# REVIEW OF THE MOUTON INTERACTIVE INTRODUCTION TO PHONETICS AND PHONOLOGY AND PHONETICS: AN INTERACTIVE INTRODUCTION

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<tbody>
<tr>
<td>Author</td>
<td>Jürgen Handke</td>
<td>Nicholas Reid, with contributions from Helen Fraser</td>
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<tr>
<td>Platform</td>
<td>Windows (9x/ME/NT 4.0/2000) and Macintosh (MacOS 8.1 or higher)</td>
<td>Windows (95/98/NT4) and Macintosh (MacOS 7.5.1 or later)</td>
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<tr>
<td>Minimum hardware requirements</td>
<td>PC: Pentium, 32 MB RAM, 30 MB hard disk space, SVGA graphics board, CD-ROM drive and sound card. Mac: PowerPC 120 MHz or higher, 32 MB RAM, 30 MB hard disk space, screen resolution 800x600, color monitor with thousands of colors or higher, CD-ROM drive, sound card.</td>
<td>PC: Pentium processor or equivalent, 2x speed CD-ROM, 12 MB RAM (free), 800x600 8-bit color display. Mac: 68040 or faster processor, 2x speed CD-ROM, 12 MB RAM (free), 800x600 8-bit color display.</td>
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<td>Support offered</td>
<td>Extensive context-sensitive &quot;Help&quot; menus throughout the program, as well as a &quot;Help&quot; index. Brief overview of program options given in inside cover of booklet inside the jewel case.</td>
<td>None. (Tips given from the Navigate pull-down menu.)</td>
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<td>Target language</td>
<td>English and general</td>
<td>English and general</td>
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<td>Target audience</td>
<td>Linguistics students and instructors</td>
<td>Linguistics students and instructors</td>
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<tr>
<td>Price</td>
<td>$39.95 (for orders placed in North America). Class adoption price (20 or more copies) $29.95. Campus license $750.</td>
<td>UNE Student $21.93; Other Student $54.77; Institution $98.63. Incl. postage, handling and GST. (Price given in Australian dollars.)</td>
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Reviewed by D. Eric Holt, University of South Carolina

**OVERVIEW**

The Mouton Interactive Introduction to Phonetics and Phonology and Phonetics: An Interactive Introduction, which includes the bonus program Introduction to Voice Onset Time, are CD-based multimedia resources for the beginning student of linguistics, as well as for more advanced students (or instructors) who desire further review of the fundamentals of phonetics and phonology in a visually stimulating, interactive setting. Both CD-ROMs contain detailed illustrations, animated graphics, and video clips of the physical, acoustic, and auditory aspects of speech production and perception, and in the case of the Mouton title, of more abstract phonological concepts, representations, and theories. Both programs are easily navigated via menu-driven commands and clickable hotlinks, and they include practical exercises for the student to develop mastery of the concepts presented.
These programs are part of the growing trend to offer Web-based or CD-ROM resources for students of linguistics, such as those that supplement the texts of Hammond (2001, http://www.cascadilla.com/ssaa/index.html); Labov, Ash, & Boberg (2001, http://babel.ling.upenn.edu/phono_atlas/home.html and http://www.uni-marburg.de/linguistik/dgweb/atlas/cdinfo.htm); Ladefoged (2001a, 2001b, http://hctv.humnet.ucla.edu/departments/linguistics/VowelsandConsonants/index.htm); as well as the Contemporary Linguistics companion Web site (http://www.bedfordstmartins.com/linguistics/), which provides excellent links on phonetics and phonology. The difference in the current context is, of course, that the CD-ROMs under review are stand-alone materials. (See the Appendix for a list of other multimedia and on-line phonetics and phonology materials.)

**DISCUSSION**

**The Mouton Interactive Introduction to Phonetics and Phonology**

From the opening screen, there is access to separate branches dedicated to phonetics and phonology, with over 100 screens of content. Various buttons appear on each screen when the functions are available: *Navigation* (which leads to the closest thing to what one might call the table of contents); *Bibliography* (with a list of 12 entries on phonetics and phonology, with reference information that can be copied to the clipboard; a blurb about the book, and a summary of its contents); *Glossary* (an A-Z listing of technical words and terms employed, with definitions and textual examples where appropriate); *Notepad* (for note-taking); *Information* (about the project and the author, narrated by the author); and *Help*. In addition, content screens have a button for the *Interactive Tutor* when relevant exercises are available.

The *Phonetics* section shows all aspects of articulatory, auditory and acoustic phonetics, and in addition to text, includes numerous animations and sound files to help the student more fully grasp the concepts presented (see Figures 1 and 2).

