Dr. David Green Testimony
HSCA Vol. II
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4.0.1.3

IDENTIFICATION OF WITNESS:

Dr. David Green was one of the acoustics experts who testified before the Committee, concentrating on psychoacoustics evidence. (Psychoacoustics is the study of how people localize sound in space.) At the time of the HSCA investigation, he was a professor of psychophysics and chairman of the Department of Psychology and Social Relations at Harvard University. (See page 111 for his extensive educational and professional background.)

SUMMARY:

As part of the HSCA investigation, Dr. Green analyzed the psychoacoustics evidence that was gathered primarily from Dr. Barger's reconstruction at Dealey Plaza. Before presenting the results of his experiments, Dr. Green first explained the distinction between a "blast wave" and a "shock wave" (commonly referred to as an "N-wave") when a rifle is fired. An N-wave carries sound through an area in the shape of a cone directly in front of the source (rifle), and a blast wave carries sound principally to the side of the source (rifle). Furthermore, the sound from a blast wave is long in duration and has a low pitch whereas the sound from an N-wave is brief and has a high pitch. In terms of pinpointing the source of a sound(s) produced from a rifle shot, people who are standing off

to the side of the bullet path will more likely point to the actual muzzle of the rifle as the source of the sound. On the other hand, those people who are standing along the path of the bullet will hear the N-wave first and then the muzzle blast and will point to the path of the bullet as the source of the sound. Because of this N-wave, a rifle blast creates a very confusing acoustic stimulus and a spectator is liable to point at the N-wave as the source of the sound. As a general rule, 75% of witnesses to a (supersonic) shooting usually point to the path of the bullet as the source of the sound and 25% point to a location in the opposite direction.

During the reconstruction of the assassination, the acoustics experts attempted to replicate the sounds produced from the rifle shots that the Dealey Plaza witnesses heard on November 22, 1963. Dr. Barger and two other colleagues stood in different areas of the Plaza when shots were fired from the TSBD and grassy knoll. They kept a written record of the nature of the sounds they heard, N-wave or blast wave, and the location of the source. In general, Dr. Green and his colleagues were able to discern between the sounds of the two different waves and correctly identified the source of the rifle shots (even though they knew ahead of time where the shots would be coming from). In making some conclusions, Dr. Green discussed the theory of three shots originating from the TSBD and one shot from the grassy knoll. He found it extremely unlikely that this occurred if only four of the Dealey Plaza witnesses testified that they heard shots from those two locations. He asserted that more people should have identified the two locations if there were actually two rifles. In addition, Dr. Green testified that a shot from the grassy knoll was usually heard as a shot from the knoll; it was easy to localize sound from a shot in this location and very few people would error in this identification. But, in an apparent

contradiction, he responded to a Committee member's question as to how twenty people could have identified the grassy knoll as the source of the sound if a shot had not come from the grassy knoll. Dr. Green contended that this situation was easily possible.