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Yes, we are finally catching up with the old issues of the Phonetician. I guess we get some credit for being perseverant. As you can see, this issue will be a double issue for 2006. Now we can move on to completing more current issues.

I wanted to take this opportunity to let you know of future plans for ISPhS. It is our plan to continue to publish the Phonetician, as we have decided, as a Society, that our primary mission is to be a source of information for individuals interested in the phonetic sciences. The Phonetician has been (and continues to be) a valuable source of information for professionals who work in parts of the world with few colleagues to communicate with on a regular basis and it also helps to tie larger phonetics departments together by keeping researchers apprised of the current research, conferences, books, and events of interest to individuals who work in phonetics. The editorial committee has devised a plan to get the back issues of the Phonetician caught up and we are now looking for volunteers to take on the editorship of an issue to keep our Society going.

What does it take to be an editor? Basically, you need to be willing to ask colleagues to contribute an article, a description of a meeting that they attended, an essay describing the research going on in your department or laboratory, or anything else that you think would be of interest to your colleagues. The Executive Committee of ISPhS will assist you with the peer review process of any article that is submitted and we can assist you with the identification of books that need to be reviewed, which can also be published in the Phonetician. This is a great opportunity for you (and perhaps a student to assist you) to let the world know what is going on at your institution. We have the templates necessary to help you get these materials into a .pdf format, so that we can post it on our website. In fact, now that the Phonetician is published electronically, we can even post things when they are completed and as you wait for the rest of the issue to be ready (just like other journals). So, your peer-reviewed paper will be published much quicker than it was in the past. Once all materials for an issue are completed, then we can merge the .pdf files into a more formal issue of the Phonetician. I like to offer this option because I know that some people are reluctant to submit articles when they don’t know when they will appear electronically.

Right now, all of the issues of the Phonetician are available to the public. In the near future, we will institute a password protected site that will contain the more recent issues of the Phonetician and these issues will only be available to members in good standing. We have not been collecting dues for a couple of years because publication of the Phonetician was delayed. But now that we are getting back on track, I will be sending out dues notices in the near future. To make all of this happen, we really do need YOU to step up and volunteer to take on an issue. It is a new electronic era! We can transition the Phonetician into a vibrant electronic source of information for the cyber-generation.

Ruth Huntley Bahr
The Computerized Speech Lab (CSL), Model 4500, is Kay's newest, most advanced hardware/software system for speech analysis. The latest generation CSL hardware is integrated with a rich array of speech analysis and biofeedback software packages used by the leading speech/voice professionals internationally. A highly robust input/output recording device for a PC, which complies with the rigorous specifications and features needed for the most exacting speech-processing requirements, Model 4500 is the culmination of many decades of experience that Kay brings to acoustic analysis instrumentation.

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I would like to take this opportunity to extend a warm word of thanks to all those who have been making *The Phonetician* possible in the last couple of years. There is first of all Judith Rosenhouse who has been serving as Review Editor for many years and who has been doing a tremendous job. She has managed to find competent reviewers for most every relevant publication in the field of phonetics and thus contributed greatly to the information platform of *The Phonetician*. Tomáš Duběda has been very successful in acquiring reports from any conferences which may be of interest to ISPhS members. Last, but not least, I would like to express my sincere gratitude to the "Trier team", consisting of Jens-Peter Koester, Hedwig Hinzmann and also several students of Phonetics at Trier who are taking a major part in the various stages of assembling *The Phonetician*.

It would not have been possible for me as an individual to mount *The Phonetician* without this invaluable assistance. This is why I would like to invite all ISPhS members to contribute to the service which we are currently providing through *The Phonetician* by submitting an article (see below) or submitting a conference report or notifying us of upcoming conferences or offering to review a publication or notifying us of interesting websites.

Let me remind you about the Call for Papers. The section "Articles and Research Notes" will be dedicated to the publication of brief research papers. Short papers in all areas of phonetics are welcome, including articulatory phonetics, acoustic phonetics, psychoacoustics, cross language and L2 phonetics, speech synthesis, phonetic modelling, speech signal processing, speech perception and production, etc. Contributions should primarily focus on experimental work, but theoretical and methodological papers will also be considered. Manuscripts should not exceed a maximum of 1500 words (including no more than 2 tables or figures), but exceptions to this rule are possible. Authors should follow the guidelines of the *Journal of Phonetics* for the preparation of their manuscripts. Manuscripts will be reviewed anonymously and authors will receive the reviews speedily.

The title page should include the authors' names and affiliations, address, e-mail, telephone, and fax numbers. Manuscripts should include an abstract of no more than 100 words and up to four keywords. The final version of a manuscript should be sent both as hard copy and in electronic form. It is the authors' responsibility to obtain written permission to reproduce copyright material. Manuscripts should be sent (preferably in electronic form) to:

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Prosodie des phrases comportant des adversatives et concessives introduites par le connecteur alors que

Denis Ramasse
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Résumé

Le connecteur alors que peut introduire trois types de subordonnées; un premier type, temporel (alors que le soir tombait, Pierre est arrivé) et deux autres, logiques, soit à valeur adversative (elle a échoué, alors qu'il a réussi), soit à valeur concessive (il semble déçu, alors qu'il a réussi). Pour mettre en évidence une éventuelle différence dans l’intonation provoquée par les deux valeurs logiques, une locutrice a été enregistrée (20 phrases) et une analyse acoustique réalisée. Deux paramètres ont ainsi été dégagés : une différence de durée des syllabes finales des subordonnées (phrases enchâssées) et une différence de hauteur dans la réalisation des principales (phrases matrices). Pour confirmer cette première analyse, un test de perception (18 sujets) a été pratiqué. Il a permis de mettre en évidence une pertinence du deuxième paramètre seulement, et la nécessité de le préciser en hauteur relative entre propositions principale et subordonnée. Cependant, même relatifisé, ce paramètre n’est pas un indice permettant une identification systématique de la valeur logique de la subordonnée introduite par alors que. Ceci est en accord avec ce qu’écrivait Delattre qui considérait l’intonation comme un paramètre secondaire dans l’encodage de la parole. En l’occurrence, entre adversatives et concessives, même si la différence prosodique est peu marquée, elle aide néanmoins à distinguer les deux valeurs logiques.

Summary

Intonation of sentences with simple opposition meaning and with concessive meaning introduced by "alors que"

In French, the same grammatical connector alors que is used to introduce three types of phrases: a temporal phrase as in: alors que le soir tombait, Pierre est arrivé: (as dusk was falling, Peter arrived), and two kinds of embedded phrases with a logical meaning: one with a simple opposition meaning as in: elle a échoué, alors qu'il a réussi (she failed though he succeeded), and one with a concessive meaning: il semble déçu alors qu'il a réussi (he seems disappointed though he succeeded). We studied here whether there was a difference in intonation as a consequence of the difference in the logical meanings; twenty sentences spoken by a female speaker were recorded. An acoustic analysis showed a difference in two parameters: the length of the last syllable of the sentences and the height of matrix phrases. A perception test (18 subjects) revealed that only the second parameter was pertinent, but that it had to be specified as the difference in height between the matrix phrase and the embedded phrase. But this difference was not systematic. That confirms what Delattre wrote, that intonation is not a prominent factor. In this case the distinction between simple opposition and concession only slightly changes the intonation but the intonation helps to distinguish between the two meanings.
Le connecteur alors que

Ce connecteur est une locution conjonctive constituée d’un adverbe suivi d’un que, conjonction de subordination.

Le Trésor de la langue française (TLFi) distingue deux sens dans l’emploi de alors que un sens temporel, quand la locution marque la simultanéité de deux procès; et un sens logique quand alors que traduit l’idée d'opposition. Dans ce deuxième sens, deux cas sont à distinguer:
1° soit il marque l'opposition sans plus (= tandis que):
2° soit il marque la discordance, l’incompatibilité des deux faits que l'on rapproche.

Un relevé préliminaire de phrases comportant des subordonnées en alors que a été effectué dans un corpus de 2 heures. Il s’agissait de la présentation et de l’analyse, par des journalistes, des résultats du premier tour des dernières législatives et des réactions de personnalités politiques à ces résultats (16 Juin 2002 sur France3 de 20 à 21 heures et sur France2 de 21 à 22 heures).

Il est apparu que quand alors que avait un sens temporel, la proposition subordonnée (phrase enchâssée) précédait toujours la proposition principale (la phrase matrice) et que c’était l’inverse quand le connecteur avait un sens logique.

Pour pouvoir effectuer une analyse plus pertinente des subordonnées introduites par le connecteur alors que, il a semblé préférable de s’en tenir aux cas où ces subordonnées suivaient la principale et où la locution conjonctive avait un sens logique.

Dans la Grammaire du français contemporain (Chevalier et collaborateurs), la distinction entre, d’une part, les adversatives (opposition sans plus) et, d’autre part, les concessives (discordance) est décrite de la manière suivante:
- ou bien on envisage deux faits qui existent ou pourraient exister simultanément; le parleur recourt le plus souvent aux constructions de temps; c’est une opposition simple;
- ou bien on constate que deux faits coexistent ou peuvent coexister, mais que l’un des deux aurait dû - ou devrait - empêcher la réalisation de l’autre. Ces propositions seules ont droit au titre de PROPOSITIONS DE CONCESSION. (Chevalier et collaborateurs, 2002§ 203)

Cette grammaire, ainsi que la Grammaire du français classique et moderne de Wagner et Pinchon, citent la locution conjonctive alors que seulement comme connecteur introduisant une adversative, et n’en parlent pas dans son emploi d’introducteur de concessive.

Si l’on se fonde sur ces deux grammaires, il semblerait que alors que serait, de façon privilégiée, un connecteur adversatif dans son aspect logique (introduisant des circonstancielles d’opposition) et non pas concessif.

1 Le Goffic, 1993, § 291, considère que c'est un pronom relatif, comme ce serait d'après lui le cas, par exemple, dans : aujourd'hui que.
2 En suivant, pour cette terminologie, comme le font Riegel, Pellat et Rioul 1994, p.472, l'usage traditionnel.
Et, dans son étude sur la concession en français, Mary-Annick Morel ne parle quasiment jamais de alors que; on ne trouve p. 38, qu’une mise en parallèle des trois connecteurs même quand-même lorsque/alors même que et le dernier connecteur est ni discuté, ni illustré par une phrase.

On pouvait se demander s’il était justifié de considérer alors que comme un connecteur presque exclusivement adversatif. Une étude succincte faite sur Frantext permet de mettre en doute cette affirmation: sur un corpus de citations de romans parus en 1950, on trouve 10 alors que à valeur concessive et 7 à valeur adversative (ce n’est, bien sûr, qu’un élément de discussion pour justifier une étude du connecteur avec ses deux valeurs).

Ceci est en accord avec ce que dit Sandfeld (1965), qui considère alors que comme un connecteur adversatif et concessif; il parle:

Des propositions temporelles qui marquent la simple coïncidence, ce sont celles introduites par alors que qui sont le plus souvent adversatives:
ex.: Alors que je ne suis qu’un illettré, un analphabète, elle suit les cours de l’abbé Gautier.

et il remarque que:
Dans plusieurs cas, des propositions temporelles introduites par quand ou lorsque, alors que peuvent remplacer des propositions concessives introduites par bien que, etc. ex.:
[son] âme était encore celle d’un enfant alors qu’elle était déjà mère. (p. 377)

Dans cette étude, les deux catégories de phrases suivantes seront donc prises en compte:
- les phrases avec adversatives où alors que marque l’opposition sans plus, et dans lesquelles est présentée une mise en parallèle de deux faits;
- les phrases avec concessives introduites par alors que quand l’un des deux faits présentés tend à gêner ou empêcher la réalisation de l’autre.

Ces deux catégories de phrases s’opposent par le degré de compatibilité du fait présenté dans la proposition principale avec celui présenté dans la proposition subordonnée.

On pouvait se demander si cette différence de degré avait une répercussion dans la réalisation prosodique de chaque catégorie de phrase. C’est ce qui a fait l’objet de cette étude.

**Procédure expérimentale**

Mise en regard de couples de phrases dont les propositions subordonnées, introduites par alors que, étaient l’une, adversative et l’autre, concessive, mais identiques d’un point de vue segmental; comme par exemple, pour le couple n°1:

Elle a échoué, alors qu’il a réussi. (adversative)
Il semble déçu, alors qu’il a réussi. (concessive)

Un corpus de vingt phrases (10 couples) a été enregistré par une locutrice. Une deuxième locutrice, choisie pour sa stratégie d'élocution totalement différente de celle de la première locutrice, avait été enregistrée. Une étude précédente sur un autre sujet avait montré que la

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3 La subordonnée adversative en alors que peut, bien sûr, être antéposée à la principale, mais sur les cinq exemples donnés par Sandfeld, c'est la seule à être dans ce cas, les quatre autres phrases ayant une adversative en alors que postposée.

4 Une deuxième locutrice, choisie pour sa stratégie d'élocution totalement différente de celle de la première locutrice, avait été enregistrée. Une étude précédente sur un autre sujet avait montré que la
La prosodie a ensuite été analysée de la façon suivante:\(^5\):
- mesure de la durée des voyelles de la proposition subordonnée
- mesure de la fréquence du fondamental des voyelles de la proposition subordonnée:
  - à leur début
  - à leur fin
La mesure de la fréquence a été effectuée selon les cas avec deux algorithmes:
- l’AMDF (Average Magnitude Difference Function Pitch Extractor) proposé par Ross, Shaffer et collaborateurs (1974)
- la fonction peigne proposée par Philippe MARTIN dans un colloque à Montréal en 1981\(^6\).

La hauteur du fondamental a ensuite été évaluée par une conversion des fréquences en demi-tons avec 100 Hz comme valeur de référence (100 Hz = 0 demi-ton, toute valeur inférieure à 100 Hz, exprimée en demi-tons, devenant négative).

Première locutrice cherchait à amplifier les différences sémantiques ou syntaxiques apparaissant dans les phrases, tandis que la deuxième locutrice cherchait à les atténuer (il y avait, en fait, deux groupes de deux locuteurs comprenant chacun un homme et une femme, et pour la présente étude, on a considéré qu'un seul élément pris dans chaque groupe était suffisant pour faire apparaître une diversité dans la réalisation des deux types de phrases présentés).

Mais, pour résumer les résultats apportés par l'analyse des données de cette seconde locutrice:
- aucune différence de hauteur voyelle par voyelle statistiquement significative entre adversatives et concessives n'a pu être révélée;
- de même, pas de différence statistiquement significative entre la hauteur relative principale/subordonnée des phrases avec adversative et celle des phrases avec concessive.

Les données de cette deuxième locutrice ne seront donc pas prises en compte dans le reste de l'étude.

Un autre indice acoustique a été recherché par l'analyse de la durée des silences entre principale et subordonnée: on aurait pu, en effet, montrer que la réalisation systématique d'une pause marquée annonçait une proposition adverative (ou, au contraire, une concessive). Mais aucune différence statistiquement significative n'a pu être dégagée. La durée moyenne des silences dans les phrases avec adversative est de 331 ms, celle dans les phrases avec concessive de 319 ms, la durée moyenne générale étant de 325 ms). La distribution de ces données est cependant tout à fait remarquable : une moitié a une valeur inférieure à 170 ms (valeurs comprises entre 0 et 170 ms), il y a ensuite une absence de valeurs entre 170 ms et 377 ms, puis l'autre moitié a une valeur supérieure à 377 ms (valeurs comprises entre 377 ms et 759 ms). Et il y a exactement le même nombre de phrases avec adversative et de phrases avec concessive dans chaque moitié; première moitié: 5 adversatives + 5 concessives, de même pour la seconde moitié. Ces données peuvent être comparées avec les cas où alors que caractérise un repère implicite temporel où, selon Claude Guimier (2000, p. 92):

En position finale, alors que Q est souvent en relation étroite avec P, relation qui se traduit par l'absence de virgule à l'écrit, traduisant une absence de rupture intonative à l'oral. Il apparaît donc qu'en ce qui concerne les alors que à valeur logique, deux types de réalisations sont possibles: absence de pause (ou pause à peine réalisée) et pause très marquée.

Ces algorithmes sont proposés dans le logiciel PHONÉDIT développé par la société S.Q.Lab en collaboration avec le Laboratoire Parole et Langage d'Aix-en-Provence (C.N.R.S. URA 261).
La réalisation prosodique de chaque proposition subordonnée a ainsi été étudiée en détail de façon à permettre une comparaison voyelle par voyelle de chaque adversative avec la concessive correspondante. Mais il était aussi nécessaire de faire une analyse de la réalisation prosodique de chaque proposition principale. Une comparaison terme à terme des voyelles n’avait alors aucun sens, puisque ces propositions étaient toutes différentes.

