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Peter Ladefoged

Vowels and Consonants

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[**The sounds of *A Course in Phonetics***](#)

Chapter 2

2.Tones.

[2.1. The tones of Standard Chinese.](#)

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2.2 English intonation. Click on each sentence to hear it.

[2.3. *I'm going away* said as a normal unemphatic statement.](#)

[2.4. *Where are you going?* said as a normal unemphatic question.](#)

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[2.6. *Where are you going?* said with a rising pitch.](#)

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[2.8. *When danger threatens your children, call the police.*](#)

[2.9. *When danger threatens, your children call the police.*](#)

[2.10. *Jenny gave Peter instructions to follow.*](#)

[2.11. *Jenny gave Peter instructions to follow.*](#)

[2.12. An utterance in which there are no words,](#)

but in which the speaker sounds contented.

2.13 An utterance in which there are no words,
but in which the speaker sounds upset or angry.

Video of the vocal folds

Photographs of the vocal folds producing a sound at three different pitches

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The tones of Standard Chinese

To hear the sounds press [Play](#)

| STANDARD CHINESE ma | | | |
|----------------------------|-------------|------------------|---------------|
| Chinese Character | Tone symbol | Tone description | English gloss |
| 媽 | ˊ | high level | 'mother' |
| 麻 | ˊˊ | high rising | 'hemp' |
| 馬 | ˋ | low falling | 'horse' |
| 罵 | ˋˋ | high falling | 'scold' |

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The tones of Cantonese

To hear the sounds press [Play](#)

| CANTONESE si | | | |
|---------------------|-------------|------------------|---------------|
| Chinese Character | Tone symbol | Tone description | English gloss |
| 詩 | ˥ | high level | 'poem' |
| 試 | ˨˨˨ | mid level | 'to try' |
| 事 | ˨˨˨ | low level | 'matter' |
| 時 | ˨˨˨˨ | low falling | 'time' |
| 史 | ˨˨˨˨˨ | high rising | 'history' |
| 市 | ˨˨˨˨˨ | mid rising | 'city' |

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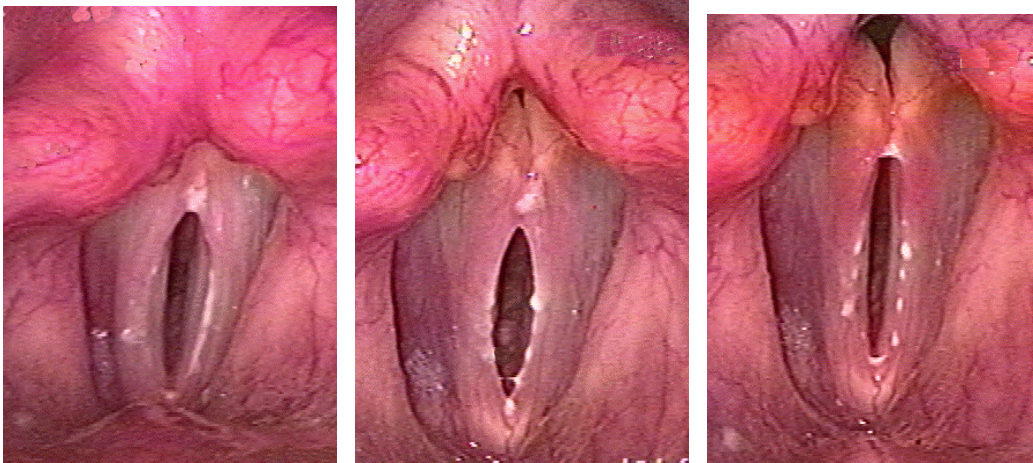
The vibrating vocal folds **(compare figure2.14 and 2.15)**



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**Photographs of the vocal folds producing a sound at three different pitches
(compare figure 2.16)**



120 Hz

160 Hz

200Hz

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Chapter 3

[3.1-4 The vowels of Spanish, Hawaiian, Swahili and Japanese](#)

[3.5 The vowels of American English](#)

[3.6 The vowels of BBC English](#)

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[To hear the Spanish vowels click here](#)

[To hear the Hawaiian vowels click here](#)

[To hear the Swahili vowels click here](#)

