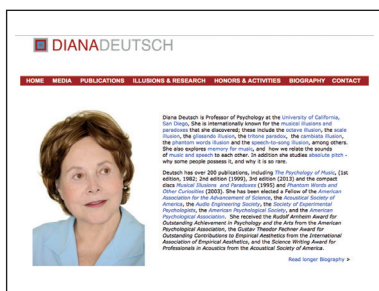


Do you hear what I hear? A look at auditory illusions

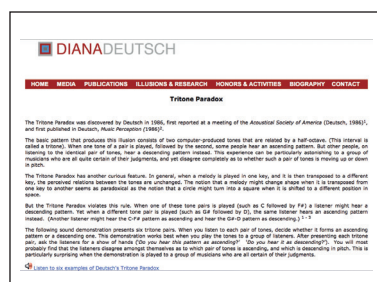
Audiologists think about sound a lot. In fact, it is a bit of an occupational hazard. The majority of that time is usually devoted to thinking about sound in a purely functional sense (for example, adjusting a hearing aid to improve overall sound quality). Regrettably, over time, many of us stop relishing in the wonder of sound.

For those in need of some auditory inspiration, an exploration of auditory illusions is a great way to rediscover the enormous impact our brains have on what we hear. The website of Dr Diana Deutsch, an expert in the study of musical illusions and paradoxes, is a fantastic starting point. Her fascinating body of work can be explored online (<http://deutsch.ucsd.edu/psychology>) through a series of sound files. Just like the blue and black dress (or was it white and gold?) that took hold of the internet this year, Dr Deutsch's illusions force listeners to reconsider the notion that sound perception is consistent across individuals.



One of my favourite examples from the website is the Deutsch Tritone Paradox. The listener hears two computer-generated tones and is asked a very basic question: in terms of pitch, are the tones ascending or descending? Armed with a strong musical background, I listened to

DIANA DEUTSCH



the six tritones on the website and completed the ascending / descending categorisations with absolute confidence. My perception was clear in every case. As it turns out, however, the classification of tritones is anything but absolute. According to Dr Deutsch's explanation, the tritones are designed to be ambiguous in terms of what octave they fall into, even though their note names (e.g. C# vs. A) are recognisable. The ambiguity forces the brain to take a perceptual guess and results in variability from person to person (and even within individuals when the tritones are transposed up or down). According to the website, many arguments have been started between musicians over this paradox.

Another illusion explores the concept of pitch circularity. Like the famous Penrose Impossible Staircase, a visual illusion that shows a continuous staircase that appears to ascend (or descend) indefinitely, the pitch circularity illusion presents a seemingly endless ascending scale.

These examples only scratch the surface of what is available on the website and the illusions themselves are far more compelling to listen to than could ever be adequately

described in words. Every illusion presented on the website is accompanied by a detailed overview of how and why it tricked our brains so convincingly. The website itself takes a no-frills approach, but it is well-organised and straightforward to navigate. Visitors to the website can also learn more about Dr Deutsch and her research, as well as purchase her books and CDs. Happy listening! – CF

