Speech and music, effability and ineffability

An extraordinary plenary session for the
International Conference on Music Perception and Cognition

Participants: Jane Davidson, John Napier, Emery Schubert, Joe Wolfe.
Four participants and four seats: all is ready for a structured debate, as advertised in the programme. Obviously there will be demonstrations, because in front of John there is a cello and a music stand. Two further music stands and two further instruments are temporarily hidden from view. Joe puts up an overhead and begins speaking.

Joe: The introduction printed in the proceedings attracted criticism of two different sorts. One is that the observations are unsupported by the evidence, speculative, foolish and wrong. The other is that they are so obvious and self-evident that they have been well known and widely accepted for many years. Encouraged by these criticisms, we shall discuss these and related ideas in this session.

Discussion of the possible utility of music is inevitably speculative, and so of limited scientific value. But it's also fun. In that spirit, the participants have been invited to be speculative and to relax the constraints that they would apply if writing for peer review. Let me introduce them. Jane Davidson studies expressive movement and social effects on learning music. She's also well known as a soprano. John Napier researches popular music, improvisation and the music of India. He's also a fine cellist. Emery Schubert, as well as being a conductor and horn player, has been studying emotional response to music.

Let me start by oversimplifying the acoustical argument: in speech, we perceive timbre categorically, and we use phonemes, which are timbre elements, to create words and thus to generate highly detailed, specific meanings. The 'text' of speech is effectively transmitted digitally via parameters corresponding to timbre in music. In music, we perceive pitch and elements of rhythm categorically. The 'text' of music—most of what is written in music—is conveyed digitally via pitch and rhythm. Music communicates, but in a much less detailed and less specific way.

Joe puts up another overhead showing the 'cello solo and some explanatory text. The text and music have been written so that, before compression, they have approximately the same explicit information content. John begins to play. Jane joins in with four notes at the end, as though improvising. Her notes are not written on the overhead version.)
Joe: How precisely have we communicated the meaning of the two 'texts'? Some would say that this is missing the point: music communicates differently and communicates different things. Music doesn't make you know, it makes you feel. Emery has been measuring emotional responses to music, using a two dimensional space, so he can tell us: how effective is emotional communication?

Emery: The two dimensional emotion space is based on a simplified representation of two salient dimensions of emotion - arousal (the excitement versus sleepiness of emotion) and the valence. Subjects broadly agree on the coordinates, and achieve a resolution that divides the space into about 10 by 10. Time changes can be as fast as every second or so.

Joe: And that would theoretically allow emotional communication at several bytes per second—comparable with the text of speech. But that's not how we use it.

Emery: The development over time is much more important in the emotional response, rather than simple decoding of icons. People may weep if you tell a sad story. They are unlikely to weep if you just say the word 'sad'.

Joe: And they won't laugh if you just say the word 'joke'. <pause—for maybe they will>

John: The grammars of speech and music are very different too. The grammar of tonal music—or even extended tonality music like that of Messiaen—influences what notes one can use in different contexts, even over long time scales. There's nothing analogous to that in speech.

Joe: So the choice of pitch is limited by formal or aesthetic considerations...

Jane: And the choice of note length is similarly limited by rhythmic considerations. Categorisation of note length works best if you have established a rhythm: <deliberately rhythmically>

To know if it's quavers or crotchets

You need to establish a rhythm.

John: <imitates rhythm and prosodic contour.>

Jane: Implying that communication may be ... in-eff-a-ble. <melodic/prosodic contour as before, but pitch not categorised.>

Emery: But those constraints are part of the communication, as well as being part of the ineffability.
Sprechgesang, words addressed to cello, not cellist

Well we asked John to bring his cello to demonstrate that very ineffability.

Yes we did (to cello)

(These notes are 'sung' only by the cello)

Of course you can communicate, but in a rather different way.

We vary the spectrum and envelope independently of the pitch:

Ba' and Do' have different meanings, even different grammatical functions.

So if instruments wanted to talk to us in our language They could change the timbre on
Perhaps Klang-far-ben-mel-o-die does have something to

each note: it sounds like Klang-far-ben-mel-o-die!

say to us after all!

E specially in ton-al mu-sic: Some notes just don't

You can show it with probetones

What are probetones?

no pulse

assorted strange expressions directed at horn

split notes, stopped notes, random notes ad lib.
Hold up 'outlier' card and that really cuts.

Down the notes you can use. So if you take a melody with the notes in one key.