[To hear the Japanese vowels click here](#)

| SPANISH | | HAWAIIAN | |
|--------------|----------|-------------|------------------|
| masa | 'dough' | kaka | 'to rinse' |
| mesa | 'table' | keke | 'turnstone' |
| misa | 'mass' | kiki | 'to sting' (bee) |
| mosca | 'fly' | koko | 'blood' |
| musa | 'muse' | kuku | 'to beat' (tapa) |
| SWAHILI | | JAPANESE | |
| pata | 'hinge' | ma | 'interval' |
| peta | 'bend' | me | 'eye' |
| pita | 'pass' | mi | 'fruit, nut' |
| pota | 'twist' | mo | 'algae' |
| puta | 'thrash' | mu | 'nothing' |

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| | b__d | IPA | | b__d | IPA |
|---|-------------|------------|----|-------------|------------|
| 1 | bead | i: | 9 | bode | oʊ |
| 2 | bid | ɪ | 10 | booed | u: |
| 3 | bayed | eɪ | 11 | bud | ʌ |
| 4 | bed | ɛ | 12 | bird | ɜːr |
| 5 | bad | æ | 13 | bide | aɪ |
| 6 | bod(y) | ɑ: | 14 | bowed | aʊ |
| 7 | bawd | ɔ: | 15 | Boyd | ɔɪ |
| 8 | budd(hist) | ʊ | | | |

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| | b__d | IPA | | b__d | IPA |
|----|-------------|------------|----|-------------|------------|
| 1 | bead | i: | 11 | booed | u: |
| 2 | bid | ɪ | 12 | bud | ʌ |
| 3 | bayed | eɪ | 13 | bird | ɜ: |
| 4 | bed | ɛ | 14 | bide | aɪ |
| 5 | bad | æ | 15 | bowed | aʊ |
| 6 | bard | ɑ: | 16 | Boyd | ɔɪ |
| 7 | bod(y) | ɒ | 17 | beer | ɪə |
| 8 | bawd | ɔ: | 18 | bare | ɛə |
| 9 | budd(hist) | ʊ | 19 | byre | aə |
| 10 | bode | əʊ | 20 | boor | ʊə |

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Chapter 4

The words *heed, hid, head, had, hod, hawed* whispered.

The words *had, head, hid, heed* spoken in a creaky voice.

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Chapter 6

Click on a column to hear the words in that column

| | | |
|--------|-------|---------|
| b | buy | |
| d | die | |
| g | guy | |
| p | pie | |
| t | tie | |
| k | kite | |
| w | why | |
| j('y') | — | |
| l | lie | |
| r | rye | |
| m | my | ram |
| n | nigh | ran |
| ŋ | | rang |
| f | fie | |
| θ | thigh | |
| s | sigh | |
| ʃ | shy | mission |
| h | high | |
| v | vie | |
| ð | thy | |
| z | Zion | mizzen |
| ʒ | | vision |
| tʃ | chime | |
| dʒ | jive | |

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Chapter 7

The component sounds that buildup the phrase the "A bird in the hand is worth two in thebush".

Recording 7.1 is the phrase as a whole.

Click on each of the recordingsto hear the separate components.

[7.1 *A bird in the hand is worth two in the bush.*](#)

[7.2 Frequency and amplitudeof first formant](#)

[7.3 Frequency and amplitudeof second formant](#)

[7.4 Frequency and amplitudeof third formant](#)

[7.5 Frequency and amplitudeof all three formants](#)

[7.6 Frequency and amplitudeof all three formants and added resonances](#)

[7.7 Frequency and amplitudeof fricative and burst noises](#)

[7.8 Three formants, added resonances and fricative noises](#)

[7.9 Three formants, added resonances, fricative noises and pitch changes](#)

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Chapter 8

The words *leaf* and *feel*, played [forwards](#).

The same words played in reverse [backwards](#).

Concatenative speech synthesis.

There are three different examples of speech synthesis below.

Natural sounding synthesis of the first four sentences of this book by the Fonix Acuvoice system.

- 1 [Once upon a time, the most important animal sounds were those made by predators and prey, or by sexual partners.](#)
- 2 [As mammals evolved and signaling systems became more elaborate, new possibilities emerged.](#)
- 3 [Nowadays undoubtedly the most important sounds for us are those of language.](#)
- 4 [Nobody knows how vocal cries about enemies, food and sex turned into language.](#)

The first five sentences of this book as read by the Lernout and Hauspie Real Speak system. (This system is not mentioned in the text of the book, as it was not available when the book went to press. It uses many more examples of each stored diphone than the Fonix Acuvoice system.)