Table 1: corpus enregistré

### Séquence "principale" et séquence "subordonnée"

La réalisation prosodique de chaque proposition subordonnée a ainsi été étudiée en détail de façon à permettre une comparaison voyelle par voyelle de chaque adversative avec la concessive correspondante.

Mais il était aussi nécessaire de faire une analyse de la réalisation prosodique de chaque proposition principale. Une comparaison terme à terme des voyelles n’avait alors aucun sens, puisque ces propositions étaient toutes différentes.
C’est pourquoi la hauteur moyenne de la réalisation prosodique des propositions principales a été mesurée. Il a paru ensuite nécessaire, pour des raisons de comparaison précise dans les mesures, de faire la même chose pour les propositions subordonnées qui avaient pourtant déjà été analysées plus en détail.

Pour simplifier la présentation des résultats, la séquence prosodique correspondant à la réalisation d’une proposition principale sera appelée séquence principale et celle correspondant à une proposition subordonnée séquence subordonnée.

Résultats de l’analyse acoustique

Une recherche de différence systématique de la hauteur des voyelles selon le type de subordonnée ne donne pas le résultat attendu car il n’y a pas de différence systématique de hauteur en fonction de la catégorie adversative ou concessive de la subordonnée. Ceci est illustré par les figures 1 et 2, qui montrent que dans un couple de phrases la séquence adversative peut être plus haute que la concessive (Fig. 1) et que ça peut être l’inverse dans un autre couple de phrase (Fig. 2).

Dans d’autres cas, la hauteur des voyelles de chaque catégorie de subordonnée est presque égale, ce qui est illustré par la figure 3, pour le couple de phrases n° 10.

La différence moyenne de hauteur entre voyelles des subordonnées adversatives et concessives est très réduite, elle est seulement de 0,15 demi-tons.

![Figure 1: mise en regard de la forme de deux courbes pour le couple de phrases n° 3 du corpus. La proposition subordonnée est dans les deux cas alors qu’il avait tout minutieusement préparé. Les voyelles sont représentées par des traits pleins. Celles de la séquence concessive sont ici plus hautes d’en moyenne ¾ de ton que celles de l’adversative correspondante.](image)
La différence moyenne de durée entre les voyelles de chaque couple de subordonnées n’est que de 0,71 ms. On ne peut donc pas trouver dans cet autre paramètre acoustique un indice permettant de décrire une différence régulière pertinente entre adversatives et concessives.

Cependant, comme l’illustre, en particulier la figure 1, on peut remarquer que la durée de la voyelle finale des concessives est plus longue que celle des adversatives correspondantes. Une étude plus précise révèle une différence de durée significative (test de
Wilcoxon significatif à .01) entre les voyelles finales des deux catégories de subordonnées: celles des concessives sont en moyenne plus longues de 32,45 ms que celles des adversatives.

La hauteur moyenne des séquences principales semble fournir un autre indice permettant de de différencier sur le plan acoustique les phrases avec adversative des phrases avec concessive. En effet les séquences principales précédant les séquences concessives sont plus basses d’environ 2 tons et demi (5, 2 demi-tons) que celles qui précèdent les séquences adversatives. Là-aussi le test de Wilcoxon est significatif à .01.

L’analyse acoustique montre donc que les phrases avec concessive diffèrent de celles avec adversative par une syllabe finale plus longue et par une séquence principale plus basse. Les résultats de l’analyse acoustique sont résumés dans la table 2.

<table>
<thead>
<tr>
<th>différence moyenne de:</th>
<th>significative à :</th>
</tr>
</thead>
<tbody>
<tr>
<td>hauteur de la séquence principale</td>
<td>5,2 demi-tons .01</td>
</tr>
<tr>
<td>durée de la voyelle finale</td>
<td>32,45 ms .01</td>
</tr>
<tr>
<td>hauteur entre voyelles</td>
<td>0,16 demi-tons *</td>
</tr>
<tr>
<td>durée des voyelles</td>
<td>0,71 ms *</td>
</tr>
</tbody>
</table>

Table 2: résumé des résultats de l’analyse du corpus enregistré. Seules la hauteur de la séquence principale et la durée de la voyelle finale sont des indices permettant de montrer une différence significative d’un point de vue statistique entre phrase avec adversative et phrase avec concessive (degré de signification évalué par un test de Wilcoxon).

Un test de perception

On pouvait se demander si ces deux indices avaient une réalité dans la perception, s’ils pouvaient aider à identifier une adversative ou une concessive. Si tel était le cas avaient-ils une importance identique du point de vue de la perception?

Un test a donc été préparé de la façon suivante: 2 séries de 4 stimuli ont été réalisées en faisant varier la hauteur de la séquence principale et la durée de la voyelle finale.

La première empruntait au couple n° 1 sa séquence subordonnée: *alors qu’il a réussi*, illustrée figure 4, la séquence principale étant constituée des 4 syllabes: *lalala* (enregistrées par la même locutrice).
Figure 4: séquences subordonnées ayant servi à la réalisation des 4 premiers stimuli du test de perception, les séquences principales qui les précédaient étaient des "lalalala" intonés de façons diverses.

La seconde était une phrase extraite du corpus où a été fait le relevé préliminaire des subordonnées en *alors que* (1er tour des dernières élections législatives) légèrement modifiée et prononcée par la même locutrice que pour le corpus précédemment étudié dans deux cotextes différents, l’un donnant à la subordonnée un sens adversatif, l’autre un sens concessif. Il s’agissait de la phrase:

*Il obtient 10% des voix alors qu’au scrutin précédent il avait obtenu 20%.*

(Adaptée de: *Il obtient 10% des voix alors qu’au premier tour de l’élection présidentielle il avait obtenu 20%*)

Les deux réalisations qui ont servi à l’élaboration des stimuli sont représentées dans Fig. 5. Une contradiction par rapport à ce qui avait été décrit dans l’analyse du corpus des 10 couples de phrases intervient à propos de la hauteur moyenne de la séquence principale qui est importante quand elle précède la concessive et plus faible quand elle précède l’adversative. C’est donc sur ce point la situation inverse de ce qui avait été décrit précédemment.

Tous les stimuli ont été manipulés grâce à un logiciel de synthèse, le logiciel Praat.

---

7 Logiciel d'analyse et de synthèse de la parole écrit par Paul Boersma et David Weenink du département de phonétique de l'Université d'Amsterdam, version 4.2 de mai 2004.
Il obtient 10% des voix alors qu’au scrutin précédent il avait obtenu 20%.

Ces stimuli ont ensuite été présentés dans un ordre aléatoire, à 7 s d’intervalle, à 18 sujets auxquels 2 types de questions ont été posées:

- d’une part on leur demandait si la séquence: *lalalala alors qu’il a réussi* correspondait à la phrase: *Elle a échoué alors qu’il a réussi*. (adversative)

- ou à la phrase: *Il est déçu alors qu’il a réussi*. (concessive); (Ils devaient cocher une case en face de la phrase choisie).

- d’autre part, la question posée à propos de *Il obtient 10% des voix alors qu’au scrutin précédent il avait obtenu 20%.* était: La personne qui parle pense-t-elle qu’il y a quelque chose d’illégal, voire injuste, dans le fait énoncé? (Ils devaient cocher *oui* ou *non*, dans le premier cas la subordonnée était alors perçue comme concessive et dans le second comme adversative).

Chaque série de stimuli était répétée 3 fois.

La nature des stimuli et le résultat du test sont résumés dans la table 3:

---

8 Il s’agissait d’élèves qui assistaient à des travaux dirigés de syntaxe en 2ème année de lettres modernes.

---
Caractéristiques des stimuli résultats du test
séquence principale durée voyelle finale séquence subordonnée adversative concessive
stimulus 1 haut long 6 12
stimulus 2 haut moyen 8 10
stimulus 3 bas bref 10 8
stimulus 4 bas moyen 10 8
stimulus 5 haut long 7 11
stimulus 6 haut bref 10 8
stimulus 7 bas long 13 5
stimulus 8 haut bref 8 10

Table 3: résumé des données concernant le test de perception avec, d’une part, la description des stimuli et, d’autre part, l’analyse des réponses obtenues pour chaque stimulus.

Analyse des résultats:
- durée de la voyelle finale: en donnant 3 degrés de longueur aux voyelles, on obtient la table 4, en assignant le degré 3 aux voyelles longues, 2 à celles de durée moyenne et 1 aux brèves. Un de Bravais-Pearson permet de dire qu’il n’y a aucune corrélation entre l’identification des stimuli et les valeurs de ce paramètre.

<table>
<thead>
<tr>
<th></th>
<th>adversative</th>
<th>concessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>longues</td>
<td>3</td>
<td>26</td>
</tr>
<tr>
<td>moyennes</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>brèves</td>
<td>1</td>
<td>28</td>
</tr>
</tbody>
</table>

Coefficient de corrélation = 0,1889

Table 4: analyse du test de perception pour le paramètre de la durée de la voyelle finale. La corrélation (mesurée par un de Bravais-Pearson) est trop faible pour qu’on puisse conclure à une influence significative de ce paramètre.

- hauteur de la séquence principale: la table 5 présente plus précisément les données du test de perception en ce qui concerne la hauteur absolue de la séquence principale. On peut voir que l’identification des phrases à subordonnée concessive ne se fait pas en fonction de la hauteur absolue de la séquence principale puisque le coefficient de corrélation (de Bravais-Pearson) est égal à 0,448 et n’est pas significatif d’un point de vue statistique.

9 Pour la durée, il est impossible d’étudier une corrélation directement sur les mesures. Chaque voyelle a, en effet, une durée spécifique et le [t] et le [a] sont à l’opposé sur ce point de telle sorte qu’un [t] long peut avoir exactement la même durée qu’un [a] bref. C’est pourquoi il est préférable de faire porter l’étude sur des durées relatives notées de façon schématique.
Caractéristiques des stimuli résultats du test
séquence principale: hauteur en ½ tons adversative concessive
stimulus 1 12,8 6 12
stimulus 2 12,8 8 10
stimulus 3 9,9 10 8
stimulus 4 9,9 10 8
stimulus 5 -0,4 7 11
stimulus 6 -1 10 8
stimulus 7 -4,8 13 5
stimulus 8 -0,8 8 10

coefficient de corrélation = 0,4484

Table 5: analyse du test de perception pour le paramètre de la hauteur absolue de la séquence principale. La corrélation (mesurée par un \( r \) de Bravais-Pearson) est légèrement supérieure à celle obtenue précédemment pour la durée, mais encore trop faible pour qu’on puisse conclure à une influence significative de cet autre paramètre.

Mais il est alors surprenant de constater que cette constante apparue dans la description du corpus n’ait aucune réalité dans la perception et l’identification de ces deux catégories de phrases. Par ailleurs, dans les stimuli utilisés pour le test, la séquence principale était parfois plus haute que la subordonnée concessive, contrairement à ce qui a été observé dans l’analyse du corpus enregistré. Cette contradiction peut être levée en décrivant non pas la hauteur absolue des séquences principales, mais leur hauteur relative à celle des subordonnées. La différence de hauteur moyenne entre les séquences principales et subordonnées des phrases a ainsi été mesurée; elle est présentée et analysée en fonction des réponses données dans la table 6.

Caractéristiques des stimuli résultats du test
hauteur relative (par rapport à la subordonnée) de la séquence principale (en ½ tons) adversative concessive
stimulus 1 11,4 6 12
stimulus 2 7,6 8 10
stimulus 3 8,5 10 8
stimulus 4 5,9 10 8
stimulus 5 7 7 11
stimulus 6 0,1 10 8
stimulus 7 4 13 5
stimulus 8 5,7 8 10

coefficient de corrélation = 0,6084

Table 6: analyse du test de perception pour le paramètre de la hauteur relative de la séquence principale par rapport à la subordonnée. La corrélation (mesurée par un \( r \) de Bravais-Pearson) est nettement supérieure à ce qui a été obtenu jusqu’ici bien que, au niveau statistique, le degré de signification ne soit que de .2. Mais cela permet de dégager une tendance. On peut donc affirmer que ce paramètre contribue à faciliter, sans la déterminer totalement, la discrimination entre adversative et concessive.
Un coefficient de corrélation est à nouveau calculé. Le $r$ de Bravais-Pearson est alors égal à 0,6084. Comme ce n’est significatif qu’à une probabilité de .2, on ne peut conclure à une corrélation entre l’identification des concessives et ce paramètre (la probabilité devant être de .05 ou .01). Néanmoins une tendance se dégage très nettement et il est tout à fait possible d’affirmer que ce paramètre, sans la déterminer totalement, facilite l’identification des adversatives et des concessives.

Ce test de perception a donc montré deux choses:
- d’une part, la durée de la syllabe finale des phrases est un indice acoustique négligeable dans la description. Ceci n’est pas surprenant, puisque la durée est un paramètre secondaire de la prosodie.
- d’autre part, ce n’est pas la hauteur absolue des séquences principales, mais la hauteur relative, qui doit être prise en compte.

La hauteur relative de la séquence principale par rapport à la séquence subordonnée

Ainsi c’est le paramètre de la hauteur relative de la séquence principale qui semble être le plus important. En se reportant au corpus étudié, on remarque que l’amplitude de la différence séquence principale - séquence subordonnée est en général plus importante quand la subordonnée est une concessive que quand c’est une adversative.

Les valeurs de hauteur relative sont reportées dans la table 7. Un test de Wilcoxon montre qu’il y a une différence significative à .05 entre les données de chaque colonne. La figure 5 est une illustration de la table 7; les histogrammes reproduisent l’écart de hauteur entre la principale et la subordonnée. On peut remarquer que quatre exceptions sont à relever: la phrase 4, la phrase 5 (bien que les deux valeurs soient très proches: seulement ¼ de ton d’écart), et les phrases 8 et 10. De plus, le test de perception ne révèle pas une corrélation totale entre cet indice et l’identification des subordonnées.

Malgré ces réserves, il faut néanmoins souligner la réalité statistiquement prouvée de l’indice dégagé.

<table>
<thead>
<tr>
<th>n°</th>
<th>phrases avec adversative</th>
<th>phrases avec concessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0,29</td>
<td>3,33</td>
</tr>
<tr>
<td>2</td>
<td>7,83</td>
<td>8,42</td>
</tr>
<tr>
<td>3</td>
<td>1,06</td>
<td>2,31</td>
</tr>
<tr>
<td>4</td>
<td>4,80</td>
<td>3,46</td>
</tr>
<tr>
<td>5</td>
<td>6,31</td>
<td>5,86</td>
</tr>
<tr>
<td>6</td>
<td>3,29</td>
<td>3,72</td>
</tr>
<tr>
<td>7</td>
<td>0,35</td>
<td>1,5</td>
</tr>
<tr>
<td>8</td>
<td>5,60</td>
<td>3,51</td>
</tr>
<tr>
<td>9</td>
<td>4,80</td>
<td>6,7</td>
</tr>
<tr>
<td>10</td>
<td>5,35</td>
<td>2,52</td>
</tr>
</tbody>
</table>

Table 7 : différence de hauteur (en ½ tons) entre séquence principale et séquence subordonnée pour chaque phrase du corpus
mise en regard de la différence de hauteur (en valeur absolue) entre propositions principale et subordonnée de chaque type de phase

Figure 5: hauteur relative de la séquence principale et de la séquence subordonnée dans chaque phrase du corpus (illustration des données présentées dans la table 7).

**Conclusion**

L’amplitude de la différence de hauteur entre séquence principale et séquence subordonnée est l’indice permettant d’opposer concessives et adversatives.

Il y a ainsi une symétrie entre le degré d’écart sémantique et le degré d’écart de hauteur séparant séquence principale et séquence subordonnée: il est faible dans les phrases avec adversatives et important dans celles avec concessives.

Cependant, il y a quelques exceptions dans la description acoustique, d’une part. D’autre part, le test de perception a montré que la discrimination entre adversative et concessive ne pouvait se faire uniquement à partir de l’indice prosodique dégagé.

L’intonation n’apparaît jamais seule, ce qui peut justifier ce caractère insuffisant de l’indice dégagé; Delattre (1966) soulignait cette redondance à propos des intonations qu’il proposait, en disant:

*[leur]* valeur linguistique n’est que potentielle car chacun sait qu’en pratique on ne se sert pas toujours de l’intonation, soit qu’on s’exprime moins clairement qu’il ne serait possible, soit que l’intonation devienne redondante, la grammaire ou le contexte fournissant le même éclaircissement (note 5, p.7).

Cependant la pertinence de cet indice n’a été relevée que chez une seule locutrice et il sera bien sûr nécessaire d’étendre cette étude préliminaire à un plus grand nombre de sujets.

**Références bibliographiques**


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Trésor de la Langue Française informatisé (TLFi), CNRS, 2004.


