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same angle of vision as a house. This would make the slant range to the ground 8,500 ft. It can be shown that an object thought to be 30 ft. in diameter (assuming an average home is 30 ft. long) at 8,500 ft. range could also have been a six ft. diameter balloon only 1,700 ft. from the observer or at about 4,800 ft. altitude. Allowing for errors in estimation of the angle, this coincides very closely to the altitude of the balloon at 0954. The position of the balloon in respect to the ground was approximately off the end of Runway #30.

The pilot stated that the object appeared to be on a heading of 225°, the reciprocal of the heading of the TBM, and the speed of the object was about 200 knots. The balloon would appear to be traveling on a reciprocal heading and appear to be traveling at a higher rate of speed than the TBM if the pilot had assumed the balloon to be a large object close to the ground.

In examining the turn as sketched by the pilot (see overlay), it is believed that the radius of turn is too great. He stated that the air speed was kept at 160 knots and he estimated he pulled two to three G's, this would give a radius of turn of about 1,500 ft. instead of the nearly 6,000 ft. radius shown on the overlay. It will also be noted that in positions 0, 1, 2, and 3 on the overlay, the bearing of the object is relatively constant, being of about 10 o'clock from the aircraft heading. A balloon seen from an aircraft making a 360° left turn around the balloon would have a constant bearing at 9 o'clock, however, errors in the sketch of the ground tracks could account for this discrepancy.

After the position of the aircraft given as point 3 on the overlay, it is more difficult to show that the object could have been the balloon. If point 4 (of aircraft) is shifted to near point 1 (aircraft) it is possible that the pilot started another 360° turn around the balloon (see overlay).

Two major discrepancies in the theory that the object was a balloon are that the pilot was very sure that at one time during the attempt to intercept the balloon he was north or northwest of the airfield and could still see the object. In addition, shortly before the object disappeared, the line of sight of the object began to swing toward the nose of the aircraft. If this were true and the object was a balloon, the pilot should have been able to come close enough to the object to identify it as a balloon.

It should be noted that the pilot admits that the sketch could be in error. During the reinterrogation, it was brought out by the Operation's Officer at Mitchell AFB, who conducted the original interrogation, that the first sketch the pilot drew was about half the size (i.e. all radii one half) of the final sketch which has been copied in the inclosed overlay. This is further brought out by the calculations for the radius of turn. The pilot was positive that the airspeed was always 160 knots and that he was pulling about two to three G's. As stated before, this would give a radius of turn of about 1,500 ft. instead of the 6,000 ft. as shown on the overlay. A 6,000 ft. radius turn is not considered likely during any interception tactics in an aircraft as slow as a TBM. Changing the radius of the 360° turn to 1,500 ft. would "shrink" the complete sketch to one-fourth the original size (see overlay).

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The time to turn, with a 1,500 ft. radius, is 35 seconds. Assuming the turn was not a perfect circle but more of an ellipse, the time would increase to possibly 45 seconds. This is also a discrepancy since the pilot judged the elapsed time to be two and one half minutes. This is not a serious discrepancy, however, as it is known that short intervals are difficult to judge and the pilot did not actually time his maneuvers.

The description of the object could very well be that of a balloon. Observations have shown that a balloon appears to be more oval or dome-shaped than spherical and due to shadows, the bottom appears darker than the top. The talcum powder used in packing the balloon could easily give the appearance of segments such as the panels in a parachute. The oscillations of the object described by the pilot are very similar in period to those of a balloon. The pilot stated that he did not observe anything suspended from the object such as the radar reflector hanging beneath the balloon, however, the tower operator was sure that the pilot had mentioned the fact that there was something dark beneath the object when he called the tower to describe the object he had seen.

A T-11 was the only aircraft in the area near the time of the sighting. The possibility of the pilot's first seeing the balloon then the T-11 were checked but the T-11 was on an entirely different heading than that of the object, and was out of the immediate area.

IV. CONCLUSIONS

From the data obtained on this sighting, it cannot be definitely concluded that the object sighted by the TBM pilot was the Ravinsonde balloon released by the Mitchell AFB Weather Station. However, enough of the data on the reported object does correlate with that of the balloon to indicate that there is a possibility that the object observed was a balloon. There were no other reports of persons observing any unusual objects and since the object appeared to be 20 ft. to 30 ft. in diameter and very unusual in appearance at only 200 ft. to 300 ft. altitude over a thickly populated area, it would seem very likely that it would have been seen and reported by someone on the ground.

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