- 1 Once upon a time, the most important animal sounds were those made by predators and prey, or by sexual partners.
- 2 As mammals evolved and signaling systems became more elaborate, new possibilities emerged.
- 3 Nowadays undoubtedly the most important sounds for us are those of language.
- 4 Nobody knows how vocal cries about enemies, food and sex turned into language.
- 5 But we can say something about the way the sounds of languages evolved, and why some sounds occur more frequently than others in the world's languages.

This passage was also synthesized by the SPRUCE ('Spoken Response from UnConstrained English') system by Mark Tatham and Katherine Morton of the University of

Essex and Eric Lewis of Bristol University. SPRUCE uses concatenated syllables whenever it can find them in its data base, and pays special attention to the rhythm and intonation.

[play SPRUCE synthesis of the sentences](#)

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Chapter 11

[Tongue video](#)

[Jaw video](#)

[Larynx video](#)

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Tongue video

Click on the left side of the slider bar below the picture to see movement

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Jaw video

Click on the left side of the slider bar below the picture to see movement

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Larynx video

Click on the left side of the slider bar below the picture to see movement

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Chapter 12

[Some voiced-voiceless pairs in Burmese](#)

[A comparison of English \[b,p\] and Spanish \[b,p\]](#)

[Thai stops](#)

[Hawaiian consonants](#)

[Breathy voice](#)

[Hindi stops](#)

[Breathy voiced vowels in Gujarati](#)

[Creaky voice](#)

[Jalapa Mazatec vowels](#)

[Voice qualities and tones in Mpi](#)

[Quechua stops](#)

[Sindhi stops](#)

[Owerri Igbo](#)

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Voiced and voiceless nasals in Burmese

| NASALS | BILABIAL | DENTAL | PALATAL | VELAR |
|-----------|-----------------|----------------|----------------------|----------------|
| VOICELESS | m̥ã 'from' | ɲã: 'nasal' | ɲã: 'considerate' | ŋã 'borrow' |
| VOICED | mã 'lift up' | nã: 'pain' | ɲã: 'right' | ŋã 'fish' |

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A comparison of English and Spanish /b/ and /p/

| | b | p |
|---------|-----------------------------------|--|
| SPANISH | <i>besos</i> besos 'kisses' | <i>pesos</i> pesos 'pesos' (money) |
| ENGLISH | <i>bases</i> besɪz | <i>paces</i> p ^h esɪz |

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Thai stops

| | BILABIAL | DENTAL |
|--------------------------|------------------------------|--------------------------------------|
| VOICED | bâ: 'crazy' | dâ: 'curse' |
| VOICELESS UNASPIRATED | pâ: 'aunt' | ta: 'eye' |
| ASPIRATED | p ^h â: 'cloth' | t ^h â: 'landing place' |

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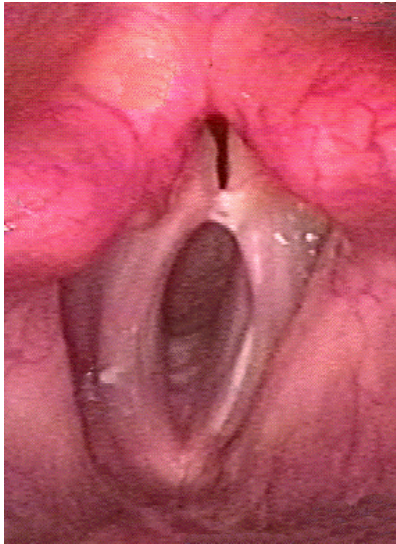
Click on ['Hawaiianconsonants'](#) to hear the sounds

| | BILABIAL | ALVEOLAR | VELAR | GLOTTAL |
|-------------|---|---|--|----------------------------------|
| STOP | paka 'to remove the dregs' | | kaka 'to rinse, to clean' | ?aka 'to dare' |
| NASAL | maka 'eye' | naka 'to quiver, to shake' | | |
| APPROXIMANT | waka 'sharp, protruding' | laka 'tame, gentle' | | haka 'shelf, perch' |

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The vocal folds at one moment in the cycle when producing breathy voice



