

A Science Service Feature

Released upon receipt
but intended for use
May 30, 1932

? WHY THE WEATHER ? Mailed May 23, 1932

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ABNORMAL AUDIBILITY

On June 2, 1666, Mr. Pepys wrote in his diary: "Into the Parke, and there we could hear the guns from the fleete most plainly." But those same guns were not heard on the coast, much nearer to the ships that fired them. On June 4 Pepys added: "So walking through the Parke we saw hundreds of people listening at the gravell-pits, *** and I saw a letter, dated last night, from Strowd, Governor of Dover Castle, which says that the Prince (Rupert) come hither the night before with his fleete, but that the guns which we writ that we heard, it is only a mistake for thunder; and *** it is a miraculous thing that we all Friday and Saturday and yesterday did hear everywhere most plainly the guns go off, and yet at Deale and Dover to last night they did not hear one word of a fight, nor think they heard one gun. This *** makes room for a great dispute in philosophy, how we shall hear them and they not, the same wind that brought it to us being the same that should bring it to them; but so it is."

In the year 1903 the same curious phenomenon of a "zone of silence" at a certain distance from a big explosion in Germany, surrounded by an outer zone in which the sound was heard, attracted so much attention that a scientific investigation of it was carried out, but without solving the mystery. A great many similar cases have since been observed. In recent years the recording of sounds from pre-arranged explosions has become one of the methods by which meteorologists seek to measure the temperature of the upper atmosphere. The process is based on the assumption that the sound waves from an explosion travel upward over the silent zone and are refracted back to the earth in the outer zone of audibility on account of entering a region of warm air above the base of the stratosphere.

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