

## **EMBARGOED UNTIL 1am ON MONDAY 8 SEPTEMBER 2003**

### **Giant organ pipes may give listeners weird experiences - new research suggests.**

Dozens of British churches and cathedrals have organ pipes that are so long, they produce an extreme bass sound, known as 'infrasound'. At today's British Association Conference (8 September, 2003), a team of researchers reported the results of an innovative experiment held earlier this year, in which 750 concertgoers were played live music, some of which was laced with infrasound. Added to the music, infrasound caused a range of weird effects, even among those who were unaware of its presence. Strange reactions included an extreme sense of sorrow, coldness, anxiety and even shivers down the spine.

'These results suggest that low frequency sound can cause people to have unusual experiences, even though they cannot consciously detect infrasound,' said Richard Wiseman, psychologist. 'Some scientists have suggested that this level of sound may be present at some allegedly haunted sites and so cause people to have odd sensations that they attribute to a ghost - our findings support these ideas.'

'So much has been said about infrasound - it's been associated with just about everything from beam weapons to bad driving. It's wonderful to be able to examine the evidence,' said Sarah Angliss, a composer and engineer in charge of the project. 'Organ players have been adding infrasound to the mix for five hundred years so maybe we're not the first generation to be "addicted to bass".'

-ENDS-

Editors' notes:

1 The experiment took place at the Purcell Room (South Bank, London) and was conducted by a team of acousticians, psychologists and musicians. An impressive, seven-metre long, black infrasound pipe dominated the auditorium. It was designed by NPL's experts to emit frequencies below 20Hz - extreme bass notes lying on the cusp of human perception. The Acoustical Metrology Group at NPL were also asked to advise on the possible implications for subjects attending the experiment.

2 During the experiment, 750 concertgoers were asked to assess their emotional response to four pieces of music, reporting any unusual experiences and saying if they thought infrasound was present. People reported significantly more strange experiences during the pieces incorporating infrasound. Comparing identical pieces, with and without infrasound, psychologists confirmed that infrasound boosted these odd reports by an average of 22 per cent.

3 The concert, 'Infrasonic', was the culmination of the Soundless Music research project, sponsored by the sciart Consortium with additional support from the National Physical Laboratory. This was conducted by a multi-disciplinary team, including Sarah Angliss, composer and acoustic engineer; Dr Richard Lord and Dan Simmons, physicists from the National Physical Laboratory; GéNIA, pianist; Ravi Deepres, video artist and psychologists Ciarán O'Keeffe, Liverpool Hope University, and Professor Richard Wiseman, University of Hertfordshire.

Additional quotes:

Dr Richard Lord, Acoustic Scientist at NPL comments: 'This is a fascinating collaboration between science and music, applying NPL measurement expertise in an unusual way.' Ciarán O'Keeffe, one of the psychologists coordinating the analysis added: 'The infrasound generator was specially constructed by NPL for the performances and is the only one of its kind in the world. We used well-controlled scientific methods to evaluate the potential effect these low-frequency sounds might have on the audience's perception of each piece. We had no idea what to expect - but that is what makes the results so exciting.'

For further details, biographies and information please visit the website: [www.infrasonicmusic.co.uk](http://www.infrasonicmusic.co.uk)

For further information or media enquiries please contact Lorna Campbell on 01844 338 145 [lorna@lornac.demon.co.uk](mailto:lorna@lornac.demon.co.uk) or Noor Kheir on 020 8943 6268/6937, email: [press@npl.co.uk](mailto:press@npl.co.uk).

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