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**Durational Effects of Intonation Variation in Ika**

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**Abstract**

Ika is a dialect of Igbo, a major Nigerian language belonging to the New Benue-Congo sub-group of the Niger-Congo family. This paper aims to identify the effect of three Ika rising intonation patterns on syllables durations. Three utterances were used for the study. It was discovered that some intonation patterns have an elongating effect on the durations of syllables and utterances while others tend to elicit shorter durations.

**Keywords:** Duration, intonation, acoustic, variation

**Introduction**

Duration as used in this study is purely an acoustic cue. It refers to the length of time it takes to produce a sound or syllable (Crystal, 1991: 114). Other acoustic cues include fundamental frequency and amplitude. Although Lieberman (1967:65) in his research, discovered that speakers can manipulate duration so as to be able to say so much in a short duration. It must be noted that speech has a lag time just as quiet breathing. Expiration in normal (quiet) breathing takes about two to three seconds (Lieberman, 1967:23). Lieberman and Blumstein (1988:201) also show that in producing a particular sentence several times the fundamental frequency (Fo) keeps changing while the duration remains constant. This was seen from the production of five tokens of the utterance *Bev loves Bob*. In all five tokens, the syllables had the same duration. They point out that many perceptual interpretations of prosody are as a result of variation in duration of segments though they are wrongly attributed to Fo variations. Lieberman (1967) indicated that Fo and duration are the strong correlates of intonation. The effect of variation on duration can be seen from this work. Thus it appears that variation in intonation results in variation in durations of segments and syllables.

Remez et al (1986) in Lieberman and Blumstein (1988:223) report that duration tends to vary in spontaneous speech more than in natural speech. Although the speech used for our research is not read, the subject had the opportunity to prepare for their speech sample.
Hence it is expected that the durations should be less variable. Collier (1983) reveals that the major phonetic difference that correlates with intonational contrasts is the timing of otherwise identical changes. Hence a timing of not more than 25 ms is enough to mark the difference between intonation patterns. It is therefore a two-way street where duration affects intonation variation and intonation variation is reflected in differing durations. Nakatani, O’Connor and Aston (1981) noted in their study of American English, that syllable duration was greatly influenced by stress. Also, word-final and phrase-final syllables tended to be elongated more than those in non-final positions. It would appear from their findings that syllable position plays a greater role in syllable elongation than stress. These investigators measured the spectrograms of one-stress syllable in final, penultimate and antepenultimate positions in phrase-medial adjectives, and those of phrase-final nouns. They came up with the following measurements.

Phrase-medial one-stress syllable adjectives

<table>
<thead>
<tr>
<th>Antepenultimate</th>
<th>Penultimate</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>190ms</td>
<td>210ms</td>
<td>280ms</td>
</tr>
</tbody>
</table>

Phrase-final one-stress syllable nouns

<table>
<thead>
<tr>
<th>Antepenultimate</th>
<th>Penultimate</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>215ms</td>
<td>220ms</td>
<td>470ms</td>
</tr>
</tbody>
</table>

Ho (1977) also reiterates that that the duration of syllable nuclei in a sentence is influenced by word position rather than intonation except in sentence-final position. The test utterances used in the present study are presented in isolation hence word position will not be considered in our analysis.

In another study Ho (1975) measured the duration of four Mandarin tones in isolated words. The tones were level tone (tone 1), rising tone (tone 2), falling-rising tone (tone 3) and falling tone (tone 4). He found that tone 3 had the longest duration (above three seconds), followed by tone 2 (0.29 seconds) the level tone (tone 1) ranked third (0.26 seconds) while tone 4 took the shortest duration (0.20 seconds). These findings will be studied further in the present investigation.

Materials and Methods

Four test utterances were used for the study. Each of the utterances was pronounced using three intonation patterns – Low Rise (LR), High Rise (HR), and Fall Rise (FR). The test utterances appear below:

- wé – they
- yá – you
- nú – hear

A male informant pronounced the utterances using four different intonation patterns. His speech was tape-recorded and digitized. Three tokens of each utterance were recorded. The duration of each utterance was calculated in seconds, using the Praat speech analysis software. The test utterances with their corresponding intonation patterns and their attitudinal meanings, are presented below.
Word | Intonation | Attitudinal meaning / translation
--- | --- | ---
wé | LR | they (emphasis)
    | HR | they? (surprise)
    | FR | you mean them? (surprise, doubt, disgust, forcefulness)
yá | LR | you (emphasis)
    | HR | you (surprise)
    | FR | you (surprise, doubt, disgust, forcefulness)
nú | LR | hear (emphasis)
    | HR | hear (surprise)
    | FR | hear (disbelief)

Results and findings

The following mean duration values were calculated for the test utterances:

Wé

Low Rise  – 0.45 seconds
High Rise – 0.30 seconds
Fall Rise  – 0.55 seconds

It can be observed above that the FR intonation pattern has the longest duration – 0.55 seconds. The LR has 0.45 seconds while the HR shows a duration of 0.30 seconds. This can be seen from Fig. 1 below.

Fig. 1: Mean duration for wé using LR, HR and FR intonation patterns
yá
Low Rise – 0.35 seconds
High Rise – 0.33 seconds
Fall Rise – 0.42 seconds

Fig 2: Mean duration of yá using LR, HR and FR intonation patterns.

Nú
Low Rise – 0.53
High Rise – 0.51
Fall Rise – 0.59
Summary and Conclusion

Our findings indicate that the Fall Rise intonation pattern has the longest duration, followed by Low Rise, with the High Rise having the shortest duration. This also authenticates the findings of Ho (1976:335) who reported the Fall-Rising tone as having the longest duration. Though it may not be said that Fall Rise tone and the Fall-Rising tone are the same, their nomenclature must surely depict some semblance in direction of pitch movement. Thus, it can be concluded that Fall Rise intonation tends to take longer duration to pronounce than the other two - High Rise and Low Rise. The difference in duration could be as a result of the direction of pitch movement. The FR involves the pitch going down first and then rising up. This process apparently would take longer than what occurs in the production of the Low Rise where the pitch does not have to undergo a fall since it is already low. Rather, it undergoes a slightly gradual rise from low to high. The pitch movement involved in Low rise however should obviously take longer than what takes place in HR. In the latter, all that is involved is making an already high tune to go higher. It should be expected that this should take the shortest duration of all the processes described above.

Though Collier (1983) shows that the major phonetic difference that correlates with intonational contrasts is in the timing of otherwise identical changes, the result of this investigation has suggested that manner of production plays a major role in establishing classification of intonation patterns. Manner of production influences duration which is a major factor in the shaping of the various types of tunes. Since a timing difference of not more than 25ms is enough to make the difference between intonation patterns (Collier, 1983) it is therefore concluded that the duration of tunes is determined by the manner of
production and the positions and processes through which the tongue and the vocal cords move to achieve the desired sound.

References


Trommelfell Simulation

(see Wolf, Oskar, Sprache und Ohr. Akustisch-physiologische und pathologische Studien, Braunschweig [Friedrich Vieweg und Sohn] 1871, p. 188)
This paper describes the life of Emil Milan (1859-1917), a famous reciter, academic teacher, actor and stage manager. His work and example have fundamentally influenced the evolution of speech communication, rhetoric, speech performance and speech training in the German-speaking world of the early 20th century.

Milan was born on April 2, 1859 in Frankfurt on the Main. After highschool, he first started an apprenticeship in commerce and business but soon followed his real passion to become an actor. He joined the theatre ensembles in Hagen and Meiningen and was engaged as actor and stage manager by the Colone theatre in 1888. Milan's outstanding talents in speech performance aroused the attention and interest of Albert Bachmann, dialectologist and professor of Germanic Philology at Zurich University and Head of the Society for German Language in Zurich, Switzerland. He invited Milan to give courses in speech performance to Grammar School teachers in Zurich, St. Gallen, Basel and Bern.

At the age of 40 (i.e. in 1899), Milan matriculated at the University of Zurich to study German Language and Literature, esthetics and psychology. Four years later, he presented a thesis on "Das Herz in der Sprache der Minnesänger" (The heart in the language of the minnesingers) and received his doctoral degree in 1904.

In 1903, Milan became lecturer in speech performance at Berlin University and remained in this position until 1915. During the same period, his reputation as an outstanding expert in speech performance had been constantly growing. At Berlin University, he closely cooperated with Hermann Gutzmann, an ENT specialist and phoniatician at the Charité hospital. When Max Reinhard founded the "Deutsches Theater" (German Theater) in Berlin in 1905, Milan became a member of the steering committee and joined the teaching staff of its drama school. Starting in 1906, he also worked as stage manager at the German Theater.

In 1915, Milan earned the title of Professor of Speech Performance. Two years later, he died of pneumonia in Berlin. Emil Milan must be considered a key figure in early German speech performance who's ideas were continued and developed by his numerous pupils.


Nach entbehrungsreichen Jahren fand er 1886 zunächst in Hagen, 1886/87 dann am Herzoglichen Hoftheater in Meiningen als Schauspieler sowie 1888 bis 1892 als Schauspieler und Regisseur am Stadttheater zu Köln eine lohnende Tätigkeit. Gelegentliche Versuche als Vortragskünstler hatten ihm bedeutende Erfolge gebracht, und bald widmete er sich ganz diesem Beruf, der zu einer Berufung wurde und der ihn über die Grenzen Deutschlands hinaus bekannt gemacht hat.


Es ist das Verdienst Bachmanns, daß er im Jahre 1886 die Beziehungen zu dem damals weitgehend unbekannten, in Hamburg lebenden Rezitator aufnahm und ihm im Rahmen der Gesellschaft für deutsche Sprache, deren Ehrenmitglied Milan 1898 wurde, ein fruchtbares Arbeitsgebiet verschaffte. Milan hielt Vortragskurse ab, die aus Ausspracheübungen sowie Lese- und Vortragsübungen an poetischen und prosaischen Musterstücken bestanden.


Außer seiner Dissertation ermittelten wir "Ein unmusikalisches Schauspiel in 2 Aufzügen für Crefeld und andere Provinzstädte", betitelt "Heimat" (Schmitz'sche Buch- und Kunsthandel, Köln 1893), das beim Künstlerfest der Gesellschaft "Klauser" in Köln am

30


"1. Eine zweistündige Vorlesung, Einführung in die Kunst des Vortrages (Atmung, Lautbildung, Betonung etc.)
2. ein zweistündiges Praktikum, in welchem die theoretischen Ausführungen an Lauten, Worten und Sätzen wie endlich Vortrag wie freier Prosa erprobt und geübt werden
3. ein bis zwei Stunden vorbildliche Darbietung, welche in Recitationen des Lektors mit kurzen Erläuterungen über die Art des Vortrages bestehen."

Man sieht, daß die Anforderungen hoch gestellt waren. Auf seinen Antrag hin erhielt Milan, der sich zum Zeitpunkt des Schreibens noch in der Schweiz aufhielt, die Genehmigung, die ihm übertragenen Obliegenheiten erst mit Beginn des nächsten Wintersemesters (1903) zu übernehmen.


Hervorheben wollen wir auch die Lehrveranstaltungen, die Milan angesetzt hat und die wir dem Vorlesungsverzeichnis vom 16. April bis 15. August 1905 entnehmen:
"Vortrag deutscher Gedichte für künftige Lehrer des Deutschen",
"Redeübungen (für Studierende aller Fakultäten)"

wird in ähnlicher Formulierung 1911/1912 und 1913 wiederholt. - Diese Angaben sind eher bescheiden, da Milan große Teile der deutschen Dichtung in seinem Repertoire hatte und auf seinen ausgedehnten Reisen vortrug.


Noch zwei weitere Autoren, die auf Milan hingewiesen haben, sollen erwähnt werden. In seinem Aufsatz über Ludwig Hardt spricht Thomas Mann von Milan als "jenem Frommen, Lauteren, Treugesinnten, der uns mit dem <Siebzigsten Geburtstag> zu Tränen erfreute"(7, p. 673). Susanne Engelmann charakterisiert Milans Methodik, der ja ohne Pose seine Arbeit verrichtete, wie folgt:

"In Emil Milans Übungen 'Vortrag deutscher Gedichte für künftige Lehrer des Deutschen' (Universität Berlin) sprach ein junger, vielleicht zwanzigjähriger Student in C.F.Meyers Ballade 'Mit zwei Worten' den Schluß mit all dem Feuer und Schwung seiner Jugend: "Liebe wandert mit zwei Worten gläubig über Meer und Land!". Es war wie ein Fanfarenstoß. Da sagte Emil Milan mit seinem unendlich gültigen Lächeln: "Na ja; wenn man so jung ist, dann muß man das wohl so sprechen. Wenn man älter ist, dann fühlt man es anders". Und nun trug er uns nach einer Pause die Ballade noch einmal vor, und der leise
Ton von Verzicht, von Wehmut, mit dem der schon Alternde dies Gedicht von den gläubigen und siegenden Liebenden sprach, wird allen, die dabei waren, unvergesslich sein." (2, p. 124)

Von weiteren Wissenschaftlern, die über Milan geschrieben haben, sollen u.a. folgende Autoren hervorgehoben werden: Herta Reclam (9, p. 61-63), Irmgard Weithase (12, p. 566-569), Geert Lotzmann (6, p. 25-33), Marita Pabst-Weinschenk (8, p. 21-27) und Hellmuth Geißner (4, p. 22-23).

Man muß es als einen besonderen Glücksfall in der Geschichte der Sprechwissenschaft ansehen, daß vor dem Beginn der eigentlichen fachlichen Entwicklung eine so prägende Persönlichkeit wie Emil Milan stand, und gleichermaßen war es eine glückliche Fügung, daß Milan für einen seiner wesentlichen Schüler in Berlin, nämlich Richard Wittsack, zur Leitfigur während seiner Tätigkeit und Institutsgründung in Halle wurde und ihn beflügelte, das Erbe Milans nicht nur an die Lehrenden, wie z.B. Hans und Eva-Maria Krech sowie Eberhard Stock, sondern auch an die nachfolgenden Studentengenerationen weiterzugeben, für die nun wiederum Wittsack ebenso zum "Meister" wurde wie es Milan für seine Hörer gewesen war.

Milans Vermächtnis zu bewahren und als bewegenden Kraftquell weiterzugeben, ist unser aller Aufgabe. Möge sein Geist in der Sprechkunst und in der Fachwissenschaft immer lebendig bleiben und sein Andenken geehrt werden.

**Literatur**

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33
Kay Elemetrics Award 2005 for Péla Simon

Péla Simon was born and brought up in Alsace, one of the most picturesque and in many respects pampered regions of France. For her studies in linguistics of the Romance languages and phonetics, she joined the University of Strasbourg where she met Georges Straka, professor of Romance philology and phonetics. Straka came from the Phonetics Institute of Charles University in Prague and when he founded the Institute of Phonetics at the Faculty of the Humanities of Strasbourg University in 1947, he was very much influenced by the Chlumský and Hála tradition of phonetics which finally goes back to Rousselot who was Chlumský’s teacher in Paris at the beginning of the 20th century. Thus it was not surprising that experimental phonetics would play a dominant role and that x-rays should extensively be used in research in Strasbourg. It was in this stimulating academic environment of philology, linguistics and phonetics that Péla Simon followed her studies and developed her devotion for the phonetic sciences.

Péla Simon joined the staff of the Phonetics Institute as a research assistant in 1958. She became Assistant Professor in 1963, Associate Professor in 1967, and Full Professor in 1971. In parallel with her responsibilities as director of the Phonetics Institute, she remained in this position until her retirement in 1992.

Her first publications appeared in the early sixties. They clearly document that the author was highly specialized in x-ray filming as it applied to research in articulation. In 1967, Péla Simon presented a comprehensive doctoral thesis on The articulation of the consonants of French: positions and movements — documented through x-ray films. One year later, she designed the role of high-speed x-ray filming for a detailed observation of phonation and articulation during the production of speech sounds, words and phrases in speech and singing. A method of automatic coding for synchronizing x-ray imaging of running speech with graphic transcription was discovered and developed into a powerful research tool during the late seventies and eighties by Professor Simon and her team.
permanently optimized in interdisciplinary cooperation with specialists from the Faculty of Medicine. This procedure (which was also used in combination with palatography, palatopography and labiography) must be considered a break-through in the domain of visualization of the speech organs and their movements in running speech. High-speed x-ray films from Strasbourg without and in combination with the automatic synchronization method have been extensively used for the comprehensive description of vowels and consonants of French\(^3\) and many other languages\(^4\), and also found its way into agio-cardio- and coronarographie. But even more important are Professor Simon's contributions to fundamental research in articulatory phonetics which are documented in her own publications and in many publications of her pupils which she has initiated, sponsored and supervised. These publications definitely shed new light on the neuro-motor programs which control the phonatory mechanism and articulatory gestures. It is in this context that also new insights into the mechanism of coarticulation have been provided.

