inept and premature Pentagon press statement dismissing the sightings as due to “twinkling stars and planets in unusual formations” whilst the Air Force investigation was known to be still ongoing. In fact Blue Book staff were doing their best to pin the sightings on an Air Force exercise involving B-47s from nearby Pease Air Force Base. But they had no success. After an exchange of letters between project chief Maj Hector Quintanilla and the increasingly insulted police witnesses, an admission from the Air Force that their sighting was to be filed as “unexplained” completed the fiasco. And when a journalist called John Fuller arrived in Exeter to cover the story, first in a series of articles in national magazines and then in a best-selling book, the affair of “The Incident at Exeter” was destined to become a country-wide cause célèbre, remaining ever since an influential member of the canon of classic “unknowns” at the core of the UFO proponents' evidence base.

---

<sup>3</sup> The author is a Research Associate for NARCAP; [parcellular@btinternet.com](mailto:parcellular@btinternet.com)

<sup>4</sup> From interview and field report compiled by investigator Ray Fowler, Sept. 11 1965

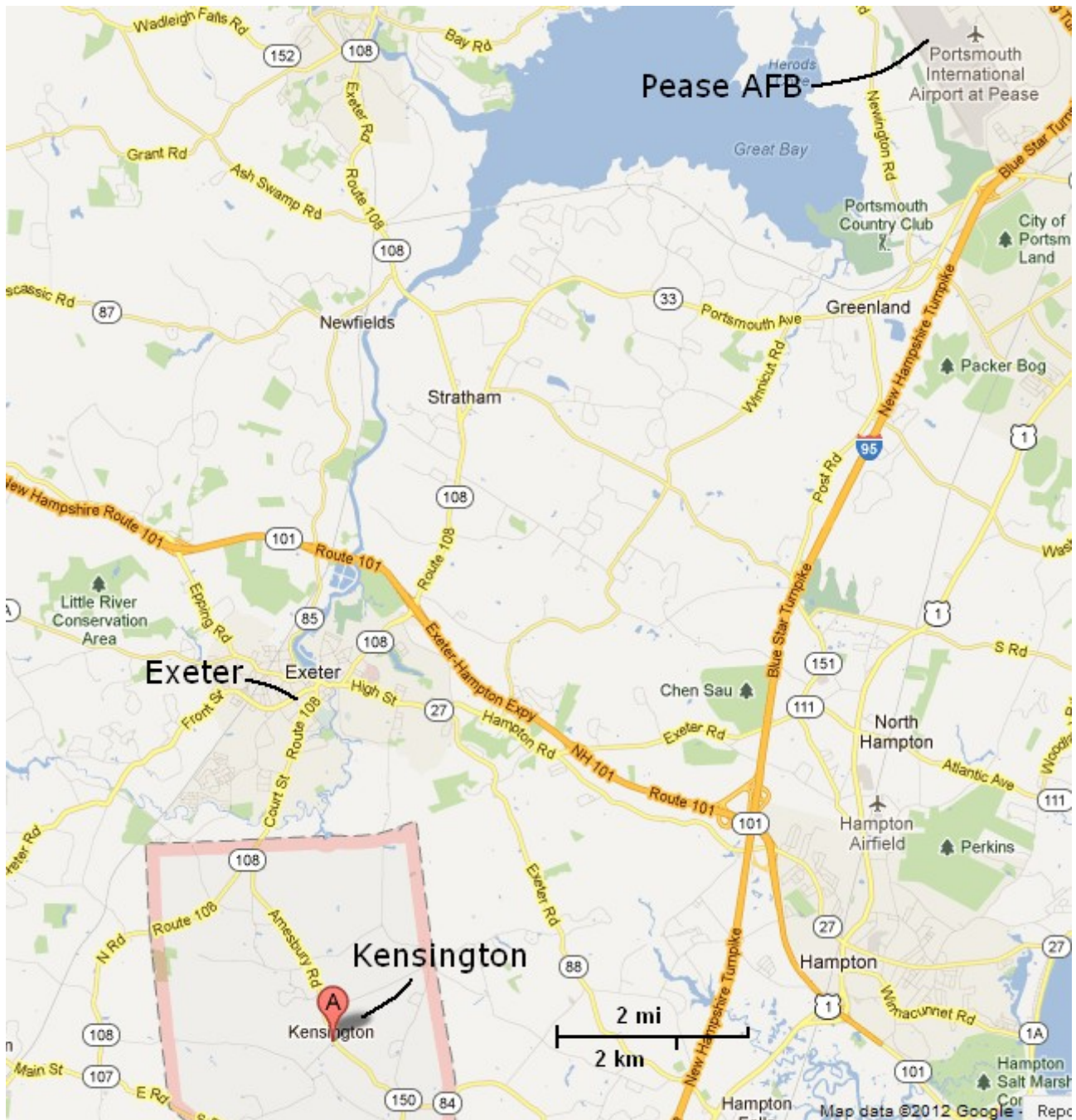


Fig.1 Map showing the Kensington, New Hampshire sighting area in relation to other significant locations - nearby Exeter, Pease AFB to the North, and Hampton to the East





Fig.2 The sighting location on Route 150 (Amesbury Rd) showing NICAP investigator Ray Fowler's on-site sketch map overlay on Google Earth image (Joel Carpenter)





Fig.3 Present-day view from the roadside at the approximate sighting location looking N towards the Clyde Russell house (courtesy Joel Carpenter and Google)



Fig.4 Present-day view from the roadside at the approximate sighting location looking E towards the Carl Dining paddock (courtesy Joel Carpenter and Google)

So when a conclusive explanation was announced in 2011 by two writers for *The Skeptical Inquirer*, organ of a prominent self-styled “scientific and educational organisation”<sup>5</sup> with a mission “to promote scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims”, this was a matter of some note.

Joe Nickell and James McGaha of CSI (Committee for Skeptical Inquiry, formerly CSICOP) began their article<sup>6</sup> with a bold claim:

One of the great unsolved UFO cases—which provoked endless controversy between True Believers and Doubting Thomases—has at long last succumbed to investigation. The 1965 Exeter mystery is now explained.

Nickell and McGaha certainly made an arresting case. But this unqualified bravado struck many readers as somewhat overweening. Their effort was well-founded and original. Unfortunately almost all of the parts that were well-founded were not original, and almost all of the parts that were original were not well-founded. The sightings may indeed be explainable, but one comes away from their argument feeling that they have reached this conclusion for the wrong reasons.

### The Nickell & McGaha thesis

Nickell and McGaha ask:

Why did the Pentagon not solve the case at the time? Perhaps in the welter of paperwork the clue we found so significant went unseen by anyone who could fully grasp its import and who had time to devote to the case. Naturally, everything is much clearer in hindsight.

It has been well known since 1965 that an aerial refuelling operation was one of Blue Book's earliest suspects to explain the silent, flashing red lights. Some sort of photographic mission was also considered, but the file (see Appendix) contains statements to the effect that the descriptions seemed typical of other cases explained as aerial refuelling. So they had clues. What they lacked was the ability to prove it, by finding a refuelling operation that could have been in the area at the right time. Hence their preferred focus on the B-47's of the SAC exercise Big Blast, and their ultimate failure to make this stick.

Unfortunately Nickell and McGaha are also unable to prove it. What they do is try to further refine the suspicion, by suggesting particular similarities between the pattern of lights and the "receiver lights" (otherwise known as director lights) carried by a KC-97 tanker during refuelling. This is provocative, but does not of course plug the hole that left BB's effort foundering. And when we examine Nickell's and McGaha's proposal in detail we find that not everything is clearer in hindsight after all.

In 1965 Blue Book (hereinafter BB) checked logs of activities in designated refuelling routes and came up with nothing. But they noted that the core incidents happened just after a SAC/NORAD training exercise called Big Blast "Coco" involving a number of B-47's in the Exeter area. The SAC Directorate of Operations was asked by letter and by phone about types and numbers of aircraft involved and their times of recovery. After checks were made SAC informed BB that the exercise involved ten B-47's from Pease AFB. No tanker was listed and BB did not find any evidence that this exercise involved aerial refuelling.

---

<sup>5</sup> [http://www.csicop.org/about/about\\_csi/](http://www.csicop.org/about/about_csi/)

<sup>6</sup> James McGaha and Joe Nickell, "'Exeter Incident' Solved! A Classic UFO Case, Forty-Five Years 'Cold'", *Skeptical Inquirer*, Volume 35.6, November/December 2011  
[http://www.csicop.org/si/show/exeter\\_incident\\_solved\\_a\\_classic\\_ufo\\_case\\_forty-five\\_years\\_cold](http://www.csicop.org/si/show/exeter_incident_solved_a_classic_ufo_case_forty-five_years_cold)

The file contains an unpursued claim by Maj Quintanilla that five "additional" B-47s were in the area, but as will see this appears to be a misunderstanding. In any case the main refuelling route was closed, for the very reason that Big Blast was taking place, and other adjacent refuelling routes were checked also. The bottom line was "no refuelling operations were conducted on the night of 2-3 September" and "there were no refuelling operations in the New England area during the time in question."