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Hindi Stops

| | BILABIAL | DENTAL | POST-ALVEOLAR | PALATO-ALVEOLAR | VELAR |
|-------------|----------------|------------|---------------|-----------------|-------------|
| VOICED | ba | da | ɖa | ɟa | ga |
| | 'hair' | 'lentil' | 'branch' | 'net' | 'cheek' |
| VOICELESS | pa | ta | ʈa | tʃa | ka |
| UNASPIRATED | 'take care of' | 'beat' | 'postpone' | 'turn' | 'era' |
| VOICELESS | pʰa | tʰa | ʈʰa | tʃʰa | kʰa |
| ASPIRATED | 'knife blade' | 'plate' | 'wood shop' | 'bark' | 'skin' |
| VOICED | bʱa | ɖʱa | ɟʱa | ɟʃʱa | gʱa |
| ASPIRATED | 'forehead' | 'knife' | 'shield' | 'cymbals' | 'confusion' |

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Gujarati breathy sounds

| VOICED VOWEL | BREATHY VOWEL | VOICED ASPIRATED STOP |
|--------------------|------------------|-----------------------------|
| bar 'twelve' | baṛ 'outside' | b ^h ar burden |
| pər 'last year' | pəṛ 'dawn' | |
| kan 'ear' | kaṇ 'Krishna' | |
| mel 'dirt' | meḷ 'palace' | |

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The vocal folds at one moment in the cycle when producing creaky voice



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Voice qualities and tones in Mazatec

| VOICED | CREAKY | BREATHY |
|--------|------------|---------|
| | VOICED | VOICED |
| tha | nda' | nda |
| tʰæ | nda̰ | nda̰ |
| 'seed' | 'buttocks' | 'horse' |

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Voice qualities and tones in Mpi

| TONE (PITCH) | REGULAR VOICE | ENGLISH | TENSE VOICE | ENGLISH |
|-----------------|------------------|----------------|----------------|------------------|
| Low rising | si | 'to be putrid' | si | 'to be dried up' |
| Low level | si | 'blood' | si | 'seven' |
| Mid rising | si | 'to roll rope' | si | 'to smoke' |
| Mid level | si | (a color) | si | (classifier) |
| High falling | si | 'to die' | si | (name) |
| High level | si | 'four' | si | (name) |

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Some contrasting stops in Quechua

| | PALATO- ALVEOLAR | VELAR | UVULAR |
|-----------|---------------------|---------------|----------------|
| VOICELESS | tʃaka | kujui | qaʎu |
| | 'bridge' | 'to move' | 'tongue' |
| ASPIRATED | tʃʰaka | kʰujui | qʰaʎu |
| | 'large ant' | 'to whistle' | 'shawl' |
| EJECTIVE | tʃʼaka | kʼujui | qʼaʎu |
| | 'hoarse' | 'to twist' | 'tomato sauce' |

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The stops of Sindhi

| | BILABIAL | DENTAL | POST-ALVEOLAR | PALATAL | VELAR |
|-----------------------|------------------------------|---------------------------------|-------------------------------|-----------------------------|----------------------------|
| VOICED | həns 'forest' | ɖərs 'door' | ɖors 'you run' | ʃəts 'illiterate' | ɡəns 'quality' |
| VOICELESS UNASPIRATED | pəns 'leaf' | tərs 'bottom' | ʈns 'ton' | cəts 'to destroy' | kəns 'ear' |
| VOICELESS ASPIRATED | pʰənu 'snake hood' | tʰərs (district name) | ʈʰəfs 'thug, cheat' | cʰəts 'crown' | kʰəns 'you lift' |
| VOICED ASPIRATED | hɦəns 'manure' | ɖɦərs 'trunk' | ɖɦəfs 'bull' | ʃɦəts grab (n.) | ɡɦəns 'excess' |
| VOICED IMPLOSIVE | ɦəni 'field' | | ɖɦns 'festival' | ʃəts 'illiterate' | ɡɦəns 'handle' |