However, articulatory phonetics is not the only domain Péla Simon has conducted relevant research in. We also owe her valuable contributions to acoustic and applied phonetics. In cooperation with Professor Ch. M. Gros (radiologist), she investigated the voice of patients with endocrine diseases. The effects of trauma of the larynx on the voice as well as the relationship between malformations in the mouth cavity (jaws, teeth, palate) and speech defects were completed in cooperation with Professor G. Klotz (ENT specialist) and Professor C. Bolender (surgon). Professor H. Lips (musicologist) was her partner for detailed acoustic studies on the voice in speech and singing, its spectral characteristics as a function of vocal techniques, and the effect of vocal techniques on the projection of the voice.

The research facilities at the Institute of Phonetics and the high level of academic coaching by Péla Simon caused a real rush of young researchers from Europe and other countries towards Strasbourg in the eighties. Many of them have become professors of phonetics themselves or hold high ranks in phonetic research today.

Professor Simon is an Officier des Palmes Académiques, an Officier dans l'Ordre national du mérite, an Honorary Professor of the University Estacio de Sá in Rio de Janeiro and she has been honored with the status of Fellow of ISPhS in 1981. She receives the Kay Elemetrics Award 2005 for her exemplary commitment to general and applied phonetics, for the wide scope of her research activities within and beyond the traditional fields of the phonetic sciences, for her valuable discoveries in articulatory phonetics and their enduring impact on speech production modelling and for her courageous initiatives in favour of interdisciplinary cooperation.

\(^{1}\)in cooperation with P. Bourjat and E. Dillenschneider

\(^{2}\) P. Simon, G. Brock, A. Bothorel, F. Wioand, F. Wolff, H. Nadjafizadeh


\(^{4}\) Akan, Arab, Bulgarian, Gaelic, German, Icelandic, Japanese, Kiswahili, Korean, Lozi, Persian, Portugese, Thaï, Turkish, Wolof

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Eva-Maria Krech was born in Berlin. At the age of 19, she took up the studies of speech communication, as well as German Philology and Literature, at Martin-Luther-University Halle-Wittenberg in Halle and soon came in close contact with the Institute of Speech Communication. Founded in 1938, this institute had developed (under Richard Wittsack who was its director until 1951) into a center where rhetoric, speech training as well as speech-, language- and voice-disorders and their therapy were units interacting with phonetics. Under the guidance of her future husband, Hans Krech (head of the Institute for Speech Communication from 1952 until 1961), Eva-Maria Krech made her first steps in research concentrating on pronunciation in classical singing. In 1964, she accomplished her doctoral thesis on the glottal stop in Standard German. The topic of her habilitation thesis reflects her second major research area: speech performance studies.

Professor Krech started her academic career as a lecturer at the Institute of Speech Communication in Halle in 1955, became reader in 1971 and full professor in 1992. Very soon, she laid the foundations for her undisputed role as a key figure within and beyond her institute as an esteemed academic teacher, a highly respected researcher and a dedicated promoter of the advancement of the academic programs and the profile of speech communication and phonetics of her institute to which she has remained attached during her entire career. In fact, after the death of Hans Krech in 1961, Eva-Maria Krech committed herself to the consolidation and the development of the ideas her husband had introduced into the theoretical concept of speech communication and its organizational structure as a scientific discipline at Halle University. Core areas were a holistic approach to speech therapy, systematic research in the field of standard German pronunciation and the investigation of the effects of speech on the listener.

After Eduard Kurka and Eberhard Stock who held the position of head of the Institute of Speech Communication from 1961 until 1967 and from 1967 until 1976 respectively (Eberhard Stock also from 1981 until 1990), Eva-Maria Krech became its director from 1976 until 1981 and again from 1993 until 1998, the year of her retirement. In the rank of full professor and head, her main challenge was to lead her institute into the new university system after the reunification of Germany. Due to her dedication and permanent and tireless engagement, her endeavours were crowned with great success and she could leave to her successor, Lutz Christian Anders, an Institute of Speech Communication and Phonetics solidly integrated in the new structure of Martin-Luther-University.

Eva-Maria Krech has published extensively. She is co-author of two classical reference works for German standard pronunciation: the Dictionary of German Pronunciation [WDA] (1964), as well as of its successor Comprehensive Dictionary of German Pronunciation [GWDA] (1982). Another standard reference work is her textbook The Art of Performance of Poetry [Vortragskunst] (1987). Other books and numerous papers deal with applied
phonetics, the problems of codifying standards for pronunciation, the effects of speech on
the listener and the art of recital.

Professor Krech is presently editing a new German Pronouncing Dictionary which is

Our honoree has been Vice President from 1992 until 1999; she has been Honorary Vice
President since 1999. ISPhS’ membership is proud to award her with the 2006 Svend Smith
Award for her outstanding contributions to applied phonetics and her passionate
commitment for the benefit and advancement of the phonetic sciences in general.

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Obituary on Peter Ladefoged

Peter Nielsen Ladefoged was born on September the 17th 1925. He passed away
suddenly from a stroke on January the 24th 2006 in London on his way home to Los
Angeles from a research trip to India — thus dying as he had wished "in harness". Son of a
Danish businessman who lived in the county of Surrey at Sutton, then 20 kilometres south
of London but now a south London borough, he attended Haileybury College 1938-43.
This distinguished public school (where post-war prime minister Clement Attlee was
educated) was founded by the East India Company in 1806 forty kilometres north of London. From there Ladefoged proceeded to
Caius College Cambridge to study physics but within a year or so was caught up in the last
stages of the 1939-45 War and in 1944-47 saw service with the British Army in the Royal
Sussex infantry regiment partly in Italy. On demobilisation, he enrolled in courses on
English Literature at the University of Edinburgh. There, inspired by an introductory course
in David Abercrombie's Department of Phonetics, he transferred to linguistic studies. From
the time of his graduation in 1951 he undertook research in that department. He was
appointed to an assistant lectureship in 1953, the year in which he married fellow phonetics
student Jenny MacDonald.

With a background in physics, Ladefoged was ready to take advantage of the
increasingly diverse and sophisticated equipment available for the acoustic examination of
speech. He also engaged in co-operation with scholars in communications engineering,
physiology and psychology. During the fifties he began his attention to a wide variety of
languages when he took leave of absence from Edinburgh to spend 1959-60 in Nigeria on
the staff of the University of Ibadan. At that time and when he returned there in 1961-62 he
carried out an auditory and instrumental survey recording speakers of 61 languages,
undertaking palatographic, aerodynamic etc studies of many of them, leading to his book *A Phonetic Study of West African Languages* (1964). It was in that work, incidentally, that he introduced into phonetic literature the now indispensable term "approximant".

His passion for investigating the whole range of human speech articulations was to take him on fieldwork in numerous remote corners all over the world. This culminated in his description of the segments that distinguish lexical items in over 300 languages *The Sounds of the World's Languages* (1996), written in collaboration with Ian Maddieson. He decided during the fifties that to attempt to fulfil his "ambition to hear and describe all the distinct sounds of the world's languages" it was advisable for him to seek a post in the USA. Thus he assembled materials to submit for a Ph.D. on the nature of vowel quality. Much of its content appeared in 1967 as parts of his book *Three areas of experimental phonetics*. This included a searching critique of the "cardinal" vowels system devised by Daniel Jones.

In 1962 he and Jenny moved to Los Angeles where he took up an assistant professorship in phonetics at the UCLA Department of English. In that year he published his widely used textbook *Elements of acoustic phonetics* and set up the UCLA Phonetics Laboratory which began amassing recordings and acoustic data on hundreds of languages worldwide. He investigated speech, "from more people speaking more languages than any other phonetician has ever done" as Fromkin remarked in 1985. He formally directed the laboratory until 1991 when he "retired to become UCLA Research Linguist and Distinguished Professor of Phonetics Emeritus".

He listed his publications as ten books and 130 scholarly papers. These last appeared during half a century in a bewildering profusion of journals, conference proceedings, festschrifts etc. Three of his books and half of his articles were produced with co-authors among whom were elder statesmen of phonetics including Morris Halle and Gunnar Fant, various close colleagues and some of his field informants. The ascriptions of over forty of the articles led with other names than his own. Among his books were *Preliminaries to linguistic phonetics* (1971), which proposed a new distinctive features system challenging that of Chomsky and Halle, and the recent *Phonetic Data Analysis: An introduction to phonetic fieldwork and instrumental techniques* (2003). In 1975 he published the highly successful introductory textbook *A course in phonetics* which has gone through several editions. He followed that up in 2001 with an especially accessible elementary volume (well adapted to computer users) called simply *Vowels and consonants: An introduction to the sounds of languages*. He contributed the entry on Phonetics to the Encyclopedia Britannica.

Up to the point when he died he was at work on a book *Representing linguistic phonetic structure* a substantial amount of which (two chapters) had already been written and posted on his personal website.

An important book which with characteristic modesty he made no claim to have contributed to in his listing of his publications but to which he was in fact the most important of all its contributors as its originator and organising editor was the *Handbook of the International Phonetic Association* (1999). Ladefoged had joined the IPA as a student in 1952 and within a decade or so had been voted onto its governing Council on which he stayed for the rest of his life becoming one of its longest-serving members. When in 1985 A. C. Gimson died suddenly after only a year as IPA President, Ladefoged was his natural successor. Previous presidents had held post indefinitely but he had the IPA Constitution rewritten so that the honour could be handed on to others every four years. He at once set
about planning to replace the IPA’s outdated and inadequate *Principles* booklet. Of the IPA’s International Phonetic Alphabet he said, "By the mid 1980’s it was apparent that the existing chart was out of date, and the International Phonetic Association needed to catch up with the times. As president, I was able to help by convening the 1989 Kiel Convention, which led to major revisions of the IPA chart". He led not only the revision of the IPA chart but the production of the *Handbook* of over 200 pages. Another item he didn’t list among his publications was an illustrated *Dissection Manual for Students of Speech* of 80 or so pages again posted on his website and referred to as "current activity".

In the years before Ladefoged became President of the IPA its Journal (JIPA) had been experiencing a variety of difficulties with its printers. He set about solving these problems initially by transferring its production to UCLA. It had various ups and downs editorially in spite of his frequent injections of editorial help until in 1999, when it was seriously faltering, he took over as senior editor. He was an exacting, meticulous but a good-humoured editor. In 2001 he arranged for it to be published by Cambridge University Press and in 2004 handed over the senior editorship to John Esling. His legacy was such that it is now superior in every way to what it has ever been before.

Ladefoged was positively revered for his teaching as was recognised by a Distinguished Teaching Award from UCLA in 1972. He was the recipient of many other honours including various fellowships of learned societies, honorary doctorates etc. From 1983 he was President of the Permanent Council for the Organization of International Congresses of Phonetic Sciences up to his formal retirement in 1991 on which occasion the Council presented him with a gold medal.

His gathering data on the many languages which he warned were likely soon to disappear led in 1997 to his being appointed to the Board of Directors of the Endangered Language Fund. His attitude was not sentimental: he recognised that most such languages had to go as an inevitable concomitant of improvements in the welfare of those who spoke them. Another interest of his was speaker identification which involved him in various forensic cases but figured in his publications only in the odd article and review.

Not only was huge admiration for his scholarship universal but all those who came into however slight contact with him will remember him also for his personal human qualities. He was completely free of any pomposity. His characteristic garb was a t-shirt. He always pressed even his most junior contacts to address him as "Peter". He was outstanding for his friendliness, humour and accessibility. Those who corresponded with him will know of his jokey choice of email address as "oldfogy". In listing personal information he referred to Jenny as a "notorious Episcopal Church Woman" and himself as a "member of Atheists for Jesus". However serious he might have been about membership of that last sect he no doubt relished the drollness of its title. He liked to close some of their recent correspondence with the witticism "The International Phonetic Association is like the Episcopal church. One can hold almost any theoretical position as long as one gets the symbols right."

Ladefoged began the Preface to his 1967 book with the remark: "A phonetician has to have more talents than I have". On the contrary it's pretty hard to think of any phonetician who has ever had as many talents as he had!

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RODMONGA K. POTAPOVA, D. Ph., D. Sc. of Philology, Sc. Degree of Professor, Academician of the International Information Academy, and Head of the Department of Applied and Experimental Linguistics at Moscow State Linguistic University. She is known internationally in the areas General and Applied Phonetics, Applied and Experimental Linguistics, Lingua-didactics, Acoustics of speech, New Information Technologies, Forensic Phonetics, and Germanic Studies. As an author of more than 400 publications in Russia and other countries she has written such well-known books and monographs as: "Fundamental modern methods of analysis and synthesis of speech" (1971); "Experimental phonetic investigations of speech segments" (1979); "General and applied phonetics" /with co-authors/ (1986; 2nd ed. 1997); "Syllable phonetics of Germanic languages" (1986); "Speech driving of robots" (1989; 2nd ed. 2005); "Preliminaries to Linguacybernetics" (1990); "Peculiarities of German pronunciation" /with co-author G. Lindner/ (1991); "Mystery of Modern Centaur: Human–Machine Interface" (1992; 2nd ed. 2003); "Natural Language Processing in Science and Industry" (1991); "Dictionary of German Pronunciation /especially for difficult pretonic vowels/" (1994); "Speech: Communication, Information, Cybernetics" (1997; 2nd ed. 2001; 3rd ed. 2003); "Connotative Paralinguistics" (1997; 2nd ed. 1998); "Electronic Encyclopedia for Forensic Phonetic Experts" (1999; 2nd ed. 2000); "Language, Speech, and Personality" /with co-author V. Potapov/ (2006).

For many years she served as the Head of the Speech Communication Commission of the Scientific Technical Board of the Higher Education Ministry. She was also a member of Editorial board of the Journal "Social and Human Sciences in Russia and foreign countries" (Russian Academy of Science), a member of the International Association of Forensic Phonetics & Acoustics (whose headquarters is in the UK), Vice-President of the International Association on Cognition, Communication and Contrastive Linguistics, and for many years has served as a Vice-President and now an Honorary Vice-President and Regional Secretary for the International Society of Phonetic Sciences (ISPhS). In addition she has served as the Coordinator of the Sub-Committee in Eastern Europe for the International Affairs Committee of ISCA. She has received several international Awards including "5000 Personalities of the World" for Outstanding Contributions to Higher Education (Ed. 4) (USA), the ABI’s Gold Medal "In honor of Outstanding Achievements" (USA, 1992), "Outstanding Scientist of Russia", the State Title of Honored High Education Worker of Russia, and the Chairman of Speech Acoustics & Applied Linguistics Board of Acoustic Society of Russia.
She is now the Head of the Department of Applied and Experimental Linguistics at Moscow State Linguistic University (MSLU), and is the Director of the Center of Fundamental & Applied Speech Sciences.


Rodmonga Potapova celebrates her 70th birthday on April 27, 2006. Her colleagues, as well as students and post-graduate students congratulate her. They all wish her good health and long years of further activity as a scientist and head of department.

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**Peter Martens: 85th birthday***

Peter Martens was born on May, 10, 1919 in Hamburg. The subjects which attracted him most in highschool were foreign languages and cultures. Therefore, he eagerly enrolled in the foreign exchange program that his school had established with schools in France and England. Extended trips took him to these countries right up to the outbreak of the Second World War.

After highschool, he studied English philology, Romance languages, German philology and German literature at the University of Hamburg. Otto von Essen introduced him to general and applied phonetics and Vilma Mönckeberg-Kollmar instructed him in speech communication, rhetoric, and voice and speech therapy. His interest in phonetics had also been influenced and encouraged by his father Carl Martens, who had been working with Giulio Panconcelli-Calzia since 1911 and then with Otto von Essen at the Phonetics Institute of Hamburg University. In 1953, Peter Martens obtained his doctoral degree with a thesis entitled "Vergleichende Untersuchung der Sprechmelodie in der Hamburger und Münchner Umgangssprache" ('The intonation of colloquial German spoken in Hamburg and Munich: A comparative study'.)

In 1951, the German language courses for foreign students at the University of Hamburg were turned over to him. Six years later, this position was changed into a lecturership in German for foreign students and led to the position of a reader in 1962. From 1977 until his retirement in 1985, Peter Martens held the title of Professor of German Phonetics. In his
teaching, he combined his excellent qualifications in phonetics, rhetoric, and speech training with convincing talents in speech performance. Over a number of years, he enriched the curriculum of the Institute of Phonetics with his lectures on phonetics and phonology of modern German and a course on standard German pronunciation, where he also trained future teachers for pupils with speech and hearing impairments.

On the occasion of his 70th birthday in 1989, a Festschrift was dedicated to Peter Martens which contained papers in various areas of phonetics, speech communication, rhetoric, speech training, speech therapy, High and Low German philology, dialectology and German as a foreign language. These accurately depicted the wide scope of Peter Martens’ academic interests and activities. This is confirmed by a glance at the impressive list of his publications.