Still, refuelling or not, those B-47s would have been over Exeter during approach to Pease. They were such tempting suspects.... But the last one was counted back at 0135 and the core sightings did not begin until after 0200, lasting until well after 0300. BB badly wanted this to work, but the timing was apparently well-established by Air Force and police logs. Conclusion (reluctantly): Unidentified.

This is where Nickell and McGaha introduce a crucial innovation. Under the subhead "Solved!" they audaciously assume that actually there *was* a refuelling operation going on - specifically that at least one B-47 from Pease AFB was still in the air after the reported end of exercise Big Blast (in spite of the SAC statement to the contrary) and that this exercise "surely" would have involved a KC-97 tanker:

Just this type of craft operated out of Strategic Air Command bomber bases like that of Pease AFB and, indeed, would surely have been involved in a SAC/NORAD training exercise like that dubbed "Big Blast" of September 2-3, 1965. But what about the "fact" that this exercise—which was ongoing in the skies over Exeter at the time of the first sightings—had supposedly ended about an hour before Muscarello and officer Bertrand had their "close encounter"? It seems quite apparent that, although the particular exercise was reportedly over, there were still planes in the sky. Bertrand and Hunt, in fact, witnessed a B-47 jet at about the time the UFO disappeared.<sup>7</sup> Perhaps it had just refueled.

So because "there were planes in the sky" they reason that there could after all have been a refuelling operation going on at the time, even though the Air Force investigation concluded that there were none that night in the New England area.

This is a bold assumption but Nickell and McGaha justify it as follows:

- 1) They recognised the rippling 1-2-3-4-5-4-3-2-1 sequence of the line of red lights on the UFO as a description of five red flashing "receiver lights" (director lights) on the belly of a KC-97 which would light up during approach to help guide the B-47 into position
- 2) The KC-97's refuelling boom would have hung out of the tail making an angle of around 60 deg with the horizontal axis of the plane (see Figs.5 & 6), and the red receiver lights would have been seen reflected from this boom. This neatly explains the witnesses' descriptions of a line of five red lights always inclined "at about a 60 degree angle".
- 3) And if the extended refuelling boom wobbled around before being successfully mated with the B-47 this would explain why the witnesses described the line of reflected lights as sometimes floating erratically "like a leaf".

We will focus our analysis of the theory on these three points.

---

<sup>7</sup> See: Fuller, J.G., *Incident at Exeter*, G.P.Putnams/Berkley, New York 1967 p.58 & p.62.





Fig.5 KC-97 Stratotanker refuelling a B-47



Fig.6 KC-97 showing the boom in stowed position and the boom operator's pod. The receiver light or director light panel is just visible further forward below the wing root



## Analysis of the Nickell & McGaha explanation

First consider the receiver light panel itself. The lights are bright and could be visible from a great range. But the individual lights will not be separately resolvable to the human eye beyond a comparatively small slant range. The size of the whole panel of lights can be measured from photographs and drawings of the 117ft(35m)-long KC-97 (see Fig.7) and we can estimate that the five adjacent lights occupy a length of less than about 10 ft (3m). At a distance of about 6 miles even a row of five geometrically idealised point sources of arbitrary brightness, separated from each other by a clear 30 inches (76cm), seen in perfect glare-free ocular conditions in a vacuum, will subtend an angle at the limit of the arcminute resolution acuity of the human eye. In other words they will appear as a single flickering point source, not a rippling line of lights making a distinct angle with the horizon. It makes no difference which of the lights is on at any moment because the eye cannot discriminate the tiny subtended angle between them.

Even inside this range, and again assuming idealised point sources aspected favourably to the line of sight and observed in idealised conditions where glare and atmospheric factors are not in play, the flash only starts to become a *just-perceptibly* spatially oscillating point source at the distance where the included angle between lights #1 and #5 starts to exceed about 3 arcmin. This reduces the upper limiting distance to about 2 miles.

To discriminate the positions of *individual* lights at all in such a way that an idealised eye could, in principle, perceive a sequence of flashes progressing along the line and back as described (123454321) then still assuming idealised point sources in idealised conditions the distance reduces to a little over one mile. In the real world, things are far worse than this, of course.

Firstly, the lights are neither point sources nor clearly separated - they are lamps housed behind diffusing filters that almost almost abut; secondly, there is atmospheric extinction and refraction to consider; and thirdly, and more importantly, bright lights in darkness suffer significant loss of distinctness due to glare caused by the structures of the eye.

If these factors do no more than halve the effective acuity (an extremely generous assumption) then we would have to say that the *upper limiting distance* allowing even a marginal possibility of seeing the receiver light panel as a just-separated and countable series of sequentially flashing sources is around 1/2 mile, and the realistic distance in practice is much less.

Now, what of Nickell's and McGaha's theory that the witnesses were *not* seeing the brilliant receiver lights, that they were seeing instead their reflections on the refuelling boom? We can measure this object too and we find that the available length of boom which could be reached even in principle by photons emitted from the receiver lights is about 25 ft (see Fig.1). This is not a great length, but potentially five reflections on this boom could subtend about 2.5 times the angle of the receiver panel itself. Could they be discriminated?

In this case, the first thing to say is that the refueling boom is not a polished speculum neither does it have vertical (or near-vertical) flat (or near-flat) surfaces that could reflect light laterally from the receiver panel to witnesses on the ground when the plane is at low elevation above the treeline as reported. The boom is a tubular structure which in photographs tends to appear dull and shares the paint scheme of the KC-97 fuselage. This object might pick up some diffuse luminance along its undersurface from the bright receiver lights, which might be detectable from below, but it would not be capable of sending bright reflections in any direction, certainly not sideways, and certainly not focused specular images of five discrete light sources.

Yet this is the theory:- Five closely adjacent lights with 2ft between their centres, each diffused behind abutting filter panels and facing *down* from the belly of the plane, somehow produce five bright reflected images on a painted boom extended from the rear of the aircraft between 30 and 60 feet away. These reflections are distributed distinctly and countably along a 25-ft length of tube which is tilted only 26° from the horizontal plane of the light panel such that only light emitted almost sideways from the downward-facing panel can reach it at a shallow angle of incidence.

This all seems highly implausible. But, undaunted, let us assume that some remarkable image-forming mechanism *could* produce discrete bright reflections strung out along the length of the boom instead of merely a diffuse glow, what then? More tests present themselves:

Nickell and McGaha propose that the witnesses could not only discriminate and count the reflections but could also observe them wavering up and down due to fluctuations in the angle of the boom through a few degrees whilst it sought to mate with the receiving B-47. This motion was supposedly perceived by the witnesses as the object floating erratically "like a leaf". The B-47 refuelling altitude would be at least 13-14,000ft.<sup>8</sup> Even if it took place vertically overhead at the minimum possible slant range a 10ft swing of the boom would subtend less than 2.5 arcminutes, which would be scarcely perceptible to the naked eye even in ideal conditions.

Moreover, not only were the unfeasible reflections of these lights observed with unfeasible clarity, no other lights *except* these reflections were visible - not even the brilliant primary light sources by which these necessarily dim reflections supposedly were caused - even though there were two closely forming large aircraft there, both with standard position lights and probably other lights, in particular anti-collision beacons - probably a rotating red beacon on the top of the tail fin (KC-97's usually also carried other special coloured identification beacons so that pilots knew which tanker was theirs<sup>9</sup> - but maybe not always in a domestic setting).

Given the angle of the boom, it is obvious that, unless the KC-97 flies backwards, motion always occurs with the highest light foremost. But the UFO always moved with the *lowest* light foremost. Bertrand and Hunt both specifically noted this point in their original statements (see Appendix).

The reported angle of traverse from first position to last was from NE to N. Bertrand said he watched for 10 mins, Hunt (arriving late) said 5-8 minutes. What is the implied speed if it was close enough to resolve 5 lights? Could a KC-97, in the process of refuelling a jet, fly slow enough?

Let's assume a 15 arcmin subtense for all 5 lights. This is half the width of the moon and nothing like the angular sizes reported or implied, but should make it just possible for the eye to resolve separate lights in an inclined line. Starting from this conservative assumption, then (and remember that we are allowing the grossly implausible theory that the witnesses were seeing reflections along the boom, rather than the panel of receiver lights itself), 25 ft subtends 15 arcmin at 5700 ft or a little over one mile. So this is an upper bound on realistic slant range because beyond about a mile it would not be possible to resolve separate lights into a line.

---

8 'The KC-97 was a four-engine propeller driven airplane, and refueling was usually at about 13,000 to 14,000 feet altitude...' [http://www.lmstandish.net/Old-times/B-47\\_days.htm](http://www.lmstandish.net/Old-times/B-47_days.htm)

'After a successful rendezvous with the bomber, the tanker descended to the refueling altitude of 15,500 feet .... The low altitude, when compared to today's KC-135 and KC-10 operations, was one of the necessities of refueling jet bombers like the B-47 and B-52 with a reciprocating engine powered aircraft.'