![Figure 1. Mouton Phonetics overview](image-url)
Figure 2. *Mouton* State of the Glottis

The interactive presentation of *Phonetics* is noteworthy. For example, one highly useful screen from the subsection *The Segments of Speech is The International Phonetic Alphabet: Pulmonic Consonants*, which contains a full IPA chart. When a symbol is clicked, a traditional three-part articulatory description is shown, and the sound is heard, accompanied by animated side-view facial diagrams. Likewise, *Primary Cardinal Vowels* allows the user to see how vowel sounds are produced by moving the cursor over a vowel triangle superimposed on an animated human vocal tract (side view). As the cursor moves over a certain vowel, the mouth and tongue in the image shift to reflect the articulation of the vowel; an additional front view of a human face also shifts according to the vowel produced, which may be heard by clicking on it. Finally, *The Human Hearing System* (from the *Auditory Phonetics* subsection) provides an animated graphic of the workings of the outer, middle and inner ear, along with a voice-over description by the author.

The *Phonology* section covers standard topics such as the phoneme and distinctive features, as well as suprasegmentals and a variety of phonological theories from the ancient tradition to Optimality Theory, and it includes discussion of British and American English. There are copious illustrations of minimal pairs, stress and intonational phrases, and other topics, all fully exemplified visually, graphically and auditorily where appropriate (see Figure 3).
Finally, the *Interactive Tutor* tests students and monitors their individual progress, with results stored in an individual student-protocol. For all topics there is a variety of exercises ranging from multiple-choice tasks to labeling or construction tasks, and even exercises involving transcription, where the student has the chance to put into practice those elements just introduced. Most exercises have several levels of difficulty that are activated as the student progresses; that is, the questions get more difficult as the student answers lower-level ones.

For a more detailed overview of the Mouton product, the reader is referred to the excellent demo program available at http://www.uni-marburg.de/linguistik/dgweb/phonology/demos.htm, where one can overview the contents and structure of the program, view representative screenshots, and see the workings of the three *Phonetics* screens described above.

**Phonetics: An Interactive Introduction**

*Phonetics: An Interactive Introduction*, which may be used as an autonomous resource or as a supplement to any general introductory phonetics textbook, was originally developed for distance students of linguistics at the University of New England, Australia. The target audience now includes graduate students in linguistics and speech pathology at numerous universities around Australia, and *Phonetics* would serve equally well in universities in other parts of the world. The CD-ROM includes modules called *The Vocal Tract, Speech Sounds, Phonation Modes, Airstream Mechanisms*, and *Acoustic Analysis*, and also includes a module of *Exercises* (see Figure 4).
The program is rich in multimedia, and includes numerous sound files, video resources, and animations that vividly demonstrate all aspects of speech articulation. The student can listen to speech sounds, match them with their International Phonetic Alphabet symbols, watch video of the vocal folds in action and of patients whose larynx has been removed and who speak using esophageal airflow, and even listen to a speaker of a "click" language. These last two items are especially interesting and are unique to this title. Also particularly noteworthy is the Australian context of this program, and audio files allow the student to compare Australian English with other varieties (see Figure 5). Further, there are animations of complex articulatory gestures, and of the basics of the acoustic properties of speech (see Figure 6). As noted by the authors, this type of information is difficult to learn from print-based sources, and the extremely visual and interactive nature of this CD-ROM is likely to maintain high student interest and facilitate assimilation of the concepts presented.
Figure 5. *Phonetics* Speech Sounds (Australian English vowels)

Figure 6. *Phonetics* Acoustic Analysis (introduction)
The Exercises section is quite good, and provides immediate feedback to the student on activities such as labeling parts of the vocal tract, identifying and labeling symbols for consonants and vowels, transcribing three- and eight-phoneme words, choosing the phonation mode, and identifying parts of a spectrogram. There are no record-keeping, printing, or e-mail options that I could identify.

The CD-ROM contains a bonus program, *Introduction to Voice Onset Time* (VOT; Figure 7), an excellent resource that further enriches the learning experience of the student and of the teaching possibilities for the instructor. All aspects of VOT are discussed and exemplified, and there are clickable examples from English, French, Hindi, Tamil, Korean, and Thai.

Figure 7. VOT

**EVALUATION**

Uses for these programs are many: showing animation and video clips in class; assigning out-of-class tasks; reviewing material for general study or exam preparation; delving deeper into issues presented in class or not covered in class; and self-paced independent study. These titles are further valuable to phonologists without in-depth training or teaching experience in phonetics, or with exposure to the discipline primarily via the printed word. Likewise, the Mouton title is valuable to phoneticians who wish to learn more about a variety of phonological theories. *Phonetics* won a prestigious award from the Australasian Society for Computers in Learning in Tertiary Education (ASCILITE) for its exemplary use of electronic technologies in teaching and learning; this is a well-deserved honor, in my view.