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Some contrasting stops in Owerri Igbo

| | BILABIAL | ALVEOLAR |
|-------------|-------------------|-------------------|
| VOICED | íba | ída |
| | 'to get rich' | 'to cut' |
| VOICELESS | ípa | ńtà |
| UNASPIRATED | 'to carry' | [name] |
| ASPIRATED | íp ^h à | ít ^h à |
| | 'to squeeze' | 'to blame' |
| BREATHY | íb ^h a | íd ^h a |
| VOICED | 'to peel' | 'to fall' |
| VOICELESS | íḡa | íḡa |
| IMPLOSIVE | 'to gather' | 'to chew' |
| VOICED | íḡa | |
| IMPLOSIVE | 'to dance' | |

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Chapter 13

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[Nunngubuyu dental and alveolar stops](#)

[Hungarian palatals](#)

[Malayalam nasals](#)

[Aleut stops](#)

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Some contrasting fricatives in Ewe

| | BILABIAL | LABIODENTAL |
|-----------|-----------------------------------|-------------------------------|
| VOICELESS | éɸá 'he polished' | éɸá 'he was cold' |
| | éɸle 'he bought' | éɸlé 'he split off' |
| VOICED | èβè 'Ewe' (language) | èvè 'two' |
| | èβló 'mushroom' | évlo 'he is evil' |

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Dental and alveolar stops in Nunggubuyu

| DENTAL | ALVEOLAR | RETROFLEX | POST-ALVEOLAR |
|----------------------------|---------------------------|--------------------------|-------------------------|
| ɬarag 'whiskers' | tarawa 'greedy' | ɭakowa 'prawn' | ɬaro 'needle' |

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Palatals in Hungarian

| | VOICELESS STOP | VOICED STOP | NASAL |
|-------------------|-------------------------------|-----------------------------------|-----------------------------------|
| INITIAL | tyúk ɕ 'hen' | gyújt ʝ 'he ignites' | nyújt ɲ 'he reaches' |
| BETWEEN VOWELS | atya ɕɕ 'gather' | agya ɕʝ 'his brain' | anya ɕɲ 'mother' |

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Contrasting nasals in Malayalam

| BILABIAL | DENTAL | ALVEOLAR | RETROFLEX | PALATAL | VELAR |
|------------|--------|----------|--------------------|----------------------------|---------|
| kammi | paṅṅi | kanni | kaṅṅi | kaɽɽi | maṅṅi |
| 'shortage' | 'pig' | 'first' | 'link in chain' | 'boiled rice and water' | 'faded' |

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Dental, velar and uvular stops in Aleut

| DENTAL | VELAR | UVULAR |
|-----------------|------------------|-----------------------|
| <i>tiista</i> â | <i>kiika</i> â | <i>qiïgha</i> â |
| tiistaç | kiikaç | qiïyaç |
| 'dough' | 'cranberry bush' | 'grass' |
| <i>taanga</i> â | <i>kaangu</i> â | <i>qaadan</i> |
| taangaç | kaanguç | qaaðan |
| 'water' | 'healthy' | 'dolly varden' (fish) |

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Bilabial and alveolar trills in Kele and Titan.

| | KELE | | TITAN | |
|----------|--|------------------------------|-----------------------------------|---|
| BILABIAL | m _{BUEŋ} kei? ‘fruit’ (species) | m _{BULIM} ‘face’ | m _{BULEI} ‘rat’ | m _{BUTUKEI} ‘wooden plate’ |
| ALVEOLAR | n _{RUWIN} ‘bone’ | n _{RIKEI} ‘leg’ | n _{RULI?} ‘sandpiper’ | n _{RAKEI?IN} ‘girls’ |

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Southern Swedish

| | | |
|------------|-------------|------------------|
| rat | <i>ratt</i> | 'steering wheel' |
| rot | <i>rått</i> | 'raw' |

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Polish sibilant fricatives

| | ALVEOLAR | RETROFLEX | ALVEOLO-PALATAL |
|----------------------|--------------------------------------|--|--------------------------------------|
| VOICELESS INITIAL | sali sali 'room' (gen.) | szali ʂali 'scale' (gen.) | siali ɕali 'sown' |
| VOICED INITIAL | zalew zalef 'bay' | żali ʐali 'complains' | ziali ʑali 'gasped' |
| VOICELESS MEDIAL | kasa kasa 'case' | kasza kaʂa 'groats' | kasiasz kaɕaʂ 'burglar' |
| VOICED MEDIAL | skaza skaza 'flaw' | gaż a gaʐa 'gauze' | kazia kaʑa (name, gen.) |