<http://www.mewreckchasers.com/kc97art.html>

9 'Finding our assigned [KC-97] tankers at night was interesting because of the color of the rotating beacons they had. The code was Green, Amber, White, Red, Green, Amber. How do you remember that? "Warner Robins (a military base at Macon) is in the middle of Georgia." At night I have seen those beacons from 200 miles away.'

[http://www.lmstandish.net/Old-times/B-47\\_days.htm](http://www.lmstandish.net/Old-times/B-47_days.htm)

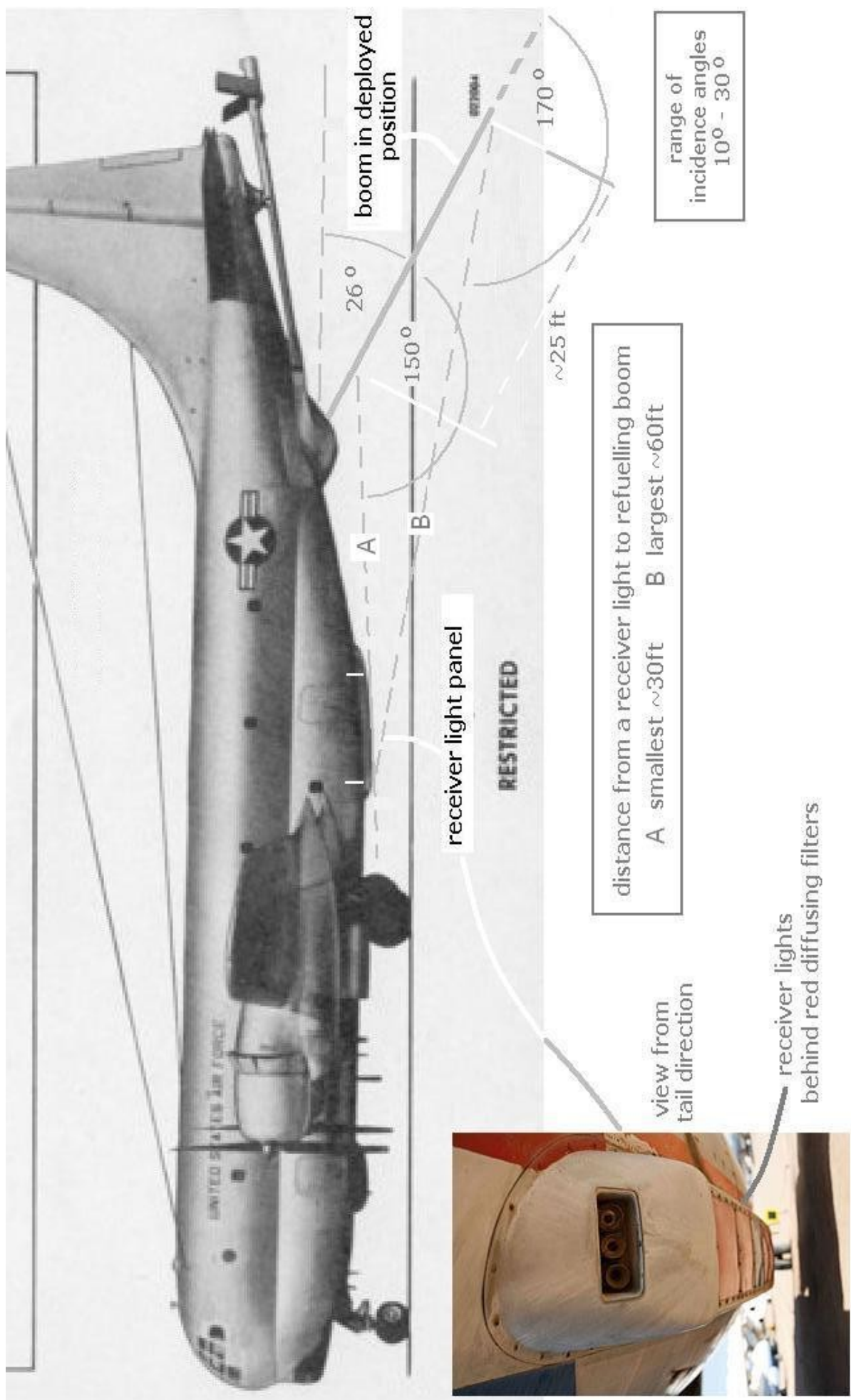


Fig.7 KC-97 showing geometry of deployed boom and light panel



Given this upper bound we can convert the angular rate of motion of the object (estimated angular distance covered in flight divided by the estimated duration of the sighting) into an approximate implied ground speed.

The policemen said that the direction of the first sighting was NE, that of the last sighting, where the lights went behind the tree line, due N, or the lights traversed (conservatively) about 45 deg.<sup>10</sup> To be conservative again let's use the minimum duration of 5 min (half the duration estimated by Bertrand). We then have a small row of just-separable flashing lights travelling  $\sim 9^\circ / \text{min}$ , which at a range of one mile corresponds to a true speed of 834 ft/min or about 10 mph.<sup>11</sup>

Clearly this result is adrift by at least an order of magnitude. A KC-97 needed its maximum speed to refuel fast jets like B-47s. This was always a problem. The early solution was "tobogganing" - climbing and building up speed in a dive to about 190 kt ( $\sim 220$  mph)<sup>12</sup> - until the addition of jet pods to the KC-97L during the early 1960s which permitted a max speed of about 400 mph. In any case, we need in the order of hundreds, not tens, of mph.

Either the entire duration was only a few seconds instead of 5-10 minutes; or the right-to-left traverse of the object was only about  $5^\circ$ , not  $45^\circ$  from NE to N; or the KC-97 was in the order of 10 miles away, in which case the angular size of the whole array of hypothetical light reflections shrinks to only  $\sim 1.5$  arcmin, far too small for even the sharpest eye to resolve them as other than a single flashing light (never mind an intimidating array of brilliant "car headlights").

The implied angular size of the object reported by Muscarello in the initial sighting is grossly larger than anything plausible for a KC-97. All lights were clearly separated in a line and only one was lit at a time, rippling in sequence 123454321, appearing to be 90 ft from #1 to #5, at phone-pole height nearly overhead, so the order of *estimated* size and distance are both  $\sim 100$  ft or an *implied* angular width of  $\sim 45^\circ$ . The stated angular width of the receding object seen more distantly later by Bertrand and Hunt was baseball/grapefruit at arm's length ( $\sim 10^\circ$ ) reducing to a quarter at arm's length ( $\sim 2^\circ$ ) - much smaller but still at least an order of magnitude larger than even the largest barely-resolvable subtense of a KC-97's refuelling boom at any realistic distance.

In summary, every factor studied indicates that even if the reflective refuelling boom hypothesis were a plausible cause of the lights seen, the slant range to the KC-97 would have to have been *much less* than a mile, and therefore it needs to have been at the very least three times lower than the usual refuelling altitude (probably much lower even than this given a sighting elevation tens of degrees away from the zenith). A large 4-engine tanker like the KC-97 with or without added jet pods, with a B-47 jet bomber flying along with it in the act of refuelling, both within a few thousand feet of the witnesses, ought to have been very audible. But all witnesses made a point of noting the total silence. The report forms indicate a calm, clear night with only a light breeze.

Of course approximations based on witness estimates will contain error. But it is reasonable to doubt that so large a discrepancy can be absorbed by arbitrary error margins given the physical, geometrical and optical limits and the fact that we have already used conservative assumptions.

---

10 Even  $45^\circ$  may be a significant underestimate. Investigator Ray Fowler's field report (Sept 11 1965) states that the officers' actual pointing directions, measured on-site with a compass, indicated a much larger angular traverse from roughly SE to NW. Later published narratives introduce the possibility of additional complex motions. See below.

11 Note that for simplicity this assumes motion transverse only to the line of sight. The reported trajectory was substantially horizontal and transverse, above the line of trees, but with some component of apparent descent and/or recession. If the hypothetical plane were travelling away or approaching, making a smaller angle to the line of sight, then it could achieve a higher true speed for the same angular rate. But the correction is negligible for our purpose. For example if the recession angle to the line of sight is as small as  $45^\circ$  (i.e., instead of heading W the plane is heading NW) the implied correction is only proportional to  $\sin 45^\circ$  or about 0.7 which would raise this to 14 mph.

