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134th General Assembly Committees

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Representative Mary Lightbody 19th House District

Testimony to the Armed Services and Veterans Affairs Committee
House Concurrent Resolution 32
November 17, 2021
Mary Lightbody, Ph.D.

Chairman Ghanbari, Vice Chair Loychik, Ranking Member Miller, and members of the House Armed Services and Veterans Affairs Committee, thank you for allowing me to testify in support of House Concurrent Resolution 32. Rep Lampton is a joint sponsor with me on this resolution but could not be here today.

The resolution seeks to have the Air Force Research Lab containing the anechoic chamber at Wright Patterson Air Force Base be designated the “Colonel William J. Cavanaugh Battlefield Acoustics Lab” to honor the inspiration of its design by Col. Cavanaugh. Research done in the chamber has helped to prepare our fighting men and women for the sounds of war that they may experience and need to interpret and understand, the better to make accurate and critical decisions in the midst of the overwhelming cacophony of a combat engagement. The Technical Committee on Architectural Acoustics of the Acoustical Society of America, has voted to endorse this naming effort.

The late William J. Cavanaugh began his Army career in the ROTC program at the Massachusetts Institute of Technology. He was commissioned 2nd Lieutenant and served as unit training and staff officer with the 6th Armored Div. and Army Corp of Engineers at Ft. Leonard in Wood, Missouri during the Korean War. He remained in US Army Reserves as he founded and began work at Cavanaugh Tocci Associates. He retired at the rank of full Colonel in 1982 after 31 years of continuous service.¹

Colonel Cavanaugh was a leader in the design and construction of this facility in 1955 at Wright Patterson Air Force Base; the chamber is still in use today, some six decades later. His son, John Cavanaugh, is one of my constituents and made this request to recognize his father by naming the chamber after him. I hope that you will agree that this is a fitting honor.

The chamber was designed to study battlefield acoustics and develop new technology in an environment without echoes and of near silence. As described in [Wired²](#) magazine: “Battlefields are noisy places, and pilots and soldiers often struggle to filter out information and communication from the chaos of combat. Ideally, the soldiers, air

¹ Air Force Museum. legacydataplates.com

² Adams, E. (2018). Step inside the Air Force's sound-swallowing anechoic chamber. *Wired*.
<https://www.wired.com/story/air-force-anechoic-chamber-acoustic-study/>

crews, or sailors would be able to ignore the unimportant sounds, identify the important ones, and tell where they're coming from.”

The anechoic chamber designed by Col. Cavanaugh allowed for important research to be conducted in an environment of near-absolute silence. This space is one of the quietest rooms in the world. I understand that it was constructed using a deep sand buffer, forty-two-inch-long fiberglass wedges, and a 14-foot sphere lined with loudspeakers. The room with this soundproofing design has been used since its construction was completed to study how sound is perceived on the battlefield, which is obviously a location where multiple sounds can come from many directions simultaneously.

The American Institute of Physics has published Colonel Cavanaugh's [oral history](#)³ in which he explains this groundbreaking architectural achievement in Ohio as one of the capstones of his career. I can provide more information about the facility if members would like, although my own understanding of Col. Cavanaugh's significant breakthrough in design can be better explained by his son John, who has a much better understanding of it than I do and I am sure is planning to come as a proponent of this resolution.

Thank you for the opportunity to testify today. I hope that you will schedule the next hearing soon so that you can hear directly from proponents including John Cavanaugh, Colonel (Retired) Jose “Rafi” Rodriguez, USAF, and others who plan to submit written testimony. I hope that the Armed Services and Veterans Affairs Committee will support this resolution. I would be happy to do my best to answer any questions the committee members may have.

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³ Carballeira, A. (2017). Oral history interview with William Cavanaugh. American Institute of Physics. <https://www.aip.org/history-programs/niels-bohr-library/oral-histories/45493>