That's a problem too: For music has its own set of rules: every note must fit in the rhythm: you can't just choose any notes that you want; they have rules: even obligatory to fit the rhythm. You choose notes they
must fit together without a clash to make a tonal song.

You can use a scale as a motif,

then just add the words and then we'll all harmonise you can just close your eyes and listen, sing in thirds.

Then we'll sing mel-is-ma a a a a a: that's a message.
too, and if you have no-thing left to say, just pause

For then you can re-state the theme: I don’t know

If you do, what’s that me-e-ean? And if the notes go

high we’ll share them a-round That’s called har-mo-ny For mus-i-c has its

up too share them a-round That’s called har-mo-ny For mus-i-c

own set of rules: ev’ry note must fit in the ry-thm: You have to make sure the notes will all fit, just

has rules: e-ven ob-li-ga-ti have to fit the ry-thm You choose notes just
like in a canon, or in a fugue to make a tonal song!

That's right! You can repeat a phrase in music and it's all part of...
S. Bsn Hn Vc.

149

<table>
<thead>
<tr>
<th>S.</th>
<th>Bsn</th>
<th>Hn</th>
<th>Vc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poco vivace</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oh yes you can!</td>
<td>Oh no you can't</td>
<td>Oh yes you can!</td>
<td></td>
</tr>
</tbody>
</table>

159

<table>
<thead>
<tr>
<th>S.</th>
<th>Bsn</th>
<th>Hn</th>
<th>Vc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can and then invert see how it works: you can go on all day!</td>
<td>Can and then invert see how it works: you can go on all day!</td>
<td>Change just one note you can repeat you can go on all day!</td>
<td></td>
</tr>
</tbody>
</table>

168

<table>
<thead>
<tr>
<th>S.</th>
<th>Bsn</th>
<th>Hn</th>
<th>Vc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can repeat A simple phrase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ff</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

178

<table>
<thead>
<tr>
<th>S.</th>
<th>Bsn</th>
<th>Hn</th>
<th>Vc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can repeat, you can repeat! With just four notes you can go on and on and on and on</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
with just four notes you can create a little motif or a theme. Don't have to work, don't have to think, Don't have to sweat don't have to dream! And if we change the colour and we make the leap a perfect

It sounds completely new!

Horn appears bored, then begins some other activity (eg reading) while playing the pedal note.
If I could put it into words I wouldn't need music.

Perhaps...

If it is in D, we'll see if we can eff it any how.

A piacere
Andante

But if words were all we had...

There would be no I C M P C, No trips to Sydney: we'd have to find another job:

What could we do without music? No sheep herd tones, no ring tones on phones.

have to find a job, There'd be no sheep herd tones, no ring tones on phones; hey that seems to be a good idea:

Oh what a world! What a world, without a song to sing!

dea: imagine such a world! But tell me where would we be without words? Where would we...
Music has it all! You can say it all, you can feel it all.

But if words were all we had, there would be no songs to make you, no music to take you a-

way from the world. And no harmonies to bring you.
There'd just be words...

What are words for?

Five minutes left we

Must conclude

To run away would just seem rude

No! If we stop now they'll all ask questions so...

Moderato

Moderato

con luce

con luce
We need some music all can sing.

Perhaps we'll get them all to sing along.

I think we'll manage.

Accelerando

It's not hard to sing an ostinato, it's not very hard to sing an ostinato.

Repeat until male chorus is confident.

Invites audience

Last time only:

Invites audience
Repeat only if necessary for confidence

La la la la, La la la la, La la la la, La la la la, La la la la, La la la la, La la la la, La la la la.

Gen-tle-men sing: La la la la.

Repeat only if necessary for confidence

La la la la.

And if it is in-eff-a-ble Just what that means we can't be sure of

La la la la, La la la la, La la la la, La la la la, La la la la, La la la la, La la la la, La la la la.

And if it is in-eff-a-ble Just what that means we can't be sure of

La la la la, La la la la, La la la la, La la la la, La la la la, La la la la, La la la la, La la la la.

To take the in-ex-press-a-ble What e-ver that is we want more of

To take the in-ex-press-a-ble What e-ver that is we want more of

To take the in-ex-press-a-ble, that is we want more of

that. If mus-i-c is in-eff-a-ble We'll see if we can eff it a ny-how

that. If mus-i-c is in-eff-a-ble We'll see if we can eff it a ny-how

that. If mus-i-c is in-eff-a-ble we can eff it a ny-how

J.Wolfe@uwm.edu.wu  www.phx.uwm.edu.ar\wilce.html