12 <http://www.mewreckchasers.com/kc97art.html>

*Strategic Reconnaissance*

air-refueling orbit and gave Hal a heading and altitude. The tanker pilot saw Hal approaching from above and departed the orbit for his refueling track. At the two-mile point, Hal pulled back on the throttles to decrease his rate of closure. They were five hundred feet below the tanker and slowly eased in behind the KC-97 Stratocruiser, its four engines churning at maximum power in a slight descent. Hal looked up at the tanker looming ahead and above and moved into the observation position. He watched for light direction from the boom operator—two amber, one green, two red lights on the belly of the large KC-97. He saw the forward amber light come on, urging him to move in closer. He moved in slowly. The green light illuminated, and he held in the contact position. He could see the boom operator in the tanker flying his boom toward the open refueling receptacle on the nose of the RB-47, right in front of his face. The aircraft pitched in the wake of the

Fig.8 A page from *"I Always Wanted to Fly: America's Cold War Airmen"* <sup>13</sup>

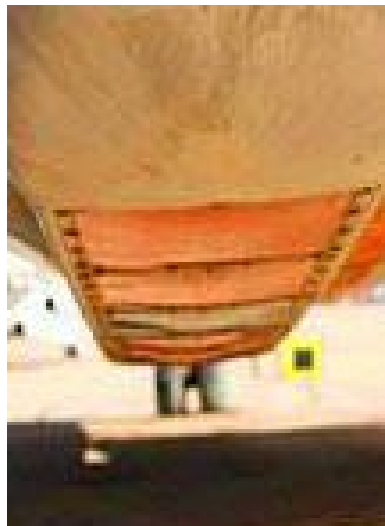


Fig.9 Nickell's & McGaha's photo (looking from the tail) of the five “red” lamps on a KC-97 director light panel, here saturation-enhanced to bring out filter colours (Refer to Fig.7 "Two amber, one green, two red lights on the belly of the big KC-97" and Fig.9)

<sup>13</sup> Samuel, Wolfgang W. E., University Press of Mississippi, 2001, p.206

And one final issue that remains unresolved is the KC-97 director light sequence and the lamp filter colours. Colonel Wolfgang W. E. Samuel's<sup>14</sup> compilation of USAF Cold War oral histories, *I Always Wanted to Fly: America's Cold War Airmen*, describes the use of these lights on a KC-97 during a B-47 refuelling operation as follows (see Fig.8):

He watched for light direction from the boom operator - two amber, one green, two red lights on the belly of the big KC-97. He saw the forward amber light come on, urging him to move in closer. He moved in slowly. The green light illuminated, and he held in the contact position.

Plainly this configuration of multicoloured lights is very different in pattern and operation from the rippling sequence of five red lights described, apparently from memory of his own unspecified Air Force duty, by James McGaha.

Nickell and McGaha state that the latter's memory was checked with a visit to a KC-97 in an aerospace museum, and they offer a photograph of the plane's director light panel as proof. Unfortunately the angle of this shot (shown as an insert in Fig.7) is not ideal to display the lamps, but it appears that the filter colour of the central lamp is decidedly less red than the pairs flanking it fore and aft. Fig.9 shows the same photo with the colour saturation enhanced to bring this out. It appears very possible to this author that the nearest of the nearer pair of orange lights shown in the photo is the "forward amber light" described in Samuel's book, that the distinctly greenish panel behind this pair corresponds to the the central "green light" directing the receiving pilot to hold contact position, and that the furthest pair of lights is the "two red lights". Clearly this possible anomaly invites further investigation.

After writing the above the author received definitive evidence from Hanoch Ben Keshet<sup>15</sup> who had independently noticed the same anomaly and sent links to several photographs including those shown in Fig.10 below.



Fig.10 Better photos of the KC-97 director light panel <sup>16</sup>

<sup>14</sup> [http://en.wikipedia.org/wiki/Wolfgang\\_W.E.\\_Samuel](http://en.wikipedia.org/wiki/Wolfgang_W.E._Samuel)

<sup>15</sup> Emails to the author, May 03 2012

<sup>16</sup> Photos by Michael Benolkin (copyright © 2004-2010 *TacAir Publications*) at <http://www.cybermodeler.com/aircraft/c-97/strat6.shtml>



As Hanoch Ben Keshet points out, the centre filter is *plainly* not red, but is green (or blue), as suspected, and although a difference between red and amber pairs (fore and aft of the green lamp) can't be clearly made out here, the lettering on the red/amber panels (partly legible in the original photos by Michal Benolkin) is a proof that these lamps were lit individually for specific signals, as in the quote above, not just flashed in a continuous sequence. The lettering on the filters reads

DWN, FWD, ?F? (probably AFT), and UP

It is also relevant to the refuelling theory that Officer Bertrand reportedly had 4 years in the Air Force working on "refuelling operations with aircraft of all types"<sup>17</sup> although it is not exactly clear what this means. Bertrand's experience with KC-97's is mentioned specifically by John Fuller, who described Bertrand as "an Air Force veteran during the Korean war, with air-to-air refuelling experience on KC-97 tankers".<sup>18</sup> But Bertrand talks about working "right on the ramp with the planes"<sup>19</sup> suggesting perhaps that his experience was not of refuelling *by* KC-97s in the air but refuelling (and perhaps other maintenance) *of* KC-97s and "aircraft of all types" on the ground.

Howsoever, Bertrand's AF experience does count for something in this case, and it is not without irony that in order to support their thesis Nickell and McGaha are happy to rely on Bertrand's identification of a B-47 (presumably by its sound and/or lights) seen at altitude just after the sighting.<sup>20</sup>

## Revisiting the source materials

All witnesses expressly rejected any possibility that what they saw was a high-altitude refuelling operation or indeed any other conventional aircraft activity. This is of course merely an opinion and is not surprising, given that reputations were at stake.<sup>21</sup> But our analysis so far appears to support them. So if the mysterious red lights were not on a KC-97 tanker, what were they? Could there be a better conventional explanation, or are they truly unexplained?

Before considering this let us go back to the sighting reports and take a closer look at what we have to account for. Basically these are the sets of sources we will be referencing in what follows:

- 1) Air Force-designed report forms filled in and signed by Officers Bertrand and Hunt for Ray Fowler, working for NICAP
- 2) Information in AFR format compiled by Major Griffin, Pease AFB, after interviews and a site visit
- 3) Brief first-person narratives over the names of all three witnesses – Bertrand, Hunt and Muscarello – collected by Major Griffin
- 4) Narrative accounts of all or parts of the events recorded by Ray Fowler following interviews on-site with Bertrand and Hunt
- 5) Narrative accounts of parts of the events written by Peter Davenport after interviews
- 6) Narrative accounts given by journalist John G. Fuller in several articles and a book, based on tape-recorded interviews on-site and elsewhere with Bertrand and Hunt
- 7) Statements by Bertrand, Hunt and Muscarello in public interviews given many years later

---

17 Patrolmen Eugene Bertrand & David Hunt, letter to Maj. Quintanilla, Chief, Project Blue Book, Dec 2 1965 (ATIC file)

18 Fuller, J.G., *Incident at Exeter*, G.P.Putnams/Berkley, New York 1967 p.10

19 *ibid.* p.58

20 *ibid.* p.58 & p.62

21 Letters from Bertrand and Hunt to Maj Quintanilla at Blue Book attest to their concern regarding the negative impact of Pentagon statements on public perception of them and their reliability as police officers.

*a.) the vivid impact of the eyewitness descriptions*

An important factor in a case such as this is the emotional impact revealed in the witnesses' actions at the time, such as a civilian presenting at a police station in a state of distress and dishevelment after diving into a ditch, or a police officer running for cover in a patrol car and reaching for a weapon. Some writers clearly find these details very convincing. What weight should we give to them? Or, more practically, what weight is a reasonable sceptic *obliged* to give to them?

The Exeter police confirm that Muscarello arrived at the station covered in mud and scratches as a result of having thrown himself to the ground<sup>22</sup> to evade what he believed was a large and threatening object hovering over him. This is an impressive fact. Unfortunately, Muscarello's evident fear and alarm are only suggestive. Strictly speaking they prove nothing about what he saw, even if they do tell us something about what he *thought* he saw. It is relevant secondary evidence, but not strong primary evidence that would over-rule facts suggestive of an unusually-lit aircraft for example (if there were such facts<sup>23</sup>).

The uncomfortable truth is that witnesses to mundane phenomena have often had strong, even extreme psychological reactions. Examples can be found in the phrases used by witnesses in Alan Hendry's widely respected CUFOS study,<sup>24</sup> where people describe being scared, crying, screaming, shaking, shouting, praying and running their cars off the road because of sightings that were explained as advertising planes, stars, Venus and so forth.

Equally striking, perhaps, are details such as Officer Bertrand's description (given to writer Peter Davenport<sup>25</sup> in an interview a week after the event) of how the object appeared above the trees when their backs were turned, illuminating them and the whole field from behind with red light

"[H]e noticed that the shadows that were being cast ahead of the three witnesses were visibly getting shorter, so he knew that the object behind them was either rising, and/or getting closer to them. It was at that moment of panic that he whirled around to face the source of the light, during which time he moved to un-holster his sidearm. Seeing Bertrand act to draw his sidearm, Officer Hunt cautioned Bertrand not to brandish his weapon at the object, a recommendation that Bertrand consented to, and he returned the sidearm to its holster."<sup>26</sup>

This detail of the shortening shadows literally throws into vivid relief the witnesses' claim that the object bathed the surroundings with its red light. This is a good example of a very impressive circumstantial detail which, if completely reliable, would be of itself sufficient to exclude explanations of the high-altitude B-47 / KC-97 type as a class. But unless we are certain that this is a radical structural feature of the original accounts it would not seriously dent a case based on other facts suggestive of B-47 / KC-97 lighting (if there were such facts) because it can be argued that experience proves witness accounts of an exciting event to be often more colourful than the truth (were it known) would sanction, therefore it is not a proof.

