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Dear Dr. Hartmann:

As one American who--like countless others--has been disturbed by the doubts surrounding the original Kennedy assassination investigations (and also as a fellow astronomer), I wish to thank you for your service in the recent House Select Committee investigations as a member of one of the scientific panels.

In order to assess for myself what significance ought to be attached to the new scientific findings I am going over the published reports and testimony presented before the Select Committee. Your own work was of particular interest, but I found that it raised certain questions not answered in the report of the photographic panel. If I may beg your indulgence for a few moments, I will present the problem as clearly as possible.

The principal authority for the relative spacing of the shots is the BB+N report on the acoustic analysis by Dr. Barger and co-workers. (I will use the word 'shots' to indicate the impulses identified as probable sounds of shots on the recording.) The table below summarizes the times of the impulses according to his analysis:

<u>Impulse</u>	<u>Channel Time, s</u>	<u>C. T. x 1.05*, s</u>	<u>Possible Origin or Description</u>
1	136.20	143.01	Not a shot; no correl. > 0.5
2	137.70	144.58	Shot; TSBD
3	139.27	146.23	Shot; TSBD
4	140.32	147.34	Correl.= 0.6, TSBD; not a shot**
5	145.15	152.41	Shot; knoll (later confirmed)
6	145.61	152.89	Shot; TSBD
7	146.30	153.62	Not a shot; no correl. > 0.5

*1.05 is the correction factor found by the acoustics team to be required in order to correct for the slow recorder drive.

**The possibility that this was a shot should be considered seriously, as it was rejected by Dr. Barger on the basis that "the rifle cannot be fired so rapidly". This seems a very unscientific statement which excluded the conceivable possibility

The corrected acoustic timings and intervals of the four most probable shots (Impulses 2,3,5, and 6), taking impulse 2 as 0^s.00, are:

<u>Time, s</u>	<u>Interval, s</u>
0.00	< 1.65
1.65	< 6.17
7.82	< 0.48
8.30	

I noticed that, on p. 30 of the photographic report, and thereafter throughout that report, the acoustic time intervals are presented as: 1^s.57, 5^s.63, and 0^s.71. The first number appears to represent the uncorrected interval between the first two probable shots. The second interval, as nearly as I can determine, does not correspond to anything in the acoustic report; it is closest to the uncorrected interval of 5^s.88 between impulses 3 and 5, for which the corrected interval is 6^s.17. The final interval presented, 0^s.71, corresponds most closely to the uncorrected interval between impulses 6 and 7 (0^s.69) or its corrected counterpart. However, impulse 7 is not a shot. It does not correspond with the interval of 0^s.48 between impulses 5 and 6, which probably are shots.

Try as I might, I have been unable to reconcile these discrepancies between the acoustic data and the photographic panel's presentation of them. During Dr. Barger's testimony, he was "grilled" on the length of time between the last two shots and insisted that it was indeed 0^s.5. As the investigation continued, the spurious figure of 0^s.7 began to creep in, and the Committee's final report used the longer interval. In Prof. Blakey's letter to Committee members on 22 February 1979 he used the B&N times for shots 1, 2, and 4, and the time reported by Weiss and Aschkenazy for shot number 3 only, and inserted it in the time sequence. I am sure you can appreciate that this appears to be a scientifically hazardous procedure because in an interval of 145 seconds a time scale difference as small as 0.1% can produce a timing error of 0^s.15 for the relative placement of the last two shots. In the event, this dubious calculation produced a time difference of 0^s.71 between shots 3 and 4.

In view of the above, Dr. Hartmann, my question is this: could you please explain to me the reasons for the differences between (a) the timings given in Table II of the acoustics report and (b) the timings given in the photographic report (p.30) which refer to reference (38), which is Dr. Barger's Table II? This point is of paramount importance in establishing the correct frames in the Zapruder film which should be analyzed for possible correlations with shots.

Yours sincerely,

Michael W. Swartz