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Toda Sibilants

| DENTAL | ALVEOLAR | POST-ALVEOLAR | RETROFLEX |
|------------------------|------------------------|---------------------------|---------------------------------|
| kɔ̃ʒ 'money' | pɔ̃sʸ 'milk' | pɔ̃ʒ 'language' | pɔ̃ʒ (name of a clan) |

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Melpa laterals

| | DENTAL | ALVEOLAR | VELAR |
|----------------------|--------------------------------|--------------------------------------|------------------------|
| MEDIAL | kial̥im 'fingernail' | lola 'speak improperly' | pala 'fence' |
| FINAL (VOICELESS) | waɬ 'knitted bag' | baɬ 'apron' | jaɬ 'two' |

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Zulu laterals

| | ALVEOLAR | NASAL PLUS ALVEOLAR | VELAR |
|--|--|---|--|
| VOICED LATERAL APPROXIMANT | lala lálà 'sleep' | | |
| VOICED LATERAL FRICATIVE | dlala ǃálà 'play' (imper.) | indlala ínǃàlà 'hunger' | |
| VOICELESS LATERAL FRICATIVE / EJECTIVE | hlanza ǀánzà 'vomit' | inhlanhla ǀntǀ'ǀntǀ'ǀ 'good luck' | tina kǀ'íná 'be naughty' |

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Clicks in Nama

(All these words have a high tone)

| | DENTAL | ALVEOLAR | PALATAL | ALVEOLAR LATERAL |
|--------------------------|---------------------------------------|--|--|--|
| VOICELESS UNASPIRATED | k oa 'put into' | k!oas 'hollow' | kɸais 'calling' | k aros 'writing' |
| VOICELESS ASPIRATED | k^ho 'play music' | k^hoas 'belt' | kɸ^haris 'small one' | k ^haos 'strike' |
| VOICELESS NASAL | ŋ ^ho 'push into' | ŋ !^hoas 'narrating' | ŋ ɸ^hais 'baboon's arse' | ŋ ^haos 'cooking place' |
| VOICED NASAL | ŋ o 'measure' | ŋ!oras 'pluck maize' | ŋɸais 'turtle dove' | ŋ aes 'pointing' |
| GLOTTAL CLOSURE | k ^ʔoa 'sound' | k!^ʔoas 'meeting' | kɸ^ʔais 'gold' | k ^ʔaos 'reject a present' |

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X-ray of a Click

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Chapter 14

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French oral vowels

| FRONT | | BACK |
|---------------------------------|-----------------------------------|--------------------------------|
| UNROUNDED | ROUNDED | |
| lit li 'bed' | lu ly 'read' (p.p.) | loup lu 'wolf' |
| les le 'the' (pl.) | le lø 'the' (m. sg.) | lot lo 'prize' |
| laid le 'ugly' | leur lœr 'their' | lors lɔr 'during' |
| la là 'there' | | las la 'tired' |

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Swedish Vowels

| | FRONT | | | | BACK | |
|----------|--------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|--|--|
| | UNROUNDED | | ROUNDED | | | |
| | LONG | SHORT | LONG | SHORT | LONG | SHORT |
| HIGH | rita ri:ta 'draw' | ritt rit 'ride' (n.) | ryta ry:ta 'roar' | nytta ny:ta 'use' (n.) | rota ru:ta 'root' | rott røt 'rowed' |
| MID-HIGH | reta re:ta 'tease' | rätt ret 'correct' | ruta rø:ta 'window pane' | rutt røt 'route' | Råta ro:ta (name of a valley) | rått røt 'raw' |
| MID-LOW | räta re:ta 'straighten' | | röta rø:ta 'rot' | rött røt: 'red' | rata rø:ta 'refuse' | |
| LOW | här hæ:r 'hear' | | hör hø:r 'hear' | | | ratt rat 'steering wheel' |