The best qualitative defence against this type of counter-argument is always to go to the earliest available record in the witness's own written or spoken words, or the earliest signed statement. In this case the report forms which were completed and signed by Bertrand and Hunt on Sept 11 1965

---

22 In a 1980 interview he admitted that he did not so much dive as trip over an obstruction in the grass when making for the shelter of the roadside stone wall.

23 Early suspicions about a local advertising plane were laid to rest by Ray Fowler who established from the operator that its lights were not red and that it had not been flying on or near the date in question.

24 Hendry, A., *The UFO Handbook*, Sphere, London 1980, p.99-100

25 Now Director of the National UFO Reporting Centre hotline (NUFORC).

26 Davenport, P., UFO UpDates internet list post 05.04.2012

(the day after Davenport's interview) do not refer to any illumination of the surroundings at all. Neither do the short narrative witness statements given to Major Griffin by Bertrand and Hunt (although Muscarello's statement, which is restricted to his own single-witness initial sighting at 2:00 AM, does mention that the lights "lighted up the area").<sup>27</sup> Other early sources such as newspaper articles, and John Fuller's account of a 'phone interview with Officer Bertrand on Sept 14, certainly do refer to the brightness of the lights colouring the field or buildings. Unfortunately an early primary source that records the vivid detail of the shortening shadows in Bertrand's or or Hunt's (or Muscarello's) own words has yet to be found.

This author personally finds it impressive that Bertrand gave this detail to Davenport within about a week of the event, and anyone in Davenport's situation hearing it from the officer's own lips no doubt would have been even more impressed. But it would be reassuring to have this striking observational detail recorded in Bertrand's own original written words, or at least consistently recorded in early second-hand sources, and we don't have it. Moreover there is an apparent conflict between Davenport's account and Fuller's account of his own interviews (initially with Bertrand by 'phone and then in person with all witnesses a few weeks later).

Fuller quotes Bertrand as saying that "He [Muscarello] yelled, 'I see it! I see it!' I turned fast and looked up. He pointed near the trees over there . . . It was coming up behind them."<sup>28</sup> And although Bertrand did reach for his sidearm at this time, he himself thought better of it before actually drawing the .38, and in any case Officer Hunt could not have advised Bertrand to reholster his sidearm, as reported by Davenport, since Hunt was not even present on the scene at this time according to what Bertrand told Fuller. Having seen the object rise over the trees and then experienced his moment of panic, Bertrand returned to the patrol car and radioed the station for assistance, and it was in response to this call that Hunt arrived a little later. According to Bertrand it was while he was shouting on the radio that he noticed that the field and even the interior of the car were illuminated with red light, not when Muscarello yelled to draw his attention to it first rising over the trees.

Furthermore, according to Davenport

"The object hovered over a one of the houses nearby, exhibiting a peculiar pattern to its flashing lights. Officer Bertrand described to me in detail how four of the five lights on the near edge of the craft would be illuminated, while only one of the lights would be extinguished, and that the extinguished light would cycle back and forth along the near edge of the craft."<sup>29</sup>

It is interesting that Bertrand described this in such detail, because it is frustratingly inconsistent with what the same officer wrote in his statement in the Air Force file. There he said the exact opposite. Instead of one light being off at a time he said that they "flashed \_on\_ one at a time", matching Muscarello's claim on his own statement in the same BB file to the effect that "only one light would be on at a time. They were pulsating 12345 54321".

All of this confusion blunts the impact of vivid circumstantial details such as the creeping shadows and leaves the argument from psychological impact vulnerable to the criticism that Davenport's and/or Fuller's account(s) might not be completely reliable, or that Bertrand, like any of us in similar circumstances, might have felt the temptation to elaborate his memory a little in talking to

---

<sup>27</sup> These statements are undated and it isn't certain when they were written or collected, but a file memo by Maj.

Quintanilla refers to "statements from the principal witnesses" forwarded from Pease AFB to BB on Sept 15 1965, so we may presume these are the statements collected during the initial investigation conducted by the Pease AFB Disaster Control Officer, Major Griffin.

<sup>28</sup> Fuller, J.G., *Incident at Exeter*, G.P.Putnams/Berkley, New York 1967 p.60-61. See also p.11.

<sup>29</sup> Davenport, P., UFO UpDates internet list post 05.04.2012



Davenport. Of course there is no proof that this is so, but we know it is something that people do, and a determined sceptic can take refuge in this fact in order to claim that if one detail is doubtful then maybe others are too.<sup>30</sup>

For example, did they really see the fields and buildings and car interior lit up with red light at all? Both Bertrand and Hunt reportedly described this strong detail to Fuller and Davenport and it is in the newspapers; but it is not recorded in their NICAP/AF report forms or their narrative accounts in the BB file; and we are now uneasily reminded of the fact that these are "soft" data, reported verbally after the fact in contexts that are not always completely unambiguous, and where witnesses may have an interest in justifying their reactions (to themselves and/or to others). This is why a sceptic could argue that such soft data, although vivid, would weigh little in the balance against other facts robustly suggestive of B-47 or KC-97 lighting (if there were such facts).

A similar limitation weakens the impact of several other striking descriptive details that seem at first sight to rule out conventional aircraft. For example, Davenport recalls:

"During my interview of Bertrand, he commented that the object occasionally moved so rapidly and abruptly that the human eye could not track it. It would drift slowly and silently for a short period of time, and then suddenly "jump" across the field and appear almost spontaneously in another location. Obviously, a KC-97 is not capable of such movement."<sup>31</sup>

Obviously. But this is an inadequate objection as it stands, since the human eye/brain combination *is* capable of suggesting the *impression* of erratic jumping motions even when the true motion is a steady linear translation, and experience shows that this is especially likely to occur with flashing light sources in a dark sky. Any investigator or any skywatcher who has ever watched an aircraft strobe with the naked eye at night will know this illusion. It is not possible to sink this counter-objection merely with qualitative witness statements, because we know that witnesses *can* and *do* describe such illusory motions in a similar way when the object is a misidentified aircraft.

Again we can check Hendry's *UFO Handbook*,<sup>32</sup> case numbers 628, 788, 1109, 1144 involving identified advertising planes and Air National Guard planes. These planes "stopped", made "angles that an aircraft can't make", threatened to crash into trees, jumped "straight up", and in one case, identified as a formation of three Cessnas at 2,500 ft, the object seemed to "suddenly whip across the road over the woods".

This does not mean that Muscarello, Bertrand and Hunt saw a plane or planes, but it does mean that one cannot robustly argue that their reported impressions of erratic motion rule out the possibility. To start to do that one needs to go beyond words and impressions and extract some implied numbers to set physical limits.

Another factor adduced by Davenport, Fuller and other writers in support of the conclusion that this was a large, anomalous object witnessed at close quarters, is the fact that horses in an adjacent corral and dogs on a nearby property became extremely agitated and noisy. Again this is striking and does seem to suggest that the object cannot possibly have been something as mundane as high-

---

30 It is worth noting that the accounts of Bertrand and Hunt contain basic inconsistencies in reported object bearings and headings. Their report questionnaires give identical object bearings N of the road (matching Muscarello's account) and moving from NE to N (right to left), but Hunt's narrative has the object over a field SE of the road and departing SE. Hunt also gives the sighting location as 3 mi SW of Exeter (an error inherited by various other documents including the Pease AFB AFR 200-2 report form), but the true location at Kensington is if anything slightly E of due S of Exeter on Route 150. Subsequent accounts given to Fuller by both officers have the object moving left to right (E to W if N of the road) disappearing towards Hampton on the coast.

31 *Ibid.*

32 Hendry, A., *The UFO Handbook*, Sphere, London 1980, pp.93-96

flying planes that would have been familiar over this area (given the proximity of Pease AFB) week in, week out. But again the argument is inconclusive because animal reactions have often been reported in IFO cases. To cite CUFO's Hendry again for consistency, he illustrates this with ten IFO cases identified mainly as advertising planes and other aircraft plus a scintillating star or two, where witnesses said that the object caused noise and other signs of distress from animals including dogs, cows, chickens, cats and a parakeet.<sup>33</sup> In the present case it is always possible to suggest that animals were spooked by the unaccustomed presence of strangers in the field at night with torches.