One of his most significant contributions, considering the large number of his books and papers, is probably his excellent textbook on German phonetics (Phonetik der deutschen Sprache) which Peter Martens wrote in cooperation with his father Carl and which was published in 1961 (2nd edition in 1965). This book has been and is still being used by hundreds of foreign language students and future school teachers for the speech and hearing impaired.

Since his retirement, Peter Martens has not entirely withdrawn from academia, but continues some work in the many fields in which he had been active in during his professional life. We wish him good luck for many years to come.

*These birthday greetings were originally written in 2005 and intended for publication in the Phonetician 91 (2005-1). Several reasons hampered the publication of that issue in 2005. Five years have passed since Peter Martens celebrated his 85th birthday and we are happy to inform the reader that Professor Martens celebrated his 90th birthday on May, 10 of this year (2009) in good health and in great intellectual and physical shape.

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Information on ON-GOING THESES

could be very useful for thesis supervisors, researchers as well as PhD students. A list of speech theses is available under the section HL Theses at http://www.elsnet.org
Phonetics Institutes Present Themselves

This section of The Phonetician is devoted to the presentation of phonetics institutes from all over the world. The purpose of this section is to give our readers an idea about what other phonetics institutes look like, what sort of equipment they have, what their main research areas are, and last, but not least, who their staff are. Ideally, this will help to increase the scientific exchange between phoneticians and their institutes.

If you would like to present your phonetics institute in The Phonetician, send a short description of it to the editors. In this issue, we publish a description of the history of Phonetics at the University of Hamburg.

Death of a Phonetics Institute:
The Phonetics Institute of the University of Hamburg
(1910-2007)

In recent years there has been a continuous debate on language death (Dorian 1989; Crystal 2002). Languages are dying all over the world with an alarming celerity. It is even feared that at the end of the 21st century, half of the languages presently spoken will have become extinct. It is therefore a very urgent task to study as many languages as possible while they are still spoken. Perhaps it will be possible to save something at least as invaluable information for the science of language.

Less frequently, there have been reports on the death of research institutions devoted to the study of language. In this section "Phonetics Institutes Present Themselves", this time we want to present a short obituary on the Phonetics Institute of the University of Hamburg, the oldest phonetics institute of the world, which finally closed its doors after 97 years of existence in 2007. The activities and achievements of the Institute in Phonetic Research and Teaching have been evaluated in publications several times. We want to mention here the appraisals by Scripture (1921), von Essen (1951), Wängler (1959) and Grieger (1986, 1989).

The Phonetics Institute of the University of Hamburg was originally founded as a section of the Department of African Languages in 1910 by Professor Carl Meinhof (1857-1944). In Hamburg at that time, there existed an institution devoted to research related to the German Colonies, called the Colonial Institute ("Kolonialinstitut"), which was one of the direct predecessors of the University of Hamburg. When the University of Hamburg was founded in 1919, the phonetic section became an independent research unit and a few years later a university institute within the Faculty of Philosophy ("Philosophische Fakultät") under the directorship of Giulio Panconcelli-Calzia (1878-1966), a young Italian-born phonetician and a former assistant of Abbé Pierre-Jean Rousselot (1846-1924) in Paris.

Under the directorship of Giulio Panconcelli-Calzia, the Institute of Phonetics flourished, gaining a worldwide reputation as a leading institute in phonetic research. The
prestige of the Institute continued to grow and was so great that in 1914 the First International Congress of Experimental Phonetics was held in Hamburg under the direction of Carl Meinhof and Giulio Panconcelli-Calzia. The Proceedings of this Congress did not appear in print, because the outbreak of the First World War caused a situation which made contact between scientists very difficult. The financial collapse after the War made the printing of the Proceedings impossible. However, the abstracts of the Papers presented at the Congress can be read in VOX (1913 and 1914), which was a leading journal of phonetics at the time, published by the Institute.

The Phonetics Institute did not only show an interest in speech, but also in vocal and instrumental music of the German colonial regions. This lead to the foundation of a new section of ethnological musical research in 1935, under the directorship of Wilhelm Heinitz (1883-1963). Heinitz was not only a scientist, but also a notable poet. Within the Institute, this section existed until 1948, when it was transferred to the Department of Musical Sciences of the University of Hamburg, like a sprout growing out of the mother plant.

Giulio Panconcelli-Calzia was especially active in research in physiological phonetics as well as in speech pathology and in the application of these fields to the education and therapy of voice, speech and hearing disorders. These interests resulted in a close collaboration with the department of otorhinolaryngology at the University Hospital in Hamburg, into which this research area was finally integrated as another sprout growing out of the Institute of Phonetics. But Panconcelli-Calzia was in fact interested in all phonetic domains. He wrote notable contributions to almost all areas of phonetics. But his many and significant contributions to the History of Phonetics seem to resist the erosion of time most effectively and are often cited and consulted today (Panconcelli-Calzia 1994).

The successor of Giulio Panconcelli-Calzia was Professor Otto von Essen (1898-1983). His research focused on speech pathology and physiological phonetics. His monumental book on general and applied phonetics (von Essen 1979) grew out of his teaching and appeared in five editions becoming a standard reference work in Germany.

Hans-Heinrich Wängler (1921-2001), the assistant of Otto von Essen and subsequently Professor of Phonetics at the University of Colorado, wrote a great number of textbooks and treatises, but his work on physiological phonetics (Wängler 1972) is perhaps his greatest achievement. Also Carl Martens (1886-1971), who was in charge of teaching rhetorics and phonetic correction, should be mentioned here.

The Danish-born phonetician Svend Smith (1907-1985) became the successor of Otto von Essen. He was especially interested in speech pathology and education of the deaf and hearing impaired as well as in the therapy of stuttering and voice disorders. His ‘accent method’ grew out of these investigations becoming a widely known therapy concept (Smith and Thyme 1980). His investigations on the vibration of the vocal folds (Smith 1957) and his modelling of their activity earned him a worldwide prestige and reputation as a leading scientist in this research domain. His films showing the functioning of this model can still

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10 The 'accent method' is well described by Uwe Pape and Axel Weber (2003): Der Stotterertherapeut Uwe Pape. Konstanz: Axel Weber (Forum Stottern, Video-tape)
11 Svend Smith realised four films on the vibration of the vocal folds and on the function of his model, which were shown at international congresses and contributed greatly to the knowledge of the mechanism of the vocal fold vibration. The films are the following in chronological order:
be regarded with interest today. Recent investigations on vocal fold vibration have largely confirmed the findings of Svend Smith.

After 1977 the focus of interest in the Institute of Phonetics shifted more to the direction of linguistic phonetics and phonology. Other domains such as general phonetics and acoustic phonetics were not neglected, but were also intensively taught resulting in several publications. The above-mentioned shift was the trigger of a discussion on the location of the traditional ‘Section of Phonetics applied to speech and hearing disorders’ (in German "Arbeitsbereich sonderpädagogisch-anwendungsorientierte Phonetik"), which also includes the field of educational audiology. Finally this section was transferred to the "Institut für Behindertenpädagogik" (Department of Special Education) of the University of Hamburg, which now has become integrated into the new Faculty of Education, Psychology and Kinesiology ("Fakultät für Erziehungswissenschaft, Psychologie und Bewegungswissenschaft"). Thus the Institute of Phonetics lost another sprout and almost the half of its students and staff members (Neppert 1995).

The last years of the Institute of Phonetics were dominated by discussions on the status of phonetics. The University of Hamburg was recently completely restructured with the creation of six new faculties. Unfortunately it was the conclusion of all these discussions that there was no place for phonetics in the new Faculty of Humanities ("Fakultät für Geisteswissenschaften") and that the restructuring of the University of Hamburg did not open any perspective for phonetics in teaching or research.

Finally we want to provide some information on the material heritage of the Institute: Most of the books and journals will become integrated into the library of the Faculty of Humanities of the University of Hamburg. Some thematically specific items were transferred to the library of the "Institut für Behindertenpädagogik" (special education). In the future one may find them in the library of the "Fakultät für Erziehungswissenschaft, Psychologie und Bewegungswissenschaft". The notable number of historical instruments, which were used for teaching and training, ‘The Phonetic Museum’, was transferred to the Institute of Acoustics and Speech-Communication ("Institut für Akustik und Sprachkommunikation") of the Technical University of Dresden. In Dresden they have been integrated in a very informative museum on speech acoustics called "Historische akustisch-phonetische Sammlung" ("Historical Acoustic Phonetics Collection"). We are very glad that these items could be saved in this way and are now accessible to specialists and to the general public. The opening ceremony of this museum took place in Dresden on May 10th 2006 (Mauersberger 2006).

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Magnús Pétursson
The Phonetician aims to spread information about recent congresses on different aspects of phonetics among its readers. This is why the editors would like to invite conference organizers to assist them by submitting conference reports whenever you would like to make the results more widely accessible.

The person to contact about the publication of conference reports is Dr. Tomáš Duběda, e-mail: dubeda@ff.cuni.cz

The BAAP 2006 Colloquium
10-12 April 2006, Edinburgh (UK)

The acronym BAAP stands for the British Association of Academic Phoneticians. BAAP draws its affiliates from phoneticians working in British higher education institutions, with new members being proposed and elected by current affiliates.

The activities of BAAP are centred around the organisation of a biennial colloquium. This colloquium is an informal meeting for the exchange of views, organised by and for BAAP members. Participants are encouraged to present their current work in an open and friendly atmosphere. BAAP is led by a president whose main task is to represent the interests of phoneticians through liaison with bodies such as the British Academy, the Centre for Information on Language Teaching Research and the Higher Education Funding Council for England. During BAAP 2006, Professor John Wells stood down as BAAP president and Professor Francis Nolan was elected as his successor. John Wells served as the first President of BAAP, providing leadership and representation for phoneticians at a time when changes to academic funding and structures meant it was crucial for their voice to be heard. He also set up the BAAP website, thereby giving BAAP a tangible presence between its biennial colloquia.

BAAP 2006 was dedicated to Professor Peter Ladefoged (1925-2006) who was one of the most devoted and respected members of the organisation. Peter Ladefoged was a Professor of Phonetics at the University of California, Los Angeles. He worked at the Linguistics Department there from 1963 until his death at the age of 80 in January 2006.

Peter Ladefoged achieved great eminence in the field of phonetics, and is remembered fondly by the BAAP members for his research contributions and enthusiastic talks. (http://www.linguistics.ucla.edu/people/ladefoge/)

This year the BAAP 2006 colloquium was hosted by the Queen Margaret University College, Edinburgh. The organisers were Janet Beck, Ineke Mennen and James Scobbie. Technical support was provided by Steven Cowen. It took place at Pollock Halls, near the city centre of Edinburgh and overlooked by the picturesque hill of Arthur's Seat. One hundred and nineteen delegates were able to enjoy the 40 oral presentations and 34 posters against the backdrop of these beautiful surroundings.
The papers accepted for BAAP 2006 reflected the interdisciplinary nature of phonetics. Few presentations could be classified within a single sub-field of phonetics, and the titles indicate the breadth of the field. When trying to identify common threads, it was evident that a major theme of the colloquium lay in prosodic elements of speech; over 20 papers reflected this direct interest. A number of studies investigated segmental and suprasegmental aspects of languages ranging from Arabic to Malay and Irish Gaelic to Russian. Many of these were cross-linguistic comparisons. There was an obvious interest in articulatory phonetics, which was evident in studies on, amongst others, clinical phonetics, as well as first language acquisition. Coarticulation and speech perception were also focal points. The application of phonetics in forensics was expressed in various studies, as was the need for phonetics in computer speech recognition and speech synthesis. Many studies had sociophonetics at their core. Interestingly, the focus of a number of studies was on teaching phonetics in the classroom.

The diversity of the papers fitted very nicely with the content of Professor John Laver's talk: "The Field of Speech". As the guest speaker, John Laver not only reviewed various definitions of phonetics, but also described the scope of phonetics, illustrating this by reference to the recent Festschrift in his honour ("A Figure of Speech", Hardcastle and Mackenzie Beck, 2005); this book includes papers on a wide variety of phonetic topics. He emphasised the inherent multidisciplinarity of the subject and distributed a list of 56 dictionaries and glossaries relevant to phonetics and linguistics. A discussion of the difficulties inherent in fully representing the range of the subject led to an overview of the structure of the Encyclopaedic Dictionary of Speech (by himself and R. E. Asher, to be published by Blackwells). This book will include over 20,000 entries, covering more than 40 different subject areas. Although his paper situated phonetics at the centre of a convergent network of subjects with an interest in speech, he made the point that phonetics has a distinct identity as being the only subject which has speech at its core. Professor Laver posed some key questions which are pertinent to the health of phonetics as a discipline. How can phonetics assist other scientific fields? And how can knowledge from other scientific fields help phonetics to bloom? He went on to focus on the different linguistic and paralinguistic aspects of communication and suggested possible research topics yet to be deepened. John Laver concluded his talk by stressing the continuing importance of specialist training and education for young phoneticians.

One of the goals of the BAAP colloquia is to introduce and motivate young researchers in the circle of academic phoneticians. Researchers who are new to the field can present to a supportive and welcoming audience, and the Eugenie Henderson Prize is awarded to the best new presenter at each colloquium. This prize commemorates Eugenie Henderson (1914-1989), a Professor in phonetics and linguist who did much to assist the publication of the work of other scholars. (http://www.aim25.ac.uk/cgi-bin/search2?coll_id=182&inst_id =19). BAAP therefore provides an excellent opportunity and motivation for young researchers and students to present their work.

This year the Eugenie Henderson Prize was awarded to Eftychia Eftychiou for her outstanding presentation: "Vowel-lenition in Cypriot Greek and its implications for fricative vowel coarticulation". Eftychia Eftychiou is a PhD. student at the Department of Linguistics, University of Cambridge, supervised by Francis Nolan. She presented evidence supporting the view that vowel-lenition in Cypriot Greek is a gradient phenomenon,
resulting in productions of full, lenited and elided vowels. Her experiment shows that fricatives whose adjacent vowels have been elided are shown to differ from canonical word-final fricatives. A series of acoustic measurements suggest that traces of the vowel are always present in the consonant.

To acknowledge Peter Ladefoged's contributions to BAAP, a special prize was awarded this year for the paper that best reflected the spirit of his research work. The prize winners were Barry Heselwood and Feda Al-Tamini with: "A nasoendoscopic study of epiglottal activity in the glottal, pharyngeal and pharyngealised consonants of Jordanian Arabic". In their paper, they presented data from a study of two native speakers, one male and one female, of Jordan Arabic using fibreoptic nasoendoscopy. Visualisation of the pharyngeal area via the nasoendoscope showed movement of the epiglottis during the production of real words containing singleton and geminate glottals, pharyngeals and pharyngealised coronals in intervocalic position. Three categories of sounds, across consonantal quantity and across speaker gender were investigated to shed further light on the extent of the epiglottal movement, the determined activity of the epiglottis was used to clarify questions about its potential for independent movement, and the question of its passive or active role in articulation. The data show that the differences in movement are most obvious between the male and female speaker.

The award of this prize was welcomed by the membership, and it was agreed that the Peter Ladefoged Prize should be instituted as a continuing award at future colloquia.

The colloquium ended with an electropalatography (EPG) and ultrasound imaging workshop, organised by James Scobbie, from the Speech Science Research Centre, and Alan Wrench of Articulate Instruments, both based at Queen Margaret University College. Over fifty BAAP 2006 participants registered for this 90 minute hands-on introduction to these instrumental techniques.

The next BAAP colloquium will take place in 2008 and will be hosted by Sheffield University.

For more information about BAAP and the next BAAP colloquium see the new BAAP website (http://kiri.ling.cam.ac.uk/baap/).

We wish to thank Dr. J. Mackenzie Beck and Dr. I. Mennen for their help and support with the editing of the article. We are grateful to Prof. F. Nolan and Prof. J. Wells for their input of information. This article could not have come about in the current form without their help!

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Prosody research has gained an ever-growing importance as an interdisciplinary scientific field. This continuous interest has fostered a series of special conferences on speech prosody. It started in 2000 at a workshop in Krakow, Poland. Since 2002, the series has been organized under the umbrella of the SProSIG, an ISCA special interest group, and the first conference was held in 2002 in Aix-en-Provence, France, and a second one 2004 in Nara, Japan. The third one took place in Dresden, Germany, in 2006.

The Call for Papers was met with a strong response, and the organizers received a large number of submissions (270 papers). Hansjörg Mixdorff (Berlin) acted as Program Chair and organized the review process. In the end, 232 papers were selected for presentation.

