Demos for Articulatory Phonetics

This collection of demos has been assembled to accompany the course *"Einführung in die Phonetik I und II"* at IPSK, Munich. A separate document providing links to the individual units of the course, and to the specific demos referred to in each unit is available here (handoutlinks.pdf). The present document provides: (1) Background (details of the sources, and of the overall conception of the demos), (2) Hints for effective use of the Acrobat Reader, (3) A complete list of demos.

Please contact me (hoole@phonetik.uni-muenchen.de) if you notice any missing or erroneous links or other mistakes. If you are a native speaker of any of the languages presented here I am always interested to hear your opinion of the examples - and maybe to use *you* as a source of additional or improved material!

1. Background

The IPAKielSeven font used in this collection of documents is from LaserIPA® for Windows® by Linguist's Software. Mention '20% off-Institut für Phonetik referral' in the Special Instructions window of the Order Form to get a 20% discount at www.linguistsoftware.com/li.htm

The main sources are:

(1) UCLA Linguistics Dept. *'Sounds of the World's Languages'*, Web Edition 2001. This is referred to in the demos as ***SoWL*** and is used as an overall term for material available from UCLA for download. See http://hctv.humnet.ucla.edu/departments/linguistics/VowelsandConsonants
Essentially, this material corresponds to the SoWL Hypercard demos available on the Macintosh. Much

of this material is on the CD accompanying *Vowels and Consonants* by P. Ladefoged (Blackwell, Oxford, 2001). This CD also includes the examples used in the same author's *Course in Phonetics* (4th ed., Harcourt College Publishers, 2000). See below for more information on accessing SoWL material.

(2) The sound files on which the *Illustrations of the IPA* in the *Handbook of the IPA* (CUP, Cambridge, 1999) are based. These examples are available from http://web.uvic.ca/ling/ipa/handbook

(3) Material available at IPSK, some of it specially recorded for these demos.

(4) A cassette tape distributed by P. Ladefoged on "*Phonation types*" (includes some material not otherwise available under SoWL).

For further discussion of the examples contained in these demos the user is frequently referred to appropriate pages in the book *Sounds of the World's Languages*, by P. Ladefoged and I. Maddieson (Blackwell, 1996), and also to *Principles of Phonetics* by J. Laver (CUP, 1994).

The demos were designed with the following features in mind:

- thematic organization
- explanatory material tuned to the needs of the course
- explanatory material directly incorporated in the demo files
- comparison (where possible) of different sources for the examples
- high-quality, platform-independent fonts for the phonetic transcriptions
- readily available sonagrams of the utterances
- indexes for full-text search across all documents

None of the available resources provide all these features.

Access to material from *Sounds of the World's Languages*

SoWL constitutes a truly massive resource, and obviously it was not possible to incorporate into our own framework all the potentially relevant material it offers. Thus it is still well-worth consulting for further examples (and in some cases also for further information on material already incorporated in our own demos). Hints for this are given where appropriate. To facilitate this we have set up three PDF files containing details of all the SoWL material. They correspond to the division made on the UCLA website into examples from ***Course in Phonetics***, examples from ***Vowels and Consonants***, and examples not in the first two - referred to as ***SoWL Appendix***. The latter is particularly interesting because it retains all the explanatory notes (including lots of maps) from the original Macintosh Hypercard version, whereas for the first two groups it is necessary to consult the books themselves for (often essential) explanations; the online material just gives the bare bones of the examples. The sounds themselves are not directly available in these PDF files; they retain the URLs to the sounds on the UCLA server (alternatively listen to the sounds on a Macintosh, or use the *Vowels and Consonants* CD, if available).

We have not incorporated any links from our own demos directly to relevant locations in these PDF files; however they have been indexed together with the rest of our files. So they are accessible to the Acrobat Search function (unfortunately, apart from names of languages not much of the text in *SoWL Appendix* is searchable). In addition, the three files can be accessed via our PDF version of the title page of the UCLA website (**sowl_title.pdf**). This title page has language and sound indices (the last one is especially useful) ranging over all three sets of examples. Note, however, that these indices currently still link back to the original locations on the UCLA website. The *Course in Phonetics* and *SoWL Appendix* documents each have separate language indices which do work offline within the PDF documents.

2. Hints for using the Acrobat Reader

The demos and handouts were generated for Version 4 of the Acrobat Reader. Please let me know if any problems are encountered with newer versions of the Reader. Version 4 can be installed from the CD-ROM version of these demos (see the acroread subdirectory).

Basic instructions: Unless stated otherwise

- Click on the phonetic transcription to hear the sound using the Acrobat Reader's built-in sound function (not available on Linux).
- Click on the ▶ symbol to hear the sound using the helper application for WAV files.
- Click on the English translation of the example word to see the sonagram (using the helper application for JPEG files).