The above issues all illustrate why it is difficult and ultimately frustrating to try to make eyewitness impressions carry the weight of a scientific proof. They cannot do it, even if their force seems personally persuasive to us. At the same time, of course, claimed disproofs based on qualitative witness impressions without respect for quantitative limits will also fail, and for the same reason, as we saw in the case of the Nickell & McGaha theory based on little more than the inspiration that a KC-97 air refuelling tanker would have some red lights on it. This is more like a kind of resonance of associations than a process of grown-up reasoning, more like homeopathy than evidence-based diagnosis, and perilously close to magical thinking – which is ironic in a piece of work promoted by CSICOP.

*b.) is the sighting narrative geographically and geometrically consistent?*

In the previous section we noted a couple of minor descriptive and narrative inconsistencies between different sources purporting to represent the words of the witnesses. These are uncomfortable but possible explanations exist such as misunderstandings and/or inaccurate reporting by third parties. However there is a more serious issue, a radical structural inconsistency that runs like a fault line through the whole body of witness testimony.

The contemporaneous field report by Ray Fowler, compiled after interviews with Bertrand and Hunt, using a compass on-site and with the aid of report forms filled in for him by both officers, contains the sketch shown in Fig.11. The "\*" note refers to a comment on p.4 of Fowler's report, as follows:

The object was first seen in the northeast and last seen in the north moving in an east to west flight pattern in a straight line with an elevation of about 10 deg above the tree-line.\*

\* NOTE – OFFICER'S RECORDED EAST – WEST MOVEMENT OF UFO ACTUALLY S[?] - NW BY THE COMPASS.

The NE-N motion described here exactly fits Bertrand's and Hunt's report forms. The refined compass directions (presumably S[E]-NW?) are qualitatively speaking the same, given some reasonable wiggle room. So we have the object travelling right to left above the treeline to the north.

However Maj.Griffin's AF investigation report, also compiled after a site visit and interviews with both officers, says the object disappeared to the SE, specifically 160° magnetic, indicating that Griffin also used a compass on-site.<sup>34</sup> How Could Griffin have come away with this very specific figure which is so grossly inconsistent? What could explain this discrepancy?

---

33 *Ibid.* p.163

34 Griffin also records that the object traversed an arc of 135° but doesn't give any heading direction, or even whether the apparent motion was left-to-right or right-to-left.

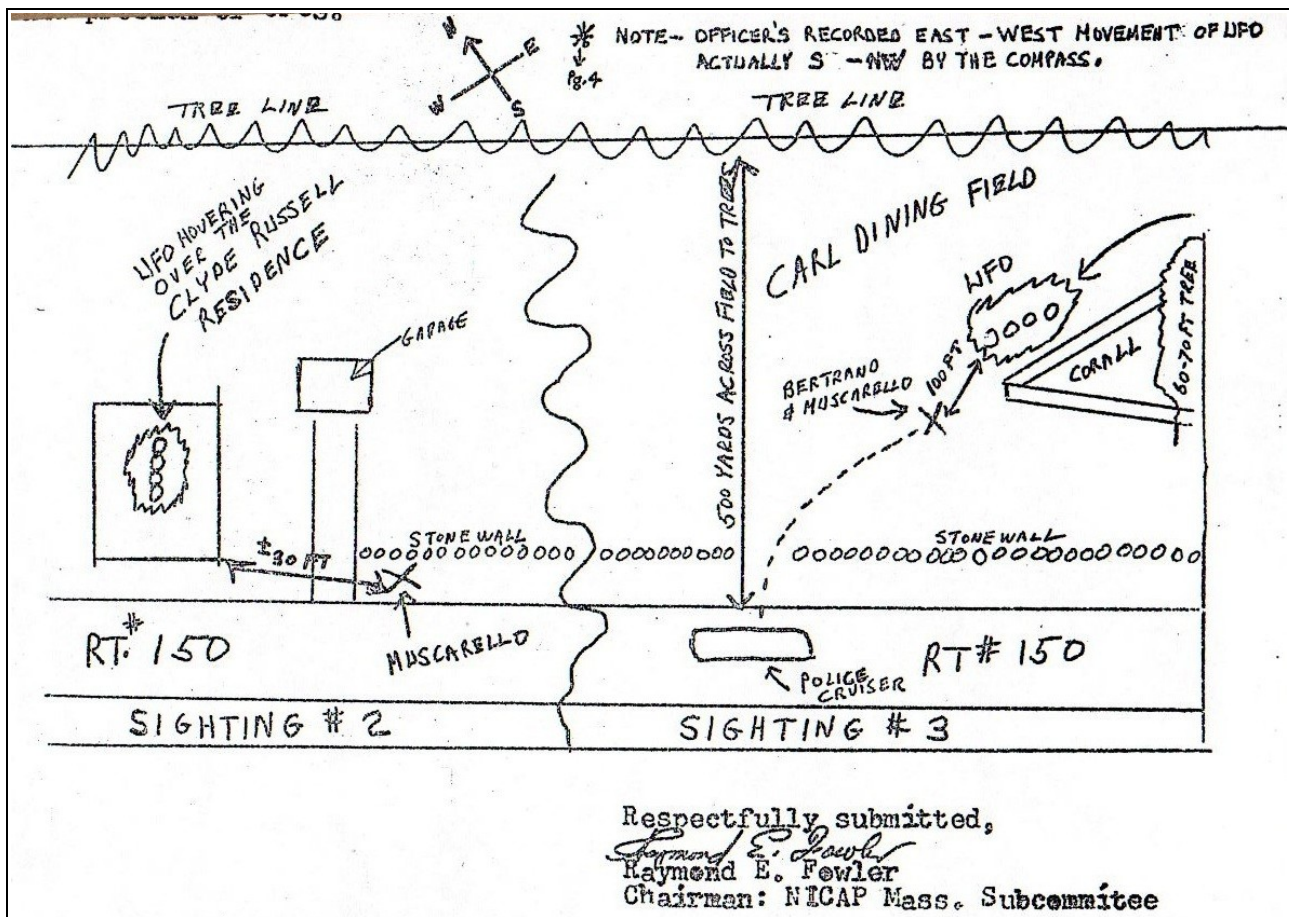


Fig.11 Sketch by investigator Ray Fowler showing initial sighting by Muscarello (#2) and later sighting witnessed also by Officers Bertrand and Hunt (#3)

There is evidence of probable confusion in Griffin's report between Muscarello's first sighting (#2 on Fig 11) and the later one with Bertrand & Hunt (#3 on Fig.11). He took statements from all three men, which appear in the Air Force file, but nothing in Griffin's report indicates an awareness that he is dealing with multiple incidents. It says "Length of time in sight - one hour", which is a big clue that parts of the two sightings are here being collapsed together incoherently into a single incident, because the Bertrand & Hunt sighting with Muscarello only lasted about 10 mins, nothing like an hour, whilst Muscarello's own earlier sighting was of uncertain duration, but again only a matter of minutes. An overall duration of "one hour" does however approximately cover the two incidents. Such casual confusion would fit with the fact that Griffin also got the location wrong - "3 mi SW of Exeter" is nowhere near the sighting location at Kensington.

So might the explanation be that the the 160° departure direction comes from Muscarello's original sighting, and that Griffin has mixed the two accounts? This might work, were it not for two facts:

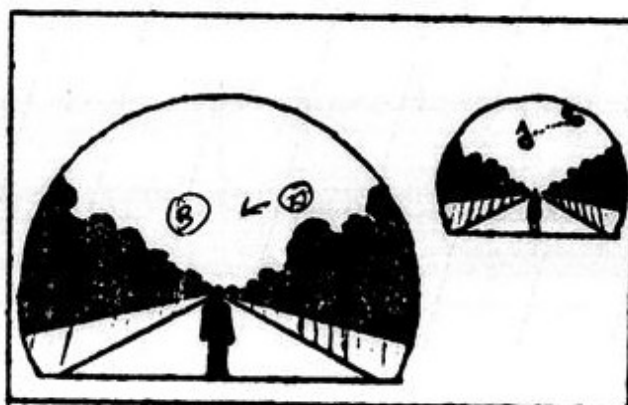
- the fact that there is no evidence at all that Muscarello said this, and
- the fact that Bertrand and Hunt themselves told author John Fuller (and others) the *same story* of a disappearance towards the ocean, towards Hampton, moving right to left, disappearing to the SE, etc, directly contradicting their own report forms.

20. Draw a picture that will show the motion that the object or objects made. Place a "A" at the beginning of the path; a "B" at the end of the path; and, show a y changes in direction during the course.

Page 4



was when you FIRST saw it, and a "B" at its position when you LAST saw it. (Refer to smaller sketch as an example of "how" to complete the larger sketch.)



Page 4

a "B" at the end of the path; and, show a y changes in direction during the course.

No change in direction

on Angle.



33. In the following larger sketch place a "A" at the position the object was when you FIRST saw it, and a "B" at its position when you LAST saw it. (Refer to smaller sketch as an example of "how" to complete the larger sketch.)

