The Cardinal Vowels

Text of Daniel Jones’s Recordings

ENG 252

This is a record of eight vowel-sounds which it is found convenient to use as primary cardinal points in phonetic research. The vowel-sounds of any language can be described by reference to them. They are said here approximately on the note F️ of New Philharmonic pitch.

The eight Primary Cardinal Vowels pronounced short:

No. 1  i  No. 2  e  No. 3  e  No. 4  a
No. 5  a  No. 6  o  No. 7  o  No. 8  u
    i  e  e  a  a  o  o  u

The eight Primary Cardinal Vowels pronounced long:

No. 1  iː  No. 2  eː  No. 3  eː  No. 4  aː
No. 5  aː  No. 6  oː  No. 7  oː  No. 8  uː
    iː  eː  eː  aː  aː  oː  oː  uː

The eight Primary Cardinal Vowels, each pronounced twice short and once long:

No. 1  i  i  iː  No. 2  e  e  eː  No. 3  e  e  eː  No. 4  a  a  aː
No. 5  a  a  aː  No. 6  o  o  oː  No. 7  o  o  oː  No. 8  u  u  uː
In the principal section of this record the same Cardinal Vowels are said in pairs for comparison. They are pronounced approximately on the note F\# of New Philharmonic pitch.

The eight Primary Cardinal Vowels pronounced in pairs for comparison:

No. 1 and No. 2. i e i e i:e:i:e:
No. 2 and No. 3. e e e e e:e:e:e:
No. 3 and No. 4. e a e a e:a:e:a:
No. 4 and No. 5. a a a a a:a:a:a:
No. 5 and No. 6. a o a o a:o:a:o:
No. 6 and No. 7. o u o u o:o:o:o:
No. 7 and No. 8. o u o u o:o:o:o:

The eight Primary Cardinal Vowels pronounced with a falling intonation (\): i: e: e: a: o: o: u:

The eight Primary Cardinal Vowels pronounced with a rising intonation (/): i: e: e: a: o: o: u:
There are ten Secondary Cardinal Vowels, which may be numbered from 9 to 18. The first eight of these are formed with the same tongue positions as the eight Primary Cardinal Vowels, but they have different lip positions. For instance, No. 9 has the tongue position of No. 1, but is said with rounded lips, and No. 16 has the tongue position of No. 8, but is said with spread lips.

Here are the first eight Secondary Cardinal Vowels said approximately on the note F of New Philharmonic pitch.

<table>
<thead>
<tr>
<th>No. 9</th>
<th>y</th>
<th>No. 10</th>
<th>ø</th>
<th>No. 11</th>
<th>øe</th>
<th>No. 12</th>
<th>øe</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 13</td>
<td>ø</td>
<td>No. 14</td>
<td>ø</td>
<td>No. 15</td>
<td>y</td>
<td>No. 16</td>
<td>u</td>
</tr>
</tbody>
</table>

Here are these two sounds said approximately on the same pitch as the others.

<table>
<thead>
<tr>
<th>No. 17</th>
<th>i</th>
<th>No. 18</th>
<th>u</th>
</tr>
</thead>
</table>

Numbers 17 and 18 have tongue positions intermediate between those of No. 1 and No. 8. No. 17 is said with spread lips, and No. 18 with rounded lips. Here are these two sounds said approximately on the same pitch as the others.
In this record various Cardinal Vowels are compared with each other.

*First set* (unrounded vowels Nos. 5, 14, 15, 16 and 17):

\[ \text{a \ a \ a \ u \ i \ i \ w \ y \ a} \]

*Second set* (rounded vowels Nos. 18, 9, 10, 11, 12 and 13):

\[ \text{u \ y \ o \ o \ o \ o \ o \ o \ o} \]

*Third set* (Nos. 16, 17 and 1):

\[ \text{u \ i \ i \ i \ i \ w} \]

*Fourth set* (Nos. 8, 18 and 9):

\[ \text{u \ u \ y \ y \ u \ u} \]

*Fifth set* (Nos. 8 and 16):

\[ \text{u \ u \ u \ u} \]

*Sixth set* (Nos. 7 and 15):

\[ \text{o \ y \ o \ y \ o:y:o:y} \]

*Seventh set* (Nos. 6 and 14):

\[ \text{e \ e \ e \ e:} \]

*Eighth set* (Nos. 13 and 5):

\[ \text{a \ a \ a \ a:a:a:a} \]

*Ninth set* (Nos. 17 and 18):

\[ \text{i \ u \ i \ u \ i\i:i:\i} \]