Besides the contributed papers, three distinguished keynote speakers, coming from three continents, were invited. The following keynote lectures were presented:

"Recognizing and conveying speaker state prosodically" (Julia Hirschberg, Columbia University). Julia Hirschberg described ongoing research in the speech group at Columbia University. This research project was designed to expand the variety of speaker states which can be identified and produced by acoustic and prosodic variation. She described recent work in the detection of confidence and uncertainty in a physics tutoring system; work to identify the acoustic and prosodic characteristics of "charismatic" speech across cultures, and research into the acoustic and prosodic indicators of deceptive speech. Furthermore, she described recent progress in the automatic detection of prosodic features, which should make both recognition and generation of the prosodic characteristics of speaker state more accurate.

"Five dimensions of prosody: Intensity, intonation, timing, voice quality, and degree of reduction" (Hartmut R. Pfitzinger, University of Munich). Hartmut Pfitzinger gave an overview of methods for analysis, modification and synthesis of the prosodic properties of speech. He entitled the talk "Five Dimensions of Prosody" because the first three dimensions (intensity, intonation, and timing) are very well known, and Campbell and Mokhtari named voice quality the fourth prosodic dimension. He added another dimension, named "degree of reduction". The remaining part of the talk focused on describing the analysis, modification, and synthesis of each of these "five prosodies". At the end of his talk, two applications of prosodic modifications were demonstrated: speech morphing of two utterances from different speakers and prosodic correction of speech signals within computer-aided language learning.

"Fluent speech prosody and discourse organization: Evidence of top-down governing and implications to speech technology" (Chiu-yu Tseng, Academia Sinica, Taiwan). Chiu-yu Tseng described the different viewpoints within the speech community. Both linguists and engineers ask questions about language and speech, but their concerns differ. Although both communities look for what makes up communication, linguists look for what constitutes the abstract linguistic system in the human mind and brain, while engineers look for ways to model and simulate speech for technology implementation. Trying boldly to bring answers to both communities, her group decided to adopt a corpus approach to
phonetic studies, an attempt to remedy the traditional phonetic approach by looking at more samples. They designed a perception-based annotation system and introduced the term "Prosodic Phrase Grouping" (PPG). Studies were carried out on a tonal language corpus of Mandarin. She argued that any prosody framework of fluent speech should include top-down information, specify how intonation phrases are formed, and take into consideration perceptual effects to online processing.

Following main research directions and the selection of high quality proposals from among the submitted papers, the following regular oral sessions were conducted at the conference:

- Prosodic variability (5 papers)
- Dialogue speech (4 papers)
- Speech perception (5 papers)
- Affective speech (4 papers)
- Pathology and aging (5 papers)

In order to avoid too many parallel sessions, a large number of papers were scheduled for posters, which carry the same importance as an oral presentation:

- Speech perception (24 papers)
- Analysis and formulation of prosody (22 papers)
- Speech production (24 papers)
- Syntax, semantics and pragmatics (21 papers)
- Speech technology (34 papers)
- Prosody and affect (13 papers)
- Cross-linguistic studies and variability (26 papers)
- Language acquisition, conversation and neural processing (17 papers)

The conference schedule included five special sessions, which had been agreed upon beforehand and which demonstrated the special profile of the Dresden conference:

Prosody and affective computing. This session focused on all aspects of affect and its connection with prosodic parameters. It contained 6 papers and was organized by Noam Amir, Nick Campbell and Jianhua Tao.

Audio-visual prosody processing. This session focused on auditory-visual aspects of prosody processing and included 6 papers. It was organized by Marc Swerts, Denis Burnham and Sascha Fagel.

Understanding emotions in speech: Neural and cross-cultural evidence. The overriding goal of this special session was to provide insight into human processes for understanding emotions from speech prosody, their neural bases, and the influences of cultural shaping factors on vocal emotion recognition – organized by Sonja A. Kotz and Marc D. Pell. It was comprised of 5 contributions.

Prosody in automatic speech recognition. This session focused on applications of prosodic knowledge to automatic speech recognition and was organized by Sin-Horng Chen. The session contained 6 papers.

Articulatory-functional approaches to speech prosody (Yi Xu). This special session aimed at fostering understanding of speech prosody from two perspectives that have not
always been the focus of mainstream approaches: articulatory mechanisms and communicative functions and exploring the possibility that the two are linked to each other more directly than has been generally recognized. Yi Xu organized this session and invited 4 papers.

The closing panel discussion themed "Quo vadis prosody?" was led by Daniel Hirst, Julia Hirschberg, Yi Xu, Hiroya Fujisaki, Klaus Kohler, Hartmut Pfitzinger and Hansjörg Mixdorff. Starting with the question whether the current prosody research is straight, a valuable discussion about future actions and topics was developed.

Criticism concerned frequent recurrences of research approaches and stated that scientists in subareas partly talk at cross-purposes. Some participants suggested more severe review of proposed scientific methods and generally more scientific rigor within the prosody research community.

Alternative suggestions underlined the interdisciplinary character of prosody research and the possibility for new inspiring research issues. Nevertheless, to some extent, a careful selection of new research topics is required. Newer topics, like research on emotions or on brain activity, have already been covered by the special sessions at this conference, which was supported by the panel contributors, and there was promise of identifying other challenging topics as well.

In general, the importance of prosody research for speech communication and related research areas was demonstrated and it was agreed that the conference series "Speech Prosody" should be continued.

Overall, 290 scientists took part in the conference. In summary, 67% of the scientists base their work in Europe. Nevertheless, this number includes a lot of scientists coming from other continents, but working in countries like Germany, France or the UK. About 17% of all participants were working in Asia and 16% were based in North or South America.

The following table presents the statistics regarding institutional background:

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Dresden and its lovely surroundings proved to be a good place for the conference. In 2006, Dresden celebrated its 800th anniversary. In time for this event, the International Congress Center was opened in 2005. Also in 2005, the reconstruction of the Frauenkirche was completed, further enhancing the attractiveness of the historical city.

During the conference, two bids for hosting the next Speech Prosody event in 2008 were presented. On September 1, 2006, members of the SProSIG will decide among the finalists: Campinas, Brazil and Chicago, USA.

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Vocalapparat von Helmholtz
From the Review Editor

Information about Reviewing Books

Reviews in *The Phonetician* are mainly dedicated to books related to phonetics and phonology in any way.

Book reviews for *The Phonetician* are usually written on the basis of books that arrive at our office from publishers. Prospective reviewers should address us if they want to review a specific book from the list of "Publications Received".

If you have a new book that is not on the list of "Publications Received" but you would like to review it, please get in touch with me before sending your review.

The title of the book should be exactly as given on the book cover. The length of the review can vary between 300 and 800 words, i.e., between half a page and one and a half pages.

The review should be factual and descriptive rather than interpretive, unless reviewers can relate a theory or other information to the book, which could be of benefit to our readers.

The text should provide as many names quoted or referred to as possible, to give the qualified reader a better idea of the orientation of the contents.

In case the reviewer is not a native speaker of English, I would appreciate it if s/he had the review edited by a native speaker of English before sending it to me. Otherwise I have to do this, which lengthens the editing process.

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Reviews should be sent to the Review Editor as soon as possible after receiving a book for reviewing. E-mail is the preferred mode of transmission, followed by fax and regular mail, in this order. The respective addresses are as follow:

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Please do not hesitate to contact me if you have any other related questions. Thank you for your cooperation.

Judith Rosenhouse
In this volume, published in the renowned Oxford University Press series *The Phonology of the World’s Languages*, Hans Basbøll provides us with a voluminous and thorough presentation of Danish phonology; assiduously at the segmental level, but also Danish supra-segmental phenomena are accounted for, first and foremost at the word level. The author is well known for his numerous studies in Danish and general phonology, and it is fair to say that the book under review draws together the results of more than three decades of research in the field – summarising the results of the author’s own studies of spoken Danish throughout his academic career. While this volume differs from the other books in the series compositionally, and also in size, it is undoubtedly linked to this fact, and also to the fact that one of the main goals of the work is to develop interactive models for use in the analysis of spoken Modern Danish based on the author’s earlier work on the topic. In the following review, I will give a brief presentation of the content and structure of the book, followed by some general remarks.

*The Phonology of Danish* is organized in five main parts, each of which contains from one to five chapters, with seventeen chapters in all, plus appendices, indexes, references and lists of abbreviations, figures, and tables.

Part One, "Introduction and contrastive units" (pp.3-105), contains two chapters, of which the first gives a detailed survey of the history of the Danish language and its geographical distribution, followed by an overview of previous phonetic and phonological studies of spoken Danish. Some central methodological issues are discussed, and notational conventions in use are presented. In chapter two, we are given the inventory of Danish phonemes and their orthographic representation. We are also introduced to the relevant contrastive segments, 37 in all, used in the author’s phonemic analysis of Standard Danish pronunciation. Phonetically distinct segments observed in regional varieties of Danish are, as far as I understand it, outside the scope of this work.

Part Two, "Distinctive features and segment types" (pp.107-170) contains chapters 3-5, and is devoted mainly to a discussion of the role that distinctive features play in the phonology of a given language, and how the features should or could be classified into three groups, which he terms: 1) major class and consonant features, 2) place features, and 3) vowel features. The author emphasises that distinctive features should distinguish between contrastive segments in isolated words as well as in connected speech, in production as well as perception. He also claims that they should not be used as some sort of conjuring trick to obtain generalisations which are not empirically (i.e., phonetically or cognitively) based. Basbøll argues in favour of a strict binary approach instead of a multi-valued one.
In Part Three, titled "The sonority syllable and phonotactics" (pp.171-247), contains three chapters (6-8). In this section we can follow the development of Basbøll’s original sonority model called "The Sonority Syllable Model" (SSM), which he presents as a suitable framework for a phonotactic description of Danish as well as any other given language.

Part Four, "Syllables, schwa-assimilation and prosody" (pp.249-347), contains chapters 9-12, and is dealing with syllabification processes in Danish. The Danish ‘stød’, probably the most frequently treated phonological phenomenon in the linguistic literature on spoken Danish, undergoes moraic analysis, followed by a detailed descriptive analysis of schwa-assimilation and its relevance to productive stød-addition. The last chapter of Part Three is dedicated to a discussion of stress patterns and degrees of prominence in spoken Modern Danish.

In Part Five "Word structure and its relation to prosody" (pp.349-541), containing chapters 13-17, the author presents a model constructed to account for the interplay between inflectional morphology and phonology at the word level, a model which proves useful for describing the distribution of ‘stød’ and stress in native Danish words as well as in the non-native Danish vocabulary. The author examines the prosody of both simple words and compounds, and offers a typology of complex words based on lexical and prosodic criteria. In the last chapter of Part Five, "Epilogue: from word to utterances" (ch. 17), Basbøll presents some aspects of Danish utterance phonology, such as ‘phrasal stress’ and intonation.

Since the early Middle Ages, the Danish language has undergone radical phonological erosion compared with its closest relatives, Swedish and Norwegian, a fact that makes this language extremely interesting, not only from a synchronic perspective but also from a diachronic linguistic point of view. Unfortunately language internal processes, which have made the radical changes in Danish phonology possible, are not a topic of this book. The external history of the language is, on the other hand, well accounted for. This is also the case with phonological phenomena such as – to name a few – the well-known Danish stød, schwa-assimilation, r-colouring and -fusion and Danish stress rules. The Phonology of Danish offers several interesting analyses of spoken modern Danish within a framework specially designed to account for Danish phonology, preferably at the word level. Danish intonation is, on the other hand, not given much attention, at least not intonation in natural spontaneous speech. Some stress phenomena above the word level are described and accounted for, including the so-called ‘phrasal stress’, a phenomenon also known in the literature as ‘unit accentuation’. Unit accentuation has been treated in numerous works by Danish scholars throughout the years, and most of them offer analyses that I do not find convincing. Basbøll’s account of the phenomenon is, in my view, a tentative account of how cognitively heavy and light words are distributed in utterances. He emphasises that his solution has no "real" explanatory force, and that one should take into account the syntactic, semantic and pragmatic conditions of utterances in order to explain the stress patterns in Danish above the word level.

According to the author his aim is twofold: "...to develop methodologically sound models for analysing phonology, the interaction between phonology on the one hand, and morphology and lexicon on the other, and to apply this information to a more advanced and detailed analysis of Modern Danish phonology than has hitherto been given." (p. 24). Such a goal is legitimate and interesting in its own right, of course, and is welcomed by scholars...
already familiar with the relevant literature on Danish phonology and prosodic morphology. For this kind of reader, the book will appear as a reliable and interesting handbook, but for readers interested in general phonology who know nothing about the Danish language in advance, and who start reading the book in expectation of finding an introduction to Danish phonology, some parts of the book might prove overly challenging – more because of its verbose style than its organisation. The fact that model development is such a prominent feature of this book, and partly a prerequisite for understanding the analyses given, probably makes *The Phonology of Danish* less accessible as a general introduction to the subject than might be expected from its title and other books in the series, *The Phonology of the World’s Languages*. It is definitely a book for the well-informed reader, who will find Basbøll’s account of the phonology of Modern Standard Copenhagen Danish both challenging and interesting.

*A Figure of Speech. A Festschrift for John Laver*

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The book under review is a tribute to John Laver’s activity in numerous fields of phonetics and was published on the occasion of his 60th birthday. Following the Foreword by R. E. Asher (pp. ix-xvi), the rich list of Laver's publications until 2005, and the introduction by the two editors (pp. xxvii-xxxii), the book has 15 chapters written by Laver's colleagues and friends, and the usual informative sections. All the chapters (but one) contain elucidating illustrations of articulatory phonetic states, and various tables and figures. The book is divided into four sections, covering most of the areas which Professor Laver has studied over the years. While representing major areas of modern phonetics, the articles are explicitly related to Laver’s works. Each paper begins by surveying the background literature of the specific study area and ends with suggestions for future research.

Part I, Instrumental Evidence for Phonetic Theory, has three chapters:

1. "Speculations on the control of speech", by P. Ladefoged (pp. 3-22). The late Peter Ladefoged surveys facts about auditory targets of tone and intonation, vowels, and aerodynamic targets represented by stress. From these he concludes that tone and intonation are set as auditory goals consisting of pitch patterns, the targets for vowels are points in an auditory space and the target for a stressed syllable is an increased subgottal pressure. He finally notes that the investigation of the real nature of speech will not proceed much until we know more about speech organization.
2. "Phonetic Explanations for Sound Patterns: Implications for Grammars of Competence", by J. J. Ohala (pp. 23-38), is about sound patterns and it is a revision of an earlier paper presented in ICPhS 13th, Stockholm, 1995. He bases this discussion on examples of constraints on voicing (e.g., at the end of syllables), the emergence of obstruents from non-obstruents and emergent stops (such as in *-buma (proto-Bantu) / bvuomo (in the Mvumbo language and Thompson < English Thom+son) and the development of /w/ into labial velars etc. He suggests that in accounting for the development of sound patterns one should abandon the "phonetic naturalness" requirement for the representation of speakers' competence. Phonetic models do suffice for the description of the phonological theories or historical grammars of speech sounds. Such models should state explicitly "what part of the universe the model represented… whether it was the speaker’s vocal tract, the speaker’s mind or the speaker’s DNA."

3. "Electropalatography as a Research and Clinical Tool: 30 Years On", by W. J. Hardcastle and F. Gibbon (pp. 39-62). Hardcastle and Gibbon survey the research and applications of electropalatography (EPG) that have been developed over the last 30 years. Then they move on to describe EPG applications in clinical assessment and diagnosis of speech impairment, such as cases of distorted spatial patterns which are identified by EPG and are difficult to find with spectrograms. Three example cases are discussed: mid-dorsum palatal stop patterns in cleft palate speech, undifferentiated lingual gestures in children with functional/phonological speech problems, and double labial-lingual articulatory patterns in cleft palate speakers. These examples demonstrate the usefulness of EPG and the authors suggest further options of EPG-aided study in the future.

Part II, also with three chapters, is entitled Cognitive Aspects of Phonetic Processing:

4. "Phonetic Precision in Listening" by A. Cutler and M. Boersma (pp. 63-91). The authors deal with word recognition and adjustment of phonetic precision and describe cases where precision is unattainable (e.g., second language acquisition after childhood). Although it is hard for adult second language speakers to adjust and imitate the phonetic system of the second language, perception of its contrasts is possible - even for such features that do not resemble any of the speaker’s mother first language (L1). In their opinion, Best et al.’s (1988) model gives the most explicit predictions concerning the effects of native phonetic categories on the perceptibility of cross-language categories. Another case is when speakers’ L2 has segments with features that do not exist in their L1 system (e.g., English /r, l/ for Japanese speakers, or English /a, e/ for Dutch speakers). They describe experiments involving preceding word priming used to study such issues. Next, they discuss the case of various restrictions on the use of some phonetic feature in L1 and L2, although the feature exists in both languages. The conclusions are rather complex, like the situations. For word recognition in rapid speech (which is normally the case), L1 can override some L2 features, but errors do occur. On the other hand, chances are that non-native listeners will hear relevant near-words as words anyway.