**Limitations**

*The Mouton Interactive Introduction to Phonetics and Phonology.* An overall index, table of contents, and site map are lacking and would be most welcome, as would a list of audio, video, and other animated files, for facilitated reference and access to all materials. Likewise, a list accessible from the main page with names or authors would also be useful, especially one with links to citations within the program. As
far as I can tell, the very interesting *Important Phoneticians and Phonologists*, a list of 29 researchers with a picture and short biography of each, is accessible only from within the *Phonological Theories* page. Additionally, while the *Interactive Tutor* is an exceptional resource, I would have liked to see a central list of the activities to be completed, with the flexibility to undertake the exercises from the opening page. Finally, while the program is indeed as user-friendly as its promo touts, I had some difficulty with some of the sound files, and at times only the beginning of the selection was played, including in the *Interactive Tutor*, so that I was unable to make fully-informed choices of answers. This technical difficulty may not be an issue for other users, however.

*Phonetics: An Interactive Introduction*. This title is more limited in scope than the Mouton CD-ROM, as it does not treat phonology. Like the Mouton title, this one lacks a comprehensive index or table of contents, which, while not essential, certainly would have been welcome here, too. However, the inclusion of *Introduction to Voice Onset Time* gives this product unique added value.

**SUMMARY**

Both CD-ROMs are highly valuable tools for the student of linguistics and phonetics and would be most welcome in language technology, linguistics, and phonetics labs, as well as for individual at-home use. The two programs are strongly recommended for students and instructors of phonetics and phonology as they are a significant addition to the currently available media and materials which present concepts that can be difficult to internalize without visualizing and practicing. While the instructor will still be an invaluable part of the learning process, these titles provide wonderful ancillary support that can lighten the burden of covering everything in detail in the classroom.

Because both programs are excellent, the choice between them will depend on the specific interests and needs of the user: *Mouton* offers phonology while *Phonetics* offers VOT and the opportunity to compare different varieties of English. That is, neither CD-ROM supercedes the other in terms of content and value, and both will prove useful and enlightening to audiences with an interest in language and speech science.

**APPENDIX**

**Other Multimedia and Internet Resources**

The following does not pretend to be an exhaustive listing, but includes sources, in addition to those given in the References section, that the reviewer has found to be useful aids to the students in his courses.

**Videos**


**Other sites used by phoneticians and linguists**

- 3-D Vocal Tract MRI Gallery: [http://web1.dcpa.org/brad_html/mrgallery.html](http://web1.dcpa.org/brad_html/mrgallery.html)
- Center for Spoken Language Understanding (CSLU): [http://cslu.cse.ogi.edu/tutordemos/](http://cslu.cse.ogi.edu/tutordemos/)
  (materials and information regarding speech recognition and synthesis)
• Prosody on the Web (with tutorials): http://www. eptotd.btinternet.co.uk/pow/powin.htm

UCLA Phonetics Lab
• Vocal Fold Animation:
  http://www.humnet.ucla.edu/humnet/linguistics/faciliti/demos/vocalfolds/vocalfolds.htm

University College London
• Speech Internet Dictionary: http://www.phon.ucl.ac.uk/home/johnm/sid/sidhome.htm
• Tutorial on VOT & Aspiration:
  http://www.phon.ucl.ac.uk/home/johnm/siphtra/plostut2/plostut2.htm

University of Lausanne
• Online Phonetics: http://www.unil.ch/ling/phonetique/api1-eng.html - Intro

University of Lund
• Coarticulation: http://www.ling.lu.se/persons/Sidney/coartdem/
• Speech Analysis Tutorial: http://www.ling.lu.se/research/speechtutorial/tutorial.html

University of Stuttgart
• Voice Quality: http://www.ims.uni-stuttgart.de/phonetik/EGG/
• Methods of Examining Larynx: http://www.ims.uni-stuttgart.de/phonetik/EGG/page13a.htm

University of Washington
• Distinctive Vowels Sounds of British and American English:
  http://faculty.washington.edu/dillon/PhonResources/vowels.html

University of Queens
• Speech Perception and Production Laboratory: http://psyc.queensu.ca/~munhallk/
• X-ray Film Database for Speech Research: http://pavlov.psyc.queensu.ca/faculty/munhall/x-ray/

ABOUT THE REVIEWER
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REFERENCES