Stan's Safari 8

DOES DEPLETED URANIUM HAVE A FUTURE IN AUDIO?

I recently spent some hours on the internet endeavouring to buy some depleted uranium (DU). My first surprise was to find that the world seems to be awash with the stuff. Over a million tonnes is lying around in stockpiles, with a price so low that it's routinely given away to ammunition manufacturers willing to 'dispose' of the material. My second surprise was to discover that DU may be freely imported into the UK with no need for a licence or special authority. So far so good, but after making a few phone calls it became apparent that I was quite likely to find myself added to every terrorist database in the Western world. This brought my ambitions to a rapid halt.

Nonetheless, DU is an interesting material. It has almost twice the density of lead, a very low rate of corrosion in normal atmospheres, and, with sensible precautions, is no more dangerous than any other heavy metal. I'm tempted to fabricate some organ pipes from a uranium alloy with tin and a dash of antimony, in place of the usual lead-tin alloy. The formulation of the alloy and its thickness has a great influence on the timbre of the sound produced, and each organ maker has his own favourite recipe although I'm not aware of any serious scientific studies of the material technology.

You might gather from this that pipe organs have always been one of my abiding passions, albeit regrettably as a listener rather than practitioner. I play the Hammond organ tolerably well, but my lessons with a Cambridge college organist came to an end when I repeatedly demonstrated that my attempts to emulate Edwin LeMare invariably descended into a train wreck when the essential synchronisation between two hands and two feet became unhinged.

Because of its ability to sustain notes, the organ can very effectively demonstrate the limitations of our chosen musical scale; the so-called 'equal temperament' scale. We owe our musical scale of twelve notes to the Greeks, who worked out the mathematics of octaves and then the intervals called 'fifths'. Subsequently the 'thirds' interval joined the list and the basis of Western music had been put in place. This is not the place for music theory but essentially all the notes that are octaves, thirds and fifths blend together in a way that is pleasing to our ear; they are in harmony.

This musical scale worked perfectly with most instruments but came seriously unstuck when keyboard instruments came along. Try to tune a five or six octave keyboard and you can have all the octaves in tune with each other; all the thirds in tune or all the fifths but not all three. This is just the way the mathematics works out and suggests some sloppy work on the part of Pythagoras or whoever. I did read somewhere that the Chinese solved the problem with a 53 note scale, but that's hardly practical.

Until the mid-to-late 19th century keyboard instruments were tuned to the mean-tone temperament, where the octaves and thirds were in perfect tune but the fifths finished up being slightly flat. In some keys this was a perfectly good arrangement, but in other keys a major chord would be out of tune and result in a sound referred to as 'the howling of wolves', so some fifth intervals became known as 'wolf' notes. An organist playing alone could often transpose the key and so avoid the problem without anyone noticing, but this option was not open to a pianist playing with an orchestra.