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BULLETIN

THE AMATEUR ASTRONOMER AND THE UFO PHENOMENON

The following is a partial summary of the work of Gert Herb, an amateur astronomer long associated with the Center for UFO Studies. Under the auspices of the Center he undertook to query several thousand amateur astronomers about their attitudes toward the UFO phenomenon, and especially whether they themselves had made any UFO sightings, particularly with the aid of telescopes and/or binoculars.

The results are of significant interest and deserve publication in summary form before full publication, which lies sometime in the future. I have taken the liberty of commenting rather freely on Mr. Herb's results and their significance, but the full credit for the work involved in the survey and its analysis must go to him. Anyone who wishes more information before formal publication should correspond directly with Mr. Herb, in care of the Center for UFO Studies.

Many of our readers are acquainted with the Sturrock Report, the survey of the views of professional astronomers on UFOs, particularly with reference to whether they felt UFOs are worthy of scientific investigation, and to any UFO experiences they themselves might have had. [SUIPR Report No. 681, Jan. 1977; Institute for Plasma Research, Stanford University, Stanford, CA 94305, \$5.00]. Of 2,611 questionnaires mailed out, 1,356 were returned [52%]. Of the respondents, in answer to the question whether UFOs were worthy of scientific attention, only 20% expressed a definite negative attitude [17% "probably not" and 3% "certainly not"], the remaining 80% being favorably inclined, 23% saying "certainly," the others "probably." Still, this was nearly eight times as many as said "certainly not." In response to the question of personal UFO sightings, 62, or 4½% of the professional respondents, reported that they had observed events or objects they failed to identify, 16 of these being daylight sightings.

The question naturally arises, if this was the response among professional astronomers, what might be the response from the larger population of amateur astronomers, especially as regards the question of personal sightings. After all, contrary to popular opinion, professional astronomers spend little time in the actual



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observation of the open skies, being extremely mission-oriented in examining very restricted fields through large telescopes, while amateur astronomers spend their time in a much wider survey of the skies. Further, professional astronomical observation is almost entirely done with instruments rather than with the eyes, concentrating again on minute portions of the sky. It has been estimated, for instance, that if the world's largest telescope were used every night of the year, it would take several hundred years to cover the entire sky and accomplish the type of detailed observations done with such telescopes. The amateur astronomer, on the other hand, often scans the entire sky available to him several times a night.

Further still, serious amateur astronomers are often much more familiar with the appearance of the night sky than are professional astronomers (as odd as that may seem) to whom each star is merely a number in a catalogue. And then again, they have available easily maneuverable or mobile optical equipment, suitable for resolving short-lived aerial pheno-

mena, whereas their professional counterparts are constrained by large and unwieldy instruments. Too, they are more widely distributed geographically than are their counterparts.

Thus they should be able to spot unusual occurrences as well as to weed out, because of their training and experience, sky phenomena which often puzzle the public and lead to spurious UFO reports--meteors, planets, twinkling stars, and even advertising planes.

All of these factors made it quite natural to query amateur astronomers about their possible experiences with very unusual sky events, and Mr. Herb was the one who proposed that this be done, and who undertook to do it.

Fortunately, almost all amateur astronomers are affiliated with one or more organizations devoted to their hobby. These organizations are the Astronomical League, the Association of Lunar and Planetary Observers (ALPO), the International Occultation Timing Association (IOTA), and the American Association of

Variable Star Observers (AAVSO). Mr. Herb approached all four organizations, with my full support, and that of the Center, asking for cooperation in this venture. Only the AAVSO refused to cooperate (hardly a tribute to an open-minded, scientific attitude), but the Astronomical League, which publishes the magazine, The Reflector, kindly sent our questionnaire to their subscriber list of some 7,800 persons. However, only 1,622 (21%) responded. Somehow, one would have wished astronomers to have done better!

The two smaller organizations, ALPO and IOTA, with a total membership of 726, were polled as a single population. Though small, these groups are composed of people devoted to more specialized aspects of amateur astronomy requiring special skills and often more specialized astronomical equipment, as well as dedicated motivation.

However, only 505 members received questionnaires, as was determined by a follow-up which was possible in this case. Since bulk mailing was used, this may have accounted for the 221 members who stated they had not received questionnaires. This may also explain why the response from the Astronomical League members was relatively poor, if bulk mailing had also been used.

