Comments

Comment by Carlyon:

The results of your experiment
resolved and an unresolved complex, listeners attended only to one interval (i.e., the one
Comment by Moore:

You found in condition MID-HIGH for the 100-Hz F0 a tendency for the sound falling in the higher spectral region to be judged as having a higher F0. You describe this effect as a “bias”. However, the effect may arise at least partly as a result of a pitch shift. When subjects match the pitch of two signals falling in different spectral regions, systematic shifts may be found (Walliser 1969; Ohgushi 1978; Moore and Moore 2003a,b). This occurs even for musically trained subjects, who are presumably familiar with the difference between pitch and timbre.


Reply:

We agree that a shift in spectral region may indeed lead to a change in the perceived pitch. In fact, our way of estimating what we term bias explicitly assumes this. So the bias we describe is not the same as a procedural bias or a shift in criterion, as defined in signal detection theory. However, one might still argue that if the listener’s task is to judge F0, then any change in response (including changes in the sensory dimension of interest – i.e. pitch) caused by a variable other than F0 may be termed bias, as it is a shift in perception not directly related to the physical variable in question.

Comment by Moore:

You have taken up the suggestion that I made in 1982, namely that the range of time intervals that can be analysed accurately at a given CF is related to the CF and limited to about 15 times 1/CF. A possible reason why this may be the case is that the time interval information in a given neurone or small group of neurones is analysed with limited accuracy before information is combined across neurones. This limited accuracy would mean that, when the CF was high relative to F0, information about temporal fine structure would be lost, and only envelope information would remain; this would lead to relatively poor accuracy in the coding of the period corresponding to F0.