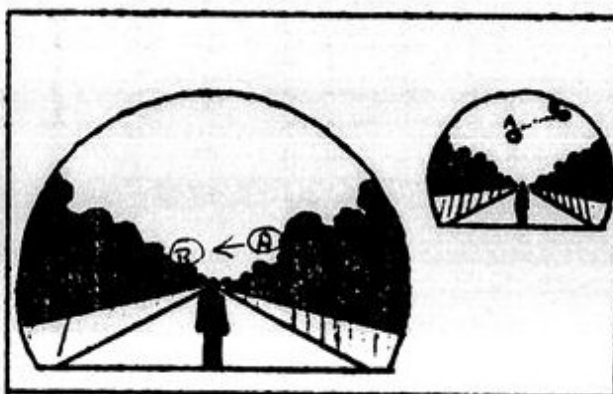


Fig.12 Drawings showing positions of object when first seen and last seen, and direction of motion, from report forms signed by Officers Bertrand (top) and Hunt (bottom)



Consider the first point: Muscarello's short statement collected by Maj Griffin and forwarded to Project Blue Book does not actually mention any directions at all. And here is an extract from a late interview with Muscarello.<sup>35</sup>

I observed pulsating lights coming from the north, heading in a southwesterly direction, towards where I was. I assume the speed must have been something terrific because it came up on me all of a sudden, like this! (Snaps his fingers.) Very distant, pulsating erratically I couldn't make out any distinct pattern, circles or anything like that. It was just very bright. Could not make out a silhouette at all. I didn't know what it was. . . . I just froze up. I didn't know quite what to do. I got scared. I ran across the street. I didn't actually dive, I fell, because I tripped on something and I fell into the ditch, and I lay there with my head down. And I looked up, and it was like the whole side of this house which was next door, the next house down from Dining's --I didn't know the people at the time, but I found out that it was Mr. Russell later -- the whole side of the building seemed to turn out like a blood red. And yet the lights weren't completely all red either. It was a white house and these lights were still pulsating in erratic positions. I couldn't make out any design or silhouette at all, and then (he whistles), it took off. I don't even know what direction it took off in because I had my head down after that.<sup>36</sup>

So here is what Muscarello himself says he actually remembered about where the UFO went: Nothing much.

No other account of Muscarello's sighting says exactly where the object went either, but they all imply or suggest that it returned towards the treeline, more or less back in the direction it had come from. For example, Officer Bertrand gave an early account to Ray Fowler of what Muscarello had described to him that night, and the relevant part of Fowler's field report reads as follows:

. . . he was alarmed to see an object carrying at least 4 extremely bright red pulsating lights emerge from nearby woods and manouver over the field adjoining the road . . . It moved over the [-----] home and hovered there . . . Several times it seemed to move closer to him . . . Then it moved back over the [-----] field and disappeared over the trees.

All of this is somewhat vague, but consider it with reference to Fig.11 and it adds up this: Muscarello says that the object approached from the treeline, in the North, hovered for a time over the Clyde Russell house approximately NW of him, then returned over the treeline in the North, a departure direction therefore more or less opposite to Griffin's "SE".

So there is actually no evidence in support of our theory that Griffin interviewed Muscarello and confused a description of his first sighting with the later one co-witnessed by Bertrand and Hunt. There is no evidence that Muscarello ever reported a "SE" departure direction at all.

So where did Maj Griffin get this information? Did he misunderstand Bertrand and Hunt? Or just invent it? Neither seems likely because there is very good documentary evidence that a departure to the "SE" *was* described many times by Bertrand and Hunt to others – in direct contradiction to both their report forms.

---

35 The reason it is late is that Muscarello joined the Navy immediately after the incident and became unavailable to researchers. I was unable to find any contemporaneous sources in Muscarello's own words other than his short Air Force statement. John Fuller located him briefly for an interview a few months later but published no account of it, recording only that his account matched the reported details. Only years later did Muscarello again speak publicly about that night. In fact, this 1980 interview is the only one I know.

36 N. Muscarello, 1980 interview by staff and pupils of Exeter High School, NH.

When considering this evidence, provided in extensive quotes by John Fuller from his interviews with Bertrand and Hunt, we should note the following: Describing briefly his "strangely anticlimactic" later interview with Muscarello, Fuller makes this important remark:

The recorded tapes of Officer Bertrand, Officer Hunt, his mother, Officer Toland, Miss Fisset, so surrounded the incident in detail that Muscarello's story was simply a total but necessary confirmation . . .<sup>37</sup>

This is something easy to overlook in a first reading: "the recorded tapes". So when Fuller reconstructs interviews with Bertrand or Hunt or Toland in his book – which he does often and at length – he is *using* tape recordings, not just memory or shorthand notes. This is hugely important for two reasons:

- 1) Those tapes or copies of them may still exist somewhere and could (even should) be sought out and preserved if at all possible
- 2) When we read the Officers' words in Fuller's book we can presumably rely on them to be verbatim (or substantially so).

This being the case, it is not at all clear that we can load all of the blame for the confusion on shoddy journalism by Fuller or, as highly respected veteran researcher Dr. Mike Swords suggests, on some slip by a less-involved, johnny-come-lately Hunt:

Muscarello is not confused as to exactly where he is, nor is Bertrand. But Hunt apparently is. He initially says to the USAF guy that the object disappeared to the SE. Somehow he has gotten turned exactly around, thinking that he is facing more or less south at the farm instead of north. Hunt repeats this error to someone else [a newspaper?] and adds in "towards Hampton and the ocean". Muscarello and Bertrand do not make this mistake.<sup>38</sup>

But Bertrand *does* "make this mistake":

"And here's another interesting thing," Bertrand said. "Right after the thing disappeared toward Hampton, we waited, and that's when we saw the B-47 going over . . . Anyway when we got back to the station and Scratch Toland told us about the hysterical man calling from the Hampton phone booth, Dave and I back-timed what happened and figured that the man made this call just about the time the craft had moved from us to Hampton."<sup>39</sup>

And so does Toland, who was talking to Bertrand on the radio when Hunt showed up in time to see the object leaving:

"By the time Dave got there, the thing was just taking off over the field toward Hampton. And right after that I got the call from the telephone operator about the man in the phone booth at Hampton."<sup>40</sup>

Bertrand again, with Hunt:

"You both were right where we are standing now?" I asked. We were still at the edge of the road looking down the field, next to the KEEP OUT sign.

"We were standing where we are now," Hunt said.

"Dave was right by the car, and I jumped out to join him here [Bertrand had been in his patrol car making the call to Toland that Hunt overheard]. We decided to take off, but we

---

37 Fuller, J.G., *Incident at Exeter*, G.P.Putnams/Berkley, New York 1967 p.189

38 Email to the author

39 Fuller, *op. cit.* 62-63

40 *Ibid.* p.71



Let me add just another couple of sources of information about this directions puzzle.

Here's a very late interview with Bertrand which shows that many years later he still stood by the scenario that he and Hunt gave to Fuller and others in 1965:

We got back to the cruiser and Officer Hunt showed up. The three of us watched it for a minute. It took off and headed towards the coast, making no noise, just about treetop level. ... Well, I was talking to Hunt. We watched it until it disappeared and I asked, "Where do you think it is now?" He said, "I think it's probably over to Hampton." Just then we got a call on the radio. We heard Hampton talking — and they had just got a call that some man in Hampton had a red object swoop down at his car.<sup>43</sup>

Note once more that the object disappears left-to-right, west-to-east, heading for Hampton "towards the coast".

Now here is the first account of the sighting in the NICAP *UFO Investigator*:

Officer David R. Hunt arrived from Exeter in time to view the UFO for about six minutes. By then it was moving away slowly, but he saw red lights pulsating in sequence "brighter than headlights at close range." Moving on a westward course, the UFO disappeared below the tree line.<sup>44</sup>

No doubt this relies very heavily on Ray Fowler's first-hand information direct from Bertrand and Hunt. Note again the direction of disappearance given here, "westward" – from the east, right-to-left across the northern treeline, as stated and drawn in both officers' report forms.

Nothing here, or (as far as one can tell) in Fowler's field report, or in the report forms, or indeed anywhere else, suggests that this "last" view of the UFO in the North was not really the last. I can find no hint of anyone saying that it came back again. Presumably we ought to place a lot of weight on these sources. Yet the only possible interpretation that could make sense of these facts would run as follows:

1. The Muscarello-Bertrand-Hunt sighting was actually a *two-part* sighting. That is, after the right-left traverse of the trees the object vanished in the North as described in the officers' report forms and as told to Ray Fowler, but then *came back again later, going left-right* and down to Hampton.
2. For some reason the report forms compiled for Ray Fowler are incomplete and only describe "part one"
3. And for some reason the various bearing and heading quotes given by Fuller relate only to "part two".

This could fit the last two quotes. When Bertrand said "*We [he and Hunt] decided to take off, but waited a few minutes*, and then we saw it go off across the horizon towards Hampton" this might imply that this is *after* the main event is over – otherwise why would they think about leaving, and why would they "wait"? Again, when Hunt describes the recession towards Hampton he qualifies this with "when the thing was leaving this area".