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German vowels

| | FRONT | | | | BACK | |
|------------|--|---|--|--|--|--|
| | UNROUNDED | | ROUNDED | | | |
| | LONG | SHORT | LONG | SHORT | LONG | SHORT |
| HIGH | bieten bi:tən 'offer' | bitten bi:tən 'ask' | wüten vy:tən 'rage' | Bütten by:tən 'tubs' (dat. pl.) | buten bu:tən 'booed' | Butten bʊ:tən 'flounders' (dat. pl.) |
| MID-HIGH | beten be:tən 'pray' | | böten bø:tən 'offered' (subj.) | | Booten bø:tən 'boats' (dat. pl.) | |
| MID-LOW | beten be:tən 'asked' (subj.) | Betten betən 'beds' | | Böttingen bø:tiŋən (name of a town) | | Bottich bø:tiç 'vat' |
| LOW | | Baten batən (name of a town) | | | baten ba:tən 'asked' | |
| DIPHTHONGS | | weiten va:itən 'widen' | Beute bø:itə 'booty' | | bauten ba:utən 'built' | |

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Scottish Gaelic Long Vowels

| | FRONT | BACK ROUNDED | BACK UNROUNDED |
|--------------|---|--------------------------------|--|
| HIGH | bìodach pi:təx 'tiny' | bùth puːʰ 'shop' | baothair pu:həðˠ 'idiot' |
| MID- HIGH | beudach pe:təx 'harmful' | bò po: 'cow' | foghlam fɔ:lˠəm 'education' |
| MID- LOW | Gaidheal kə:əlˠ 'Gael' | bòid po:tˠ 'oath' | |
| LOW | bàidse pa:tə 'musician's fee' | | |

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French oral and nasal vowels

| ORAL | NASAL | ORAL | NASAL |
|-----------|-----------|------------|-------------|
| laid | lin | leur | lundi |
| le | lĕ | lœr | lœdi |
| 'ugly' | 'flax' | 'their' | 'Monday' |
| las | lent | lot | long |
| la | lã | lo | lõ |
| 'tired' | 'slow' | 'prize' | 'long' |

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!Xóõ vowels

| PLAIN (VOICED) | PHARYNGEALIZED | STRIDENT (EPIGLOTTALIZED) | BREATHY |
|-----------------------------------|---------------------------|------------------------------|------------------------|
| k áa 'camelthorn tree' | qáʼa 'long ago' | k!ào 'base' | k!ḁo 'slope' |

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video of French nasalized vowels

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Chapter 15

She sells seashells on the seashore and the seashells that she sells are seashells I'm sure.

Perception experiment 1

Perception experiment 2

Perception experiment 3

Oro Win

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Perception experiment1

Click on the sentence below to hear it:

[They thought it was Jane who could be brave and in the team.](#)

When you hear this sentence again there will be an "s" from another sentence superimposed on it. Your task is to say on which word or between which words this superimposed speech sound occurs.

Click on the sentence below to hear it with the superimposed "s".

Listen to this sentence only once before saying where the "s" occurs.

[They thought it was Jane who could be brave and in the team.](#)

[Answer](#)

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Perception experiment2

Click on each of the two sounds below to hear them.

[Sound\(1\)](#)

[Sound\(2\)](#)

Now listen to two complex sounds, each containing both of these sounds. Your task is to say whether Sound (1) comes at the beginning or the end of Test 1 & Test2.

You may listen to each Test twice.

[Test 1](#)

[Test 2](#)

In this part of the test you will hear pairs of sounds. Your task is to decide whether the members of the pair are the same or different. If you don't know just guess. You may be doing better than you expect.

[Pair 1](#)

[Pair 2](#)

[Pair 3](#)

[Pair 4](#)