Of the 505 members receiving questionnaires, however, 290, or 57 per cent responded!

Gert Herb's main concern in this venture was to determine whether the amateur astronomer population as a whole contained members who had had a UFO experience of some sort. He had been disturbed by Arthur C. Clarke's statement in his book, Promise of Space that amateur astronomers have not reported UFOs. (Maybe no one asked them before!) He also asked them whether they believed UFOs "probably or certainly exist," "possibly exist," or "probably or certainly do not exist."

Although 67% of the respondees, all groups together, felt that UFOs certainly, probably, or possibly exist, this question cannot be given the same weight

1. *Harper & Row, New York; 1968.*

as the question, "Have you ever observed an object which resisted your most exhaustive efforts at identification?" for this is not the same as the question, "Have you ever seen a UFO?" The latter, and the earlier question about belief in UFOs, depends largely on what one's definition of a UFO is. Is it a visitor from outer space, a natural phenomenon, a man-made device, or what? The question as to whether they could or could not identify an object is direct and unambiguous.

Let us therefore go directly to the results of that question. Mr. Clarke, take notice: Of the total of 1,805 respondees from all organizations, 427 said "Yes" to that question! That's nearly one-quarter of the respondees (24%).

However, that overall result deserves closer analysis. Were all the observers of the same proficiency? How much observing experience had they had? How did the reported sightings differ: Were they all faint lights in the night sky, were there some daytime sightings, were there sightings of "high strangeness"? Were any of them observed or photographed through a telescope? How many binocular observations were made?

OBSERVING PROFICIENCY

As to proficiency, Gert Herb established a proficiency scale in which the following factors were considered: Did the astronomer keep regular observing records? Did he or she follow a structured personal observing program? Did he or she work in cooperation with a national organization such as ALPO, AAVSO, etc.? How long had this person been an amateur astronomer?

Herb then selected, on the basis of replies to these questions, 261 "senior" observers who had rated highest on the above criteria. Most of these, as might be expected, came from the ranks of ALPO and IOTA members.

Now, Mr. Clarke, really take notice! The senior observers, all of whom are thoroughly familiar with the night skies, reported 74 objects "which resisted most exhaustive efforts at identification."

Well, what sort of objects? Mr. Herb subdivided all reports received during the survey into five classes, according to their trajectories and apparent angular sizes. These divisions bear some resemblance to both the UFOCAT classifications and the six classifications originally proposed by myself. Herb's classifications are:

Class	Definition
0	Point source in uniform motion
1	Extended source in uniform motion
2	Point source in erratic motion
3	Extended source in erratic motion
4	Object observed at short enough distance as to leave no doubt in observer's mind that something strange was observed

Classes 1, 3, and 4 are clearly of great interest. An extended object in either uniform or erratic motion is of interest because it is most unlikely that trained observers would be fooled by a meteor or a high flying plane; they are all too familiar with them. Further, almost all observers have binoculars handy, and they were generally used. Even a point source in erratic motion can be of considerable interest. Class 4 is, of course, the most interesting of all; that four such cases were reported by the selected senior observers is noteworthy.

SIGHTINGS REPORTED

ALL OBSERVERS		CLASS	SENIOR OBSERVERS	
167	38.7%	0	33	44.6%
102	23.6	1	18	24.3
74	17.1	2	11	14.8
47	10.9	3	2	2.7
24	5.6	4	4	5.4

UNCLASSIFIABLE: 18

SIXTY-SIX UNKNOWNNS SEEN THROUGH A TELESCOPE

With so many amateur astronomers reporting observations which resisted attempts at explanation, one immediately asks, "How many observations were made with the astronomer's telescope or binoculars, presumed handy at all times?" Sixty-six out of 427 observations of all sorts were made through the astronomer's telescope, generally after the object was spotted first by eye. Forty additional objects were observed by binoculars alone. Thus, nearly a quarter of the puzzling observations were made with optical aids!

Mr. Herb next singled out cases of high strangeness; i.e., cases of sources in erratic motion and the "close encounter" cases. Fourteen of these were observed through a telescope and 17 through binoculars.