Further hints for effective use:

(1) When a link to a new PDF file is followed, it will usually be more convenient if the new file opens in a separate window, rather than replacing the current window (in particular, this gives the easiest way of getting back to handoutlinks.pdf via the Window drop-down menu). To obtain this behaviour, choose **File>Preferences>General (Options)** and turn off the check mark in the "Open cross-doc links in same window" option.

(2) The bookmark feature can be useful for navigating in the handoutlinks.pdf document, and in some of the larger demos: Choose "Show bookmarks" in the Window drop-down menu (or press F5).

(3) All the demos, as well as the handouts for the course block "Artikulatorische Phonetik" have been indexed. This means that the Acrobat Reader's Search feature (not available on Linux systems) can be used to look

for sound categories, languages etc. anywhere in this material, independently of the ready-made links in the present document and in handoutlinks.pdf.

The correct index should be made available automatically when this document, or handoutlinks.pdf is opened (If not use **Edit>Search>Select Indices**, and choose the index named *ipa_index* (should be in the same subdirectory as the normal PDF documents).

To do searches use **Edit>Search>Query** and enter a term to search for (see the Acrobat documentation for details of search possibilities).
One useful feature: In **File>Preferences>Search (Query)**, if the "Show fields" option is checked it is possible to confine a search to the document information fields. These fields contain keywords etc. characterizing the main topics in the document, whereas searching the full text of the documents may sometimes give search results with a lot of incidental or irrelevant material (one unfortunate specific case: the bodies of the documents have references to both mouse-clicks and the sound-category clicks, while only the latter are used as subject or keyword for a document.

(4) It may be useful to change the default application used to view the JPEG sonagram files, and to play WAV files.

On Windows platforms:
In Windows Explorer choose **View>Options>File Types** (Ansicht>Ordneroptionen>Dateitypen).
For example, JPEG files are often opened in a browser, but for these demos I have found the QuickTime Picture Viewer more convenient, especially if you want to arrange several sonagrams on the screen at once. The main reason for opening the sonagrams in a helper application, rather than embedding them permanently at fixed points in the text of the demos was precisely to allow users to determine for

themselves what sonagrams it would be most interesting to compare
Find the entry for JPEG files, choose **Edit** then select **Action Open**, choose **Edit**, uncheck the DDE box, and for **Application used to perform action** insert (assuming this is where the exe file is installed):

C:\Programme\QuickTime\PictureViewer.exe "%1"

(QuickTime is available from http://www.apple.com . A Windows version can also be installed from the quicktime subdirectory on the CD-ROM)

Proceed in similar fashion to choose an application for WAV files if desired.
One reason for making the sounds available both by means of the Acrobat's internal sound function (on Windows systems) as well as via a helper application, is that the latter method should help users to identify interesting sound files. It is hoped they may then try to experiment with accessing these files with general purpose speech editing software such as Praat (see http://www.fon.hum.uva.nl/praat for download instructions).

On Linux platforms:
The .mailcap file must be edited (ask a system administrator for help, if necessary) to change the application assigned to WAV and JPEG files. At IPSK the JPEG files are currently opened by default with the **xv** application, which seems to give very satisfactory results. If the sound files do not play properly try the following line in the .mailcap file: **audio/* ; play %s**

3. List of Demos

ABC Prosody

Amharic ejectives

Arabic (place of articulation)

Back unrounded vowels (Korean, Thai, Turkish)

Ewe labials

Five-vowel systems (Spanish, Japanese)

French glides

Laryngealization (Hausa, Danish)

Malayalam (place of articulation)

Mpi (voice quality, tone)

Multiple voicing contrasts (Hindi, Sindhi, Thai, Korean)

Norwegian vowels (3-way front-back contrast)

Polish fricatives

Portuguese vowels

Quechua (ejectives)

r-sounds (Czech, Sindhi, Catalan, German)

Russian l (light vs. dark)

Secondary articulations (Amharic, Igbo, Irish, Arabic, Russian)

Sindhi implosives

Time reversal

Tone languages (Mandarin, Cantonese, Thai, Ibibio, Yoruba)

Voice quality (Gujarati, Jalapa Mazatec)

VOT (Catalan, Cantonese, German, English, Bulgarian, French, Persian)

Japanese Vowel length and Pitch Accent

Xoo voice quality (and clicks)

Xoo clicks (place of articulation)

Zulu laterals

See next page for more demos

Icelandic: Preaspiration and voiceless sonorants

Toda: Place of articulation for fricatives

Temne: Apical dental vs. laminal alveolar

Yanyuwa: Place of articulation for stops

Mandarin fricatives (and tone)

Ewe: Dental vs. retroflex stops

Hungarian palatals

Agul: Pharyngeal and epiglottal sounds

Mandarin Vowels