5. "Representing Speech in Practice and Theory," by H. Fraser (pp. 93-128), deals with representation of speech and the problems involved with both speech and representation. After summarizing the needs for phonetic and phonological representation, representation is studied. As a key element in many disciplines, representation involves the person who represents, the representation, and the thing which is represented. Since Fraser thinks there is no neutral representation, she analyzes the implications for phonetics, phonological
theory, psycholinguistic theory and the relationships among representations of speech. She argues against the direct (arbitrary) relationship between sound and meaning, for in addition to words and meanings, children have to learn sub-lexical units. Orthography and (systematized) phonemic representation, including allophones and phonetic representations, are shown to relate to various applications in second language acquisition and second language pronunciation teaching. From her point of view, pronunciation of a second language is a new cognitive skill which requires a lot of practice, and not just manipulation of old habits. She therefore recommends visual representation of speech, as well as auditory training and explanatory (verbal) teaching.

6. "A Cognitive Motor Syllable Frame for Speech Production: Evidence from Neuropathology" by P. F. Macneilage and B. L. Davis. (pp. 129-146). The authors describe motor speech theory as initiated by the close-open mandible cycle, also involved in chewing and eating. After this developmental stage in history, they assume the existence of other visuo-facial motions (e.g., lip smacks) before these motions were associated with sound production. They describe the brain areas that control internal and external actions, noting that in modern humans, speech is controlled mainly by internal actions. Results of experiments show articulatory effects of electrical stimulation on these brain areas in normal and aphasic speakers. The paper concludes with an explanation of speech automatism by a cognitive-motor frame mechanism, beginning at infants' babbling stage. The authors assume gradual mental self-organization in the formation of speech representation, based on a pre-motor stage. The ordering of sounds in syllables is pre-motor, since "it must be laid down before the movements needed to proceed from one segment to the next are computed" (p. 140). They also believe that CV syllables were the first to develop. Thus, mental structure is considered to derive from regularities in movement patterns.

Part III, Phonetics in the Social Interaction, has five chapters:

7. "Diphthongs in colloquial Tamil", by R.E. Asher and E.L. Keane (pp. 147-172), reviews Tamil diphthongs, which occur in speech as diphthongs and monophthongs. Tamil has two manners of expression – formal and informal (e.g., pai, formal vs. payyi informal 'bag'; formal: talai informal: tale 'head'). Several examples, with syllables occurring in different positions (initial, medial, final) in monosyllabic and longer words are described. From the spectrographic analysis the authors find evidence for monophthongization processes in such syllables. The differences are apparently related to word length and syllable position and there is also interaction between duration and internal structures in addition to differences between lexical and inflectional "ai" diphthongs. In certain circumstances, colloquial Tamil monophthongs are parallel to the formal Tamil diphthongs, although most often the monophthongs are shorter than the diphthongs. The internal structure of the Tamil "ai" diphthong is also compared with other languages and the authors call for further study of the Tamil diphthongs.

8. "Glottal variants of /t/ in the Tyneside variety of English," by G. J. Docherty and P. Foulkes (pp. 173-200), reviews a famous feature of English phonetics. This paper draws its material from a large-scale project (Phonological Variation and Change) on language in Tyneside and its area. In addition, data is organized through studies of /t/ and its variants and the environment in which the phenomenon of glottalized /t/ occurs. The authors form a phonetic profile of glottal variants and describe their linguistic and sociolinguistic
distribution. The inspected features are periodicity (full/partial voicing), formant transition (presence/absence of the supralaryngeal gesture seen by F2 transitions) and transience (presence/absence of a release burst). They found that all data were produced with partial or full voicing. These features are similar to glottal sounds found in other languages (Arabic, Gimi and American-English). The authors present sociolinguistic differences between male and females workers and middle class speakers via /t/ glottalization. They endorse the view that more articulatory and acoustic details are necessary to understand the complexities behind the use of the "impressionistic symbol" /ʔ/ in the English varieties.

9. "Exploring the Phonetics of Spoken Narratives in Australian Indigenous Languages", by J. Fletcher (pp. 201-226). Fletcher writes about three indigenous languages in Australia. Her account compares the six-vowel system in Dalabon, Mayali and Kayardild. She compares the dispersion and spread of the vowels (short and long /i, u, a/, sometimes /i/ is like a schwa) from recordings of spontaneous speech and uses bark measures to present them in ellipse plots. The second half of the paper studies pitch range variation in spoken narratives in Kayardild and Dalabon in a study of discourse intonation. Fletcher investigates here the "top-line" pitch, pitch reset between reported speech and surrounding talk, and overall pitch range. Her results show a large difference between the reported speech and the surrounding talk pitch reset in both the studied languages (as found also in some non-Australian languages). Other phonetic cues to reported speech such as tempo and loudness exist, but are less consistent, and no voice quality changes associated with reported speech are found in the examined text. The excessive pitch variations are the major device used to signal reported speech in these languages.

10. "Deepening or Lessening the Divide between Diphthongs: An Analysis of the Queen’s Annual Christmas Broadcasts" by J. Harrington, S. Palethorpe and C. Watson (pp. 227-262). The paper reviews phonetic developments in the speech of the British Queen, who has recently celebrated her 80’s birthday, and is based on her annual Christmas broadcasts in the 1950's and 1980's. This paper follows an earlier paper of theirs which was criticized as being disrespectful to Her Majesty, the Queen. The topic is, however, variability in the speech signal due to speaker differences. The authors found in the earlier paper that the queen's speech included vowel features (for /u/ and /a/) that were different from what has been described as U-RP (Upper Received Pronunciation). After a short description of the earlier paper, they analyze the front and back rising diphthongs (/ai, ei, au, ou/) in the same corpora. The results of this second study also show that the Queen's vowels have shifted in the direction of the corresponding 1980's Standard South British positions and her open vowels have become more open in the 1980 corpus, with the greatest shift being for /æ/. At the end, however, the authors admit (using Laver's metaphor) that even after analyses of "almost 3000 vowels and diphthongs from the same speaker producing speech with a similar communicative intent, they have not quite managed to delineate sufficiently the figure from the ground against which it is set" (p. 257).

11. "On the Interactional and Phonetic Design of Collaborative Completions", by J. Local (pp. 263-284). This paper deals with collaborative completions, i.e., the context of interaction in discourse or conversation analysis (CA). While the author notes that very little is known on the phonetics of connected speech, this topic has been gaining importance among phoneticians. Here, he tries to develop an interactionally grounded analysis of the phonetics of everyday talk. Collaborative completions (or productions) are utterances
spoken by different speakers in a sequence, so that each speaker says only part of the full utterance. These sequences occur in a wide range of environments, especially in places where speakers experience some problem formulating their talk. The phonetic features described here are tempo, loudness and pitch (i.e., all the physical features relevant to speech). Local quotes Heritage (1989) that "no order of detail can be dismissed, a priori, as disorderly, accidental or irrelevant." As the phonetic design of talk is one of these 'details', he calls for a serious study of speech in interaction.

Part IV, the last part, Voice Quality, includes the four following papers:

12. "Perceptual Analysis of Voice Quality: The Place of Vocal Profile Analysis", by J. Mackenzie-Beck (pp. 285-322). In this paper the author compares subjective and objective assessment, and the breadth vs. depth of information that can be obtained from either, and suggests a vocal profile by protocol. This protocol can include details of visible settings (such as, lip rounding, or spreading) in several degrees. Though evaluation of reliability of voice quality assessment is complex, she says the inherent difficulties have not been fully addressed in relation to vocal profile analysis. She enumerates and discusses many applications of vocal profiles, including mother-child interaction, affect identification, speaker attribution and forensic goals, foreign language teaching, drama teaching, and clinical applications, where assessing baseline, monitoring changes and planning therapy are interdependent.

13. "On the Relation between Phonatory Quality and Affect", by A. Ni Chasaide and C. Gobl (pp. 323-346). Here, the authors treat affect in spoken utterances, another important subject for phoneticians. After presenting methodological difficulties in defining and measuring affect, the authors begin by describing non-affective voice quality variation. They describe three experiments: voice quality as a single cue for affect; the tense-lax dimension and affect strength, and the combination of F0 and voice quality. Their results show that voice quality is a fairly good cue for affect, but not always. Much of the distinction depends apparently on the tense-lax dimension of vowels (in English), and combining F0 and voice quality improve the perception of affect. These features are apparently partly universal and partly language dependent.

14. "States of the Glottis: An Articulat ory Phonetic Model Based on Laryngoscopic Observations" by J. H. Esling and J. G. Harris (pp. 347-384). Esling and Harris review the phonetic literature of the glottis and its roles and configurations. They demonstrate glottic configurations in glottal and epiglottal stops, whisper, harsh voice, falsetto, whispery, breathy and creaky voice, and three pitch positions, illustrating them also by laryngoscopic pictures. These voice qualities, which have been studied also by Laver involve, according to the authors, two main levels of laryngeal operation – the glottal and the aryepiglottal level. They then offer the term laryngeal states rather than glottal states.

15. "Forensic Speaker Identification and the Phonetic Description of Voice Quality", by F. Nolan (pp. 385-412). Nolan analyzes voice quality from the point of view of the forensic expert and presents practical considerations of vocal features for forensic applications. He begins with Laver's model of voice quality, but is not entirely happy with it. He then reviews practical problems he has encountered in his experience as expert in forensic phonetics. In many cases voice quality analysis is missing in the experts' reports, either because of lack of awareness of its role, lack of training, practical time pressures, sample
quality or some other reason. He then suggests a strategy for speaker identification and ends the chapter stressing the importance of voice quality analysis.

To sum up, the book is a worthy gift for Professor John Laver, as well as for any reader interested in the above areas of phonetics. Moreover, as it treats many different subjects, it is also useful for graduate students (who have already background knowledge).

References


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*Phonologie et phonétique* is a handbook-shaped collection of contributions by different authors, based on the papers presented at a training meeting in 2003 (but probably going far beyond them), and comprising part of the interdisciplinary series *Information – Commande – Communication*. Without being really exhaustive, each of its chapters should provide, according to its editors, *a synthetic and more in-depth presentation of the domain in question* (p. 19). The book is written in French and by researchers working in France (except for one), but its orientation is clearly cosmopolitan.

After the introductory Chapter 1, Chapter 2 *Classical phonetics: The International Phonetic Association and its alphabet* (33 pp.), written by Jacques Durand, exposes the principles of the IPA, gives illustrations, and describes advantages and difficulties inherent to this transcription system. In some points, this chapter and the referred French translation of the IPA table given in an Appendix sets standards both in the use of labels and in their French denomination; it is certainly useful to have a canonical version of the table for an important world language.

Chapter 3 *Basic notions of phonology: From distinctive features to elements*, also written by Jacques Durand, (31 pp.) characterizes the development of phonological science from Trubetzkoy, through Jakobson, Chomsky & Halle and the "post-SPE explosion", up to present-day paradigms (feature geometry, theory of elements, dependency phonology, optimality theory). Though limited both in length and number of examples, the sketch reveals the evolutionary logic of phonological science and its varying relations to phonetics.
In Chapter 4 *The syllable & comp.: Minor prosodic constituents in phonology* (22 pp.), Laurence Labrune gives an account of lower-level prosodic units (syllable, mora, foot and prosodic word), based on novel phonological theories. When speaking about the syllable, the author says that among other aspects (physiological, acoustic, orthographic), the phonological foundation of the syllable is the most massive one (p. 99). At the same time, she argues that the concept of the syllable, though useful for many languages, finds little justification in others, e.g., in Japanese. General principles of syllable structure are given, some of them being directly converted into the language of optimality theory and placed in footnotes, which is of great use to readers interested in this approach. The chapter ends with remarks on the universal value of the constituents in question.

Chapter 5, entitled *Elements of prosody* (41 pp.) and written by Albert Di Cristo, first tries to answer the question *What is prosody?* In doing so, the author begins to describe its object and to characterize its phonological and phonetic aspects. The majority of the chapter is then devoted to prosodic theories and models of the 20th century. The first division is made between linear and plurilinear approaches. The former category includes non-superpositional and superpositional models, the latter one includes, according to the author, three major approaches: the metrical theory, the autosegmental approach and domain phonology. Within the scope of autosegmental prosodic theory, A. Di Cristo describes the model elaborated by D. Hirst and himself, which is largely inspired by the bitonal paradigm, but showing a more refined structure of the various levels of representation. Finally, the author discusses what he calls the "orthogonal dimension" of intonation, i. e. downtrends and pitch range, and proposes an integration of these phenomena into his model. This chapter, the longest in the book, is an outstanding depiction of the current state of prosodic theory. A longer version of this text also can be found in the *Travaux Interdisciplinaires du Laboratoire Parole et Langage d'Aix-en-Provence*, vol. 23, 2004.

Chapter 6 bears the title *Phonology/syntax interface: From phonological domains to the organization of the Grammar* (25 pp.), and was written by Élisabeth Delais-Roussarie. The author describes various post-lexical phenomena which depend on prosodic structure and which can be resolved by means of the theory of phonological domains (e.g., the liaison in French or the raddoppimento sintattico in Italian).

In Chapter 7, entitled *Declarative phonology* (21 pp.), Jean-Pierre Angoujard reveals the principles of this specific branch of contemporary phonology. A major number of the examples used are based on the author's own work, e. g., verb forms in Tunisian Arabic or the French schwa.

Chapter 8, written by Chantal Lyche and entitled *From rules to constraints: Some aspects of the optimality theory* (32 pp.), first gives an evolutionary account of the optimality theory and then goes on by explaining its main principles and its implications for phonological and phonetic universals, typology, register variations and language acquisition. The question of the richness of the base is discussed more in detail. Two examples are developed to illustrate this approach: the distribution of mid vowels in French and the verlanisation (generation of a cryptic argot in French by inversion). The author concludes her very clear sketch of optimality theory by saying that she deliberately took the decision to include only segmental problems in the presentation, although the model performs equally well for prosody.
Chapter 9, *Laboratory phonology: Basic notions and applications* (24 pp.), has the signature of Mariapaola d'Imperio, and begins with the claim that Laboratory phonology is neither a strict theory nor a simple description framework. The author emphasizes the broad epistemological foundations of this scientific branch and its interdisciplinary character, and discusses the categorical vs. gradual issue in phonology. About half of the chapter is then devoted to the discussion of intonational phenomena, based on the author's own work.

Chapter 10, entitled *Articulatory phonology: An introduction* (26 pp.) by Cécile Fougeron, delimits this particular branch of phonology by defining and illustrating the gesture as its basic unit of representation. She claims that the articulatory approach, although very close to the surface structure, may serve as a valid base for a phonological theory. After giving several examples of problems where articulatory phonology seems to perform better than other phonological theories (syllabic structure, elision of segments, etc.), the author frankly concludes that the development of articulatory phonology is still in progress, and that the theory remains inefficient in certain domains.

Chapter 11, *Cognitive approaches of phonology* (32 pp.), written by Bernard Laks, is a dialectic disputate between two theoretical streams in phonology which might be called mentalistic and anti-mentalistic, where anti-mentalistic does not necessarily mean "refusing the mental existence of language", but simply "not describing it". The problem of the uniqueness of linguistic processes vs. their integration to general cognitive patterns is also discussed. By means of a metrical analysis of four languages with different stress patterns, the author describes the specificities of four different approaches (a bracketed metrical grid, an autosegmental metrical grid, a neural network and a dynamic linear model) and comments on the cognitive assumptions inherent to each of these models. The final statement of the chapter is that *every phonology is cognitive* (p. 319).

In Chapter 12, *Phonological acquisition and development* (24 pp.), Sophie Wauquier-Gravelines guides the reader through existing models of phonological development, each of them being defined, among other things, by its position on the well-known axis innateness – emergence ("Phonology seems to me neither given from the exterior by a particularly rich input, nor received from the interior by the magic of abstract representations transmitted genetically", p. 344). She comments on problems like the relationship between phonology and the lexicon in acquisition, the shift between perception and production maturation, the continuity vs. discontinuity between babbling and speech, the synchronization between phonological acquisition and the maturation of other biological and cognitive functions, and, more generally, the specificity vs. integration of language within other cognitive functions. The author finally remarks that acquisitional studies are mostly biased to languages of European origin.

Chapter 13, *Invariants and variability in phonetics* (26 pp.), written by Christine Meunier, first gives evidence of historical instances of the invariant vs. variability issue and then proposes three solutions to the variability problem: the search for a true invariant, the categorical perception solution, and the integration of variability into the very core of linguistics. After giving different sources of variability (coarticulation and assimilation, speaker characteristics, speech situation, regional and social factors), she distinguishes between structural vs. conjectural (or informational) variations, the former resulting from the arrangement of the system, and the latter depending on the quantity of information conveyed by the language unit, as well as on concomitant sources of information.
In Chapter 14, *Phonology and pathology* (22 pp.), Véronique Rey first gives a short historical outline of this branch of applied linguistics. She presents different kinds of language deficiencies (verbal expression, phonemic transformations, oral understanding, writing and reading problems) and gives several examples of speech errors, some of which are analysable by means of an autosegmental approach to the syllable.