SEVEN OBJECTS PHOTOGRAPHED

Seven objects were photographed: three were of point sources; one was of an extended object, somewhat egg-shaped, and was taken through a telescope; one object had six photographs taken of it in quick succession (this was of an object which transited across Saturn like a little moon); another photo was of two symmetrical cloud-like objects moving in unison. The last was a photo of a "cloud" that moved rapidly at irregular intervals, moving toward and away from the sun in 15° arcs, more or less along the ecliptic (the cloud itself was 25° long). As is the case with most UFO photographs, they remain unexplained and very puzzling, but prove nothing positive. The whole field of ufology has yet to produce one good photograph of a strange object at close range.

Mr. Herb properly points out two considerations in assessing the startling results from the amateurs. (It was thought at the start that the questionnaires might even show that amateur astronomers never saw anything strange in the course of their observations, and that perhaps Mr. Clarke would be proved correct. None of us expected such a harvest of "unknowns.") He pointed out the strong possibility that of the persons receiving the questionnaire, those who had made a sighting would very probably be more apt to fill out the ques-

UFO CLASSIFICATION SYSTEMS

HERB	UFOCAT (SAUNDERS)	HYNEK
	TYPE	
0 Point source in uniform motion	0 Not a UFO report	Daylight Discs
1 Extended source in uniform motion	1 UFO essentially stationary, w. motion no more than 15° per hour (comp. to celestial bodies)	Nocturnal Lights
2 Point source in erratic motion	2 UFO in continuous trajectory at speed greater than 15° per hour	Radar-Visuals UFO observed on radar screen and visually at same time by same or other witness(es)
3 Extended source in erratic motion	3 UFO in trajectory w. single discontinuity such as sharp turn or hovering	
4 Object observed from close enough distance as to leave no doubt in observer's mind that something strange was observed.	4 UFO in trajectory w. more than one discontinuity	
	5 UFO "enters frame of reference" of witness. Includes photo, radar, physical trace and EM reports	Close Encounter of the First Kind (CE-I) UFO observed within about 500' of witness, w. no interaction between UFO and witness or environment
	6 UFO "lands" within frame of reference of witness (minimum separation from ground less than major dimension of object). Includes possible occupant(s) inside object.	Close Encounter of the Second Kind (CE-II) Interaction w. witness or environment: ground traces, physical effects on humans, animals or plants, interference w. motors or electrical systems
	7 One or more occupants reported outside the object	
	8 Witness reports intelligent communication associated w. experience that would normally require use of language.	Close Encounter of the Third Kind (CE-III) Occupants of a UFO or other human-like entities reported
	9 Physical or functional effects on witnesses or other animal life reported, remaining after UFO is gone.	

tionnaire than the non-sighters. They certainly ought to have been more motivated. If, therefore, one counts all persons polled, and not only those who responded, we get only 5.2% sighters among them, as against 23.7% when we consider the sighters among those who actually responded [427/1,805]. The actual percentage is thus somewhere between these two limits, but even if only 5% of all amateur astronomers made valid sightings of truly unusual objects, this would still be of great significance.

It is interesting that no amateur astronomer reported a "Close Encounter of the Third Kind," that is, with creatures peering out of portholes or standing by their craft on the ground. With peer pressure being what it is, it is likely that had a case actually been observed, it might well have not been reported!

Gert Herb is now preparing a compendium of what was actually reported in each case. When completed, it will be available for examination at the Center; it is hoped that funds will become available to publish the catalogue and a more extended report.

Finally, Mr. Herb concludes his report with a word of caution. He points out that amateur astronomers "are no less subject to psychological aberrations than the general public; their increased competence in distinguishing between known and unknown phenomena need not necessarily be matched by a desire for disinterested judgment. Thus the results of this survey should not be accepted as evidence for the existence of UFOs." Here we run into the ever troublesome matter of the definition of a UFO. I believe that the survey amply demonstrates that even amateur astronomers, surely more capable than the general public in identifying objects in the night sky, come across things in the sky that defy explanation. If we remember that the "U" in UFO simply means "unidentified," then the survey does prove that amateur astronomers report UFOs, quite contrary to Arthur C. Clarke's contention. But then, that gentleman falls into the same trap that the general public does: that UFOs can mean only one thing--visitors from remote regions of space. If we hold, as we at the Center do, that a UFO phenomenon exists, then certainly the amateur astronomers have observed the UFO phenomenon, and by no means necessarily craft from outer space.