

“echo”

If so many reflections arrive at a listener that they are unable to distinguish between them, the proper term is reverberation. An echo can be explained as a wave that has been reflected by a discontinuity in the propagation medium, and returns with sufficient magnitude and delay to be perceived. Echoes are reflected off walls or hard surfaces like mountains and privacy fences.

Zeus was quite attracted to nymphs and often visited them. Hera, his wife, jealous of his various affairs, followed him trying to catch him. However, Echo would engage Hera in long-winded conversations, giving the time to Zeus to evade her. At some point, Hera realized the plot of Echo and cursed her to only be able to repeat the last words that another person just said.

Sound travels approximately 343 metres/s (1100 ft/s). If a sound produces an echo in 2 seconds, the object producing the echo would be precisely that distance away (the sound takes half the time to get to the object and half the time to return).

After being cursed, Echo came across a beautiful young man named Narcissus, but was unable to talk to him because of the curse. She simply followed him in the woods.

The distance for an object with a 2-second echo return would be $1 \text{ sec} \times 343 \text{ metres/s}$ or 343 metres (1100 ft). In most situations with human hearing, echoes are about one-half second or about half this distance, since sounds grow fainter with distance.

Narcissus, having lost his companions with whom he had gone hunting, started shouting "Is anyone there?" Echo, given the opportunity, repeated the words. He shouted again "Let's come together" to which Echo rushed onto him repeating his words. However, Narcissus rejected Echo, and she was left in despair.

In nature, canyon walls or rock cliffs facing water are the most common natural settings for hearing echoes. The strength of an echo is frequently measured in dB sound pressure level SPL relative to the directly transmitted wave.

Narcissus came across a lake and there, he fell in love with his own image, causing his death, unable to move.

Echoes may be desirable (as in sonar) or undesirable (as in telephone systems).

Echo mourned for him and eventually died away herself, leaving only her voice behind.

When dealing with audible frequencies, the human ear cannot distinguish an echo from the original sound if the delay is less than 1/15 of a second. Thus, since the velocity of sound is approximately 343 m/s at a normal room temperature of about 25 °C, the reflecting object must be more than 17.2 m from the sound source at this temperature for an echo to be heard by a person at the source.

"echo" - an exhibition by Jacob Alrø.

Opening the 15th of April, 17.00-21.00

Open the 16th and 17th of April, 13.00-17.00

Udstillingsstedet Q