But if this is right, it's very unsatisfactory that *nobody* ever makes this very basic fact clear in any

---

43 Bertrand, 1979 Exeter High School student interview.

44 NICAP UFO Investigator Vol 111 No.4 (Aug-Sept 1965) p.3



quoted statement on the record – either contemporaneously or in later years. It is not easy to understand how people like Fuller, and Fowler – standing there with the witnesses, reconstructing the event, compass in hand – managed not to realise that this is what happened. Why did they not say, “But where is the rest of it?” when handed these half-finished report forms? And if such a strange and jarring mistake *had* found its way into the early public record, including not only official and private formal investigation reports but also a series of national magazine articles and a best-selling book, it isn’t easy to understand why Bertrand, for example, chose not to take the opportunity to correct it in the accounts he continued to give years later.

So, this is still an unresolved mystery. It remains to be seen if a resolution can be found without taking a hatchet to the testimony.

## conclusion

Nickell and McGaha trumpet their claimed KC-97 solution without a hint of self-doubt but it has several radical problems making it a poor candidate. On the other hand there is tendency for UFO proponents to be dazzled by witness impressions and to underestimate the allowances that may need to be made for human error in interpreting and recalling impressive experiences. Those who are impatient with this suggestion, and insist that what police officers say deserves the large benefit of a very small doubt, should reflect on the documentary evidence that the officers' reports of locations, directions and compass bearings in this case were strikingly incoherent. There may be an explanation for this fact which is to the observers' credit, but we don't know what it is.

At the moment it seems much more likely to this author that, *if* the UFO was caused by aircraft, the red flashers were rotating anticollision beacons or the like on a number of individual aircraft flying in formation at much greater distance, which would help explain the slow angular rate across the sky, and possibly the silence also. Several beacons rotating out of phase with a spin rate of a couple of seconds could possibly give the chance impression of flashing in sequence as described. And of course the angular separation of five planes flying abreast or in a left or right echelon could at least start to fit the reported and implied angular sizes.

But this takes us back to square one. BB ran into a brick wall attempting to prove this very theory. According to SAC all the Big Blast B-47s were accounted for some 30 minutes before the Muscarello sighting began. Even if the time discrepancy could be repaired so that the returning B-47s might be candidates to explain the Muscarello sighting, SAC said that by 0135 all B-47s were either landed or on final approach from the TACAN 320 radial 10 DME fix, i.e. the Tactical Air Navigation beacon fix located at 10 mi from Pease AFB runway (today Runway 34 of Portsmouth International Airport) on an azimuth of 320° magnetic. This would place the B-47s NW of Pease somewhere between about 10mi and 20mi from the sighting area (which is about 10 mi SSW of Pease; see Fig.1) and on a heading taking them on a shallow descending path left to right just a few degrees above the North horizon as seen from Kensington. Could this procession explain a slow-moving inclined line of red lights? Unlikely. The lights would already be low in the NNW sky at the start of the approach and would be increasingly obstructed by the local houses, farm buildings and trees N of the observer, and therefore could not account for red lights rising from the treeline and heading away to SE of Kensington as reported by Muscarello. Moreover the brilliant white landing lights of the approaching planes would probably swamp any red beacons that were visible.

The time reported by Muscarello would presumably have to have been in error by something in the region of an hour or more for him to have seen the last of the ten Big Blast B-47s flying nearby over Exeter, either during the end stages of the exercise itself or when in the traffic pattern before being recovered to Pease. Is it possible to lose an hour in the interstices of his stated movements after the

event? Conceivably, although this isn't very comfortable given that he flagged down a passing car in a state of distress and was taken straight to the police station still in an evident state of dishevelment after having thrown himself to the ground. Perhaps he was disorientated by the sighting and wandered longer than he remembered before finding his lift? But then of course we come to the next sighting, co-witnessed also by officers Bertrand and Hunt, at approximately 0300, the time fixed by the police blotter and logged radio calls. The prospect of stretching Big Blast this far is essentially zero.

Yet could those five "additional" B-47s mentioned so tantalisingly in the BB file be the explanation we are looking for? The existence of this one-sentence comment referring to these planes is highly unsatisfactory. Its origin appears to be the original investigation report by Maj David Griffin, Pease AFB Disaster Control Officer, which includes the following comment:

At this time have been unable to arrive at a probable cause of this sighting. The three observers seem to be stable, reliable persons, especially the two patrolmen. I viewed the area and found nothing in the area that could be the probable cause. Pease AFB had five B-47 aircraft flying in the area *during this period*, but do not believe they had any connection with the sighting [emphasis added].

But the only other reference in the file to this information occurs in an undated letter from Major Quintanilla to Bertrand and Hunt. From information in Bertrand's and Hunt's Dec 02 1965 letter evidently in reply we can conclude that Quintanilla's letter was dated in the third week of Nov 1965.

Therein Quintanilla informs the officers - to their surprise given that Pentagon statements had been issued - that the investigation was still open because of the fatal timing problem with the Big Blast aircraft originally suspected. But "in addition there were five other B-47 type aircraft in the area during this period", says Quintanilla, explaining that it would be helpful if Bertrand and Hunt could confirm having seen these five aircraft as well as the UFO to help rule them out as a cause.

But no document in the file defines what "this period" means, or explains how these "additional" aircraft are consistent with the file statement that "no aircraft can be placed in the area at 0200" (undated file summary) and the official conclusion transmitted to the Secretary of the Air Force Office of Information that because no aircraft could be found "the subsequent observation by Officers Bertrand and Russel [sic] occurring after 2:00 AM are regarded as UNIDENTIFIED".<sup>45</sup>

Considering the way in which information emerged about Big Blast, the early Pease AFB statement referring to "five B-47 aircraft flying in the area during this period" is itself ambiguous. Note that the Pease statement itself does *not* say that these planes are "in addition" to aircraft involved in Big Blast (it does not mention Big Blast). That interpretation is Quintanilla's. The Pease AFB investigation result was submitted to BB already by Sept 15, but BB only found out about Big Blast later as a result of inquiries begun on Sept 28 according to a file memo. So it is quite possible that this early statement from Pease could be a preliminary reference to the aircraft believed initially by the Pease DCO to have been involved in Big Blast, later determined by BB's specific queries to SAC (16 and 19 Nov 1965) to have been *ten* in number.

Quintanilla may have reached the same understanding, which would explain why no reference to these so-called "additional" planes occurs in the file other than in his letter to Bertrand and Hunt. Perhaps he was hoping that they would incriminate themselves by claiming to have seen five extra planes that he knew were not there. But if Quintanilla was fishing, the officers did not bite. In reply they stuck to their story, referring again only to the one aircraft, "probably a B-47", seen passing at high altitude *after* the sighting, which they had already placed on the record weeks earlier, at least

---

45 Maj. Quintanilla, WPAFB to USAF SAFOICC, Washington, Jan 11 1966 re Request for UFO Information

as early as their interview with John Fuller on Oct 20 1965.<sup>46</sup>

Having failed to find evidence of a refuelling operation or special photographic mission of any type, BB was trying hard to nail the sighting, and it was immensely frustrating that SAC records showed all the Big Blast aircraft having landed about half an hour before the start of Muscarello's first sighting. One feels that had there been any chance of providing even slight *evidence* for the presence of five additional B-47s then BB would have closed the case without hesitation. Yet, with evident great reluctance, they left it "unidentified", on the specific grounds that they were unable to place culprit aircraft in the area. On this basis we should regard the reference to those five phantom B-47s as, at best, hopeful speculation and, at worst, a manipulative half-truth.

So what are we left with? We know that whilst qualitative report data are often suggestive of high strangeness, qualitative conclusions based on them are unlikely to be safe. But the other side of this same coin is typified by Nickell's and McGaha's case for KC-97 tanker lights. It is weak because it relies only on qualitative witness statements which, if looked at selectively and none too closely, can be made to sound similar to aspects of some explanatory model. This is a very loose and lazy procedure. Like the compellingly vivid witness impressions relied upon by some UFO proponents, it impresses the type of person who is impressed by loose similarities and qualitative arguments and who sniffs at detailed quantitative and physically-based analysis.

We ought to try to do better. The conservative method is always to try to test a theory in its quantitative limits. When the quantitative implications of the Nickell & McGaha theory are thus tested it fails on the grounds of internal logical and physical implications so grossly inconsistent with the limits of human visual and auditory acuity that witness error becomes a negligible factor in comparison. The result is that the qualitative details such as those mentioned above may then become, arguably, more interesting.

This type of approach pours the proper concrete foundations to take the weight of a case for or against a true 'unknown', whereas relying on qualitative witness impressions and opinions will never do this.

In summary, BB's conclusion is in the end the only reasonable one: There is insufficient hard evidence to prove the presence of something truly extraordinary, but what the three men saw remains unidentified.

---

46 Fuller, J.G., *Incident at Exeter*, G.P.Putnams/Berkley, New York 1967 p.58