

# Aural Awareness

- Read: George Pratt, *Aural Awareness: Principles and Practice* (Open University Press, second edition 1998), especially pp 9-30.
- Q. What is *aural awareness*?
- A. *Aural awareness* is about being able to read and respond to the musical world around you.

# Informed Listener

- Able to *break music* down into constituent elements, but also put them together into some form of *synthesis* such that we are:
- Able to *retain* ideas of form and:
- Able to *articulate* ideas and features present in music with:
- Correct and precise vocabulary.

# Why is it important for the musician?

- ‘Aural perception is self-evidently indispensable in musical activity, in creating through composing, re-creating in performance, responding as a critical listener’ (Pratt, *Aural Awareness*, 1)

# Assessment

- But the skills which generally and practised are mostly influenced by the ease with which they can be assessed.
- Aural Awareness must be more than just perceiving, identifying and naming aspects of pitch and duration.

# Typical Aural Tests

1. Identifying letter-names and time-values of notes as they are played
- 2. Imitating singing and clapping of melodies and rhythms
- 3. Writing music down at various levels of complexity, from individual intervals, through single-line, two-part – four-part.
- 4. Naming all the pitch-based musical phenomena like cadences, modulations and harmonic progressions
- 5. Spotting wrong notes in performance

# What Aural Test Generally Omit

- All above heavily reliant on *Pitch and Duration*

But ignore:

1. *Range and Tessitura* of instruments and voices
  2. *Density and Distribution* of sounds and the textures within which they are performed
  3. Range of *Timbres*, articulations and phrasings
  4. *Sound Positions* in space and how they relate to each other structurally
- 5. *Pace* at which all these elements may occur

# Perception – of music and limits of hearing

- Any analysis of sound as music involves some constant or invented set of rules.
- Scientific relationships in acoustics do relate to perception in most musical systems. But there is wide discrepancy in societies as to what music is, and the rules that govern it.
- Music does elicit an response and does alter behavior patterns – but in dissimilar ways for different peoples.

# What is music

- Q.Is there a difference between musical and non-musical sound (noise)? A.Normally yes but this is culturally conditioned.
- Music must involve a listener and involve intention.

One interpretation of music is that it is  
`Humanly organised sound' - but what of  
birdsong then? Is it music?

# Physical Properties

- Must be in a medium – air, water, etc.
- Has pitch (frequency of wave as expressed as cycles per second – Herz). (High or low in relation to other sounds)
- Amplitude – intensity (how loud it is)
- Duration – (how long it goes on for)
- Phase (interaction of waves as they reflect and collide) – complex and depends on combinations of sounds and positioning
- Natural sounds are always complex involving lots of overtones – sine waves can only be produced by machines.

# Musical Sounds

- Instruments/voices involve a mix of fundamental and upper partials from the *harmonic series*.
- E.g. Bassoon at E 329 = 40% fundamental, 29% 2<sup>nd</sup> partial, 25% 3<sup>rd</sup> partial, 5% 4<sup>th</sup> partial.
- Most sounds have a complex wave form that can be broken down by Fourier analysis.
- Always involve the harmonic series in some way. Basic intervals approximate to the harmonic series and can be expressed as a fraction or a ratio, e.g. 2:1, 3:2, 4:3, 5:4.

# Human Perception

- Limits for average young human from 19 to 16,000-20,000 Herz. Limits contract as we age.
- Bottom of piano 27.5 top 4,186 – we do not use the top of our hearing much as pitch becomes imprecise to human ear. Dogs do! Lowest sounds can only be felt (unless you are a whale).
- We do not use frequencies which approach pain threshold (pitch becomes imprecise) in excess of 130 dB – orchestras 40dB to 90/100. Limits are routinely used for torture purposes.

# Noise

- Involves frequencies at any point on a continuous scale.
- Musical frequencies are discrete and precisely located involving notes a scale selected to produce effects by virtue of the fact that their *fundamentals are related* and/or their partials are related – thus constituent notes of a chord will be multiples of functions of multiples. Thus when b and c are played together they have harmonics up to the 15<sup>th</sup> that beat together.
- With music the fundamental may vary as notes change but there will be fairly consistent set of partials – not a characteristic of noise.

# Judgement

- Judgments about music all involve comparing recent memories with less recent memories. Conditioned by our enculturation.
- Present – for pitch to be distinguishable it must be constant for some length of time before it can be interpreted – more time before loudness, order, etc, can be discerned – 0.05 seconds the minimum.
- Past – music only has meaning once it becomes part of the past – emotional response to music involves cognition rather than just hearing – expectation is always at the centre of musical experience.
- We must be familiar with some of the sets of conventions of a musical language to be elicit response.