Pair 5

Answers

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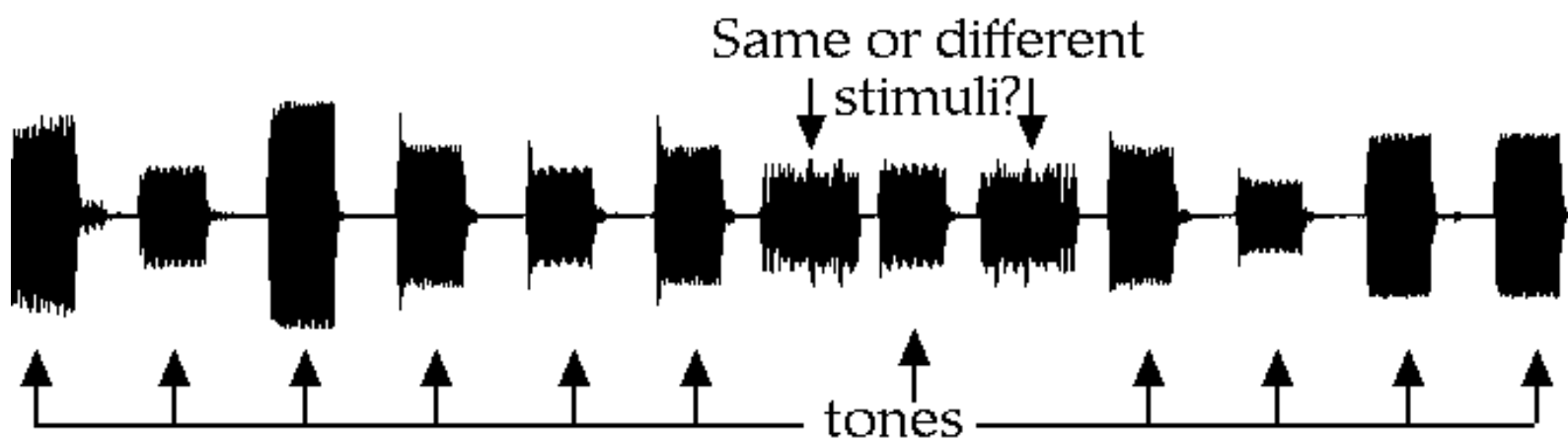
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Perception experiment 3

In this experiment the pairs of sounds you heard in previous experiment come in the middle of the sound of a telephone dialing.

[Listen to these telephone noises by themselves.](#)

In the five sets of sounds below these telephone noises are always present. You must disregard them, and consider only the sounds that are the same as those you heard in the previous experiments. Superimposed on each set of telephone noises there is a pair of sounds of the type that you heard previously. Your task is to say whether the members of the pairs are the same or different. If you don't know whether the members of the pair are the same or different, just guess. [Hint: Most people guess.]



[Pair 1](#)

Remember. Just listen for the pairs of sounds that were in the previous experiment

Pair 2

Pair 3

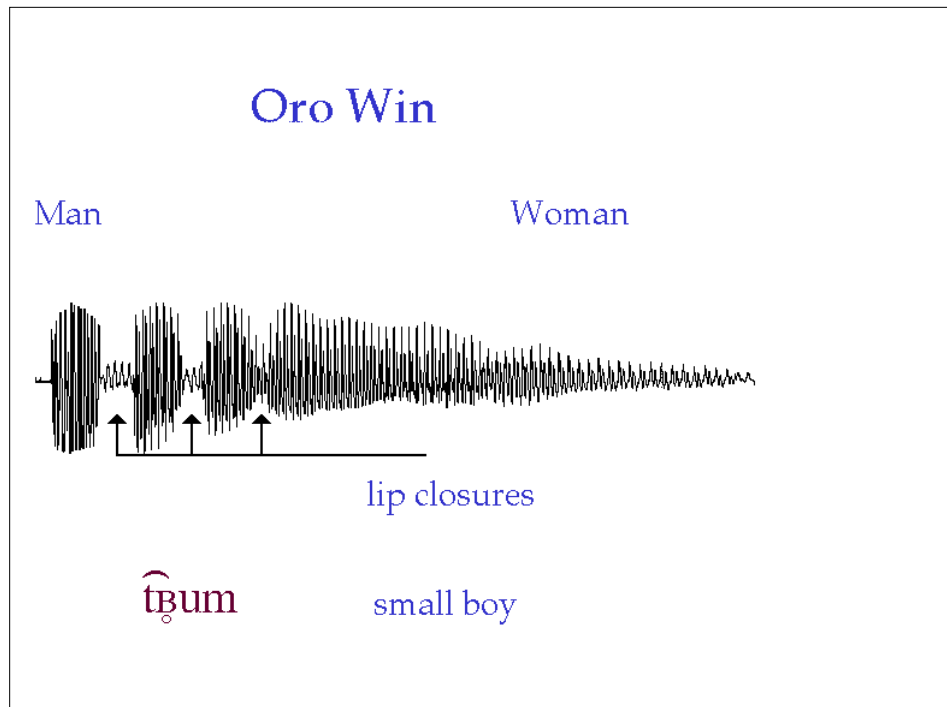
Pair 4

Pair 5

Answers

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Click on 'Man' or 'Woman' to hear these speakers

[Half speedrecording man](#)

[Half speedrecording woman](#)