Chapter 15, authored by Geneviève Caelen-Haumont, bears the title *Emotional states and prosody* (28 pp.). After a short historical review, the text addresses problems like universalism vs. cultural determination of emotions, the difference between emotions and attitudes, descriptive categories of this field of studies (activation and valence, frequency and effort codes etc.), as well as the respective roles of the dominant and non-dominant hemispheres. The author concludes, optimistically, that *one has the impression that prosodic parameters of emotions, despite a huge inter- and intra-language variability, seem to converge across languages* (p. 419).

In Chapter 16, *Speech perception* (23 pp.), Noël Nguyen emphasizes the need for a perceptual perspective of speech and language phenomena, which is neglected in many phonological frameworks. The text is supposed to summarize major theoretical propositions in the field of speech perception, leaving aside its neurological aspects, as well as prosodic problems. The famous issue of categorical perception, mostly demonstrated on plosives, is shown to be inactive in the case of other segments like vowels or approximants. Kuhl's magnet theory and the role of top-down processes in speech perception are discussed. The author illustrates different theoretical assumptions as to the nature of the basic unit of perception (syllable, segment, feature, word), and refines them with an integrative vision of simultaneous activation of units of different size. In the domain of lexical representation, the author draws a line between abstractionist models on the one hand, and exemplar-based models on the other.

Given the character of *Phonologie et phonétique* (Ph&Ph), some thematic overlapping was inevitable, but no place in the text may be qualified as redundant. Cross references from one chapter to the other are systematically present at logical places, and, necessarily, some problems or theories are mentioned in several chapters (e.g., optimality theory is referred to at least in Chapters 3, 4, 8 and 12; typology and universals, reserved no special chapter, appeared in chapters 3, 4, 8, 12, 15 or 16).

The choice of the problems discussed in each chapter of Ph&Ph seems to be balanced and well fitting into the general purpose of the book. A rather subjective view shines through the lines in a few chapters (e.g., Chapter 7), but this is probably due to the subject itself. The references reflect both recent and older stages of the particular discipline, with works of British or American origin prevailing. A feature which is common to most chapters – at least in their introductory parts – is a historical synopsis of the problem, correlated to the present state-of-the-art research in a dialectic perspective. Frequently, the authors try to reflect the title of the volume by discussing, in parallel or jointly, both phonological and phonetic facets of the given problem, strengthening the epistemological value of the text. The most "philosophical" chapter seems to be Chapter 11. The text contains many well-considered propositions of French equivalents to English terms (especially in chapters 2 and 5, as well as in the French translation of the IPA table), taking a position against the "defeatist" usage of un-translated English terms (such *downstep* or *creaky*) in French.
The character of the volume makes it tempting to compare it to its older, English speaking siblings, *The Handbook of Phonetic Sciences* (1997; HPS) and *The Handbook of Phonological Theory* (1995; HPT). In comparison with Ph&Ph, HPS contains more passages on articulation and acoustics, brain functions, hearing and speech technologies, whereas Ph&Ph reserves a more central place to prosody. HPT is characterized by a more detailed choice of topics, including issues in particular languages and language groups, which is not the case in Ph&Ph. However, novel trends in phonology are reflected in Ph&Ph (e.g., recent developments in declarative phonology, articulatory phonology, and optimality theory). It would not be improper to say that Ph&Ph goes into less detail, contains a smaller number of examples, is less "technical", more historical and more argumentative.

Among minor problems which might be taken into account in future editions, let us mention e.g., a slip of the pen on p. 69 (plus de voyelles orales que de voyelles nasales should read plus de voyelles nasales que de voyelles orales), a misplaced transcription symbol for the lateral in *bottle* [bɔtl] (p. 97), a wrong final symbol in the Czech word *skrz* [skr̩z] (the citation form is [skr̩s], whereas the form [skr̩z] only occurs in specific contexts; p. 97), or an extra space before the length symbol (e.g., pp. 196 or 437), which is a French spelling convention unsuitable for phonetic transcription. More explicit captions would be welcome, e.g., in chapters 5 and 14. When summarizing experiments carried out by different people in different contexts, the languages tested should be always mentioned to show how valid the conclusions are and to what extent they are compatible with others.

The reference list is given after each chapter. In the Appendices, the reader can find the French version of the IPA alphabet (referred to from Chapter 2), a language index (2 pp.) and a subject index (4 pp.). The book has high editing and typesetting standards and can be described as an excellent achievement of international impact.

Note: Translations from French into English (chapter titles and citations) are mine – TD.

References:


This is the digitally printed paperback issue of the proceedings of the third conference on Laboratory Phonology (hence LabPhon) held at UCLA in 1991. The conference was dedicated to Peter Ladefoged, who retired from teaching that same year. The book was first published in 1994 and 1996. The series, Papers in Laboratory Phonology, like the conferences, bring together works from well-known researchers from a wide range of disciplines, i.e. phonology, phonetics, speech science, electrical engineering, and psycholinguistics. These researchers established Laboratory Phonology as a discipline.

Besides the introduction by Patricia Keating, the editor of the present edition, the book contains 19 papers and critical responses from leading phoneticians and phonologists of prestigious programs in the United States, Great Britain, France and The Netherlands. The chapters are organized into 4 topical sections, i.e., Intonation, Syllables, Feature Theory and Phonetic Output. Not all readers may be comfortable with these fields, however the objective of the series is to make the public aware of the wide range of the research relevant to linguistic sound structure.

Section 1. Intonation

Articulatory evidence for differentiating stress categories. Mary E. Beckman and Jan Edwards start this section on Intonation with a description of a unified theory of surface stress patterns which accounts for both the phonology and the phonetics of stress. Stress is defined as a structural feature derived from relationships among different context features. The authors propose to use this theory to describe English stress patterns (mostly head-marking) and discuss the relevance of the theory of stress for “stress-shift”.

The following chapter, “Stress shift” as early placement of pitch accents, is a comment on this article by Stephanie Shattuck-Hufnagel. She focuses on the model's account of perceived stress shift as it concerns phrase-level pitch accent placement. She notes that Beckman and Edwards, along with other authors' experiments, show that pitch accent placement decisions are not only caused by prosodic constituent structure, but also by pitch accent.

Ladd’s Chapter 4, “Constraints on the gradient variability of pitch range, or, pitch level 4 lives!” discusses gradient variability in pitch range accents. He disputes The Free Gradient Variability, i.e. that pitch accent varies gradiently independently of the pitch variation in the rest of the phrase. He discusses general theoretical problems of The Free Gradient Variability in Pierrehumbert’s description of intonation, presents some findings that question that hypothesis, and proposes an explanation in terms of a categorical distinction between high-tone and ‘Overhigh’ (H+).

Hayes’ comment on Ladd’s paper, “Gesture” in prosody, exposes his disagreement with Ladd’s proposal of the phonological Overhigh tone category. Hayes claims that phonemic H+ is not necessary, and proposes, as a paralinguistic alternative, that the limitation to
nuclear accents is a consequence of the general principle that gestural vocalizations do not override phonological distinction. Laboratory experiment constraints, differing from subject to subject, show that speakers can exercise close control over their gestural systems during experiments.

What is the smallest prosodic domain?, a chapter by Vincent J. van Heuven tries to find experimental support for the hypothesis that the segment rather than the syllable is the smallest domain for pitch accent. In a previous perception experiment, the author tried to establish the extent to which listeners would be able to retrieve the focus distribution intended by Dutch speakers in CVV target words isolated from their context. Results revealed that stress is a segmental property only for some speakers. These individuals were able to express narrow focus below the level of the syllable by prosodic means (larger F0 excursions). An interesting finding is that of ‘Pitch Peak Shift’, an alternative to manipulating segment duration. In this case, the pitch peak of the accent marking a segmental contrast can be postponed by moving the rise-fall towards the end or by making the rise longer. The impression conveyed is that segments which precede the pitch peak seem longer and those following it seem shorter.

The segment as smallest prosodic element: A curious hypothesis, Jongman’s short critical comment of van Heuven’s paper, raises the question of how to determine the kind of acoustic information that listeners use to make prosodic decisions. He suggests a manipulation of synthetic speech contours to higher-level word recognition tasks. Moreover, since the acoustic information signaling that the initial segment carries focus occurs later in the word, he proposes to check if later-occurring information would help listeners recognize words faster.

Section 2. Syllables

Alice Turk’s 32 page study (Articulatory phonetic clues to syllable affiliation), introduces the section on the syllable. Her purpose is to analyze the syllable status of word-medial intervocalic consonants preceding unstressed vowels (i.e., the syllable affiliation of word-medial intervocalic consonants preceding unstressed vowels which are reported to be ambisyllabic, i.e. linked to both the preceding and the following syllable at the same time). She discusses the phonological process of syllabification and provides evidence for the resyllabification of consonants preceding unstressed vowels through the review of phonological (mostly Kahn 1976, Selkirk 1982, Kiparsky 1979) and psychological (Treiman and Davis 1988) accents. Her experiment attempts to present articulatory phonetic evidence of consonantal syllable affiliation and to provide an accurate description of the structural representation of the segments. To do so, she compares the characteristics of upper-lip movement of consonants whose syllable affiliation is equivocal with consonants with known syllable affiliations. Turk’s work, whose design follows Krakow (1989), presents results from kinematic parameters (vertical displacement and peak velocity) of the upper lip during the production of [p] and [b]. These findings support Selkirk’s theory that intervocalic consonants preceding unstressed vowels are syllable-final in surface representation. These results are also in line with Kiparsky’s (1979) foot-based theory, in which intervocalic consonants are similar to syllable-final consonants (both being nonfoot-initial).
In *The phonology and phonetics of extrasyllabicity in French*, Annie Rialland chose to focus on a case in keeping with the goals of this volume and explores the relationship between phonological representation and its phonetic interpretation. Rialland proposes a survey of extrasyllabicity in word-initial and word-final position, considers the status of word-initial consonants, and offers evidence of extrasyllabicity. She also makes a distinction between core-syllabification and extrasyllabification through the phonetics of these different consonants. She then deals with word-final consonants and consonant-clusters and examines post-lexical processes sensitive to extrasyllabicity (i.e., schwa drop, geminate formation and the prosodic status of consonants after schwa drop). She shows that extrasyllabic consonants in French are not totally extraprosodic, but are linked to higher-level nodes in prosodic organization, such as the phonological word and the phrase.

Francis Nolan’s *Phonetic correlates of syllable affiliation*, raises five questions following Turk’s and Rialland’s works on syllable structure. Focusing on the issue of whether a consonant belongs to a particular syllable or not, he presents a short experiment in which he attempts, using acoustic and electro-palatographic recordings, to determine syllable affiliation from phonetic data. The two methods support different kinds of syllabification. He concludes that there may be several phonological syllabifications of an utterance reflected in phonetic correlates. Nolan supposes that successive stages in a phonological derivation can leave traces of alternative syllabification on the phonetic event. He further claims that in some cases of continuous physical events, as in mixed-vowel disyllables, determining syllable affiliation from phonetic performance is unnecessary.

Janet Pierrehumbert’s *Syllable structure and word structure*, a study of triconsonantal clusters in English, is a major early study on probabilistic grammar. It is more precisely an evaluation of the extent to which syllable structure explains the inventory of English long medial clusters. As syllable grammar is stochastic (statistical), two methods are applied. First, the Collins-English Dictionary pronunciation fields which provides an inventory of word-initial and word-final clusters and their frequencies. It shows that the majority of clusters could be characterized by probability calculation, with exceptions being accounted for by a series of phonotactic constraints. Second, a nonsense word experiment is carried out which shows that a number of constraints represent aspects of native speakers’ tacit knowledge.

Section 3. Feature Theory

*The phonetics and phonology of Semitic pharyngeals*. John J. McCarthy’s article reviews the acoustic and articulatory properties of the Semitic gutturals and provides evidence that the natural class of gutturals is defined by their place of articulation and articulator. Features are conceived as orosensory patterns rather than active articulators. He sees how other distinctive features (the emphatics, the coronal and uvular pharyngealized consonants) constitute a natural class defined by the feature [pharyngeal]. The general claim is that phonological classes have a phonetic basis.

"**Possible articulatory bases for the class of guttural consonants**" by Goldstein is a discussion of McCarthy’s article focusing on the argument that the gutturals are characterized by the region of the vocal tract in which they are produced. Goldstein's alternative views propose to distinguish between gutturals and non-guttural consonants by two means: (1) contact along the upper surface of the vocal tract (a passive articulator)
made by the tongue or the lower lip, and (2) gestural specification involving little jaw contribution (“jawlessness”) and more laryngeal control for gutturals.

In *Phonetic evidence for hierarchies of features*, Kenneth N. Stevens attempts to specify the acoustic and articulatory correlates of distinctive features through the concept of acoustic “landmarks”. Landmarks are produced by implementing articulator features, particularly articulator-bound primary and secondary features. Primary features indicate how primary articulators are shaped to produce the constriction, while secondary features specify how other articulators are to be manipulated in coordination with the primary ones. Such a landmark is manifested by an acoustic discontinuity or a minimum in amplitude in consonants, and by a maximum in amplitude and the frequency of the first formant in vowels. Stevens reviews the manifestation of the features in each class and demonstrates the role of landmarks.

In "Do acoustic landmarks constrain the coordination of articulatory events?" Goldstein acknowledges that Steven’s proposal allows the theory of distinctive features to account for aspects of coordination and agrees with the proposal that articulator-bound features are of two types, primary and secondary. However, he thinks that Steven’s principles fail to account for some modes of gestural coordination when the primary features fail to produce the acoustic landmark. He states that patterns of coordination among articulatory events are not constrained by the local requirements of some acoustic landmarks.

Section 4. Phonetic Output

*Phonetic evidence for sound change in Quebec French* by M. Yaeger-Dror begins the section on Phonetic Output with a work on vowel phonology in conversational Montreal French. Her results show vowel lowering of mid-low lengthened vowels. Changes are explained in the light of typological accounts of vowel chain shift, particularly Labov’s hypothesis that the shifting pattern of vowels is accompanied by lexical diffusion. While Labov claims that lexical diffusion occurs for complex changes and for changes “from above,” Yaeger-Dror’s results reveal that lexical diffusion also occurs for unconscious changes and simple changes. Issues relevant to the typology of vowel shifts or cognitive abilities are briefly discussed.

The next paper is *Polysyllabic words in the York Talk synthesis system* by J. Coleman. While text-to-speech systems in the early 1990’s were unconstrained string-based transformational grammars, Coleman developed a phonological theory and a speech–generation program which does not imply such string-to-string transformation. The York Talk laboratory phonology speech generation system implies that phonological representations are hierarchically structured and that phonological relationships, regularities and generalizations are represented by contrasts. This paper describes the extension of the system from monosyllabic words to polysyllabic words.

Johnson’s comments on this paper, *Phonetic arbitrariness and the input problem*, bring up some issues on the mapping from phonological structure to synthesis parameters as it relates to the arbitrariness of phonetics and the mapping from transcription to phonological structure as it relates to the input problem in phonological theory. Johnson considers the possibility that the phonetics/phonology interface might be best stated with emphasis on the role of clear-speech forms.
In *Lip aperture and consonant releases*, Catherine P. Browman shows, as put in her introduction, “how the mouth is opened during vowels in CV American English (sub)syllables”. Actually two studies are presented here: (1) an experiment to determine when the lips are actually controlled, and when lip opening is a passive consequence of jaw opening; (2) a computational implementation of those features, i.e. whether mouth opening needs to be specified or not; and whether mouth opening during vowels is a result of vocalic gestures, consonantal releases, or both. Rounded and spread vowels show evidence of non-controlled lip gestures, while unrounded and non-spread vowels do not. The computational model correctly predicts the differences in lip opening observed during labial and non-labial consonants as the vowels in the utterance differ between rounded and unrounded.

Kingston’s commentary on Browman’s paper, *Changes and stability in the contrasts conveyed by consonant releases*, explores the phonetics and phonology of two interactions between a consonant release and the nature of the following sound. The differences between labials and bilabials in their tendency to assimilate to the place of adjacent vowels are commented upon through consonant-to-vowel place assimilations in Bantu. The active release gesture during the transition from consonant to vowel is also discussed. Kingston suggests that an active release gesture has other purposes than ensuing an aperture for vowel production, particularly allowing laryngeal, oral and soft palate articulators to make audible differences.

The republication of LabPhon3 brings us back to the key works of the early days of LabPhon, now a discipline on its own. Some of the works have been crucial in phonology per se and between phonology and language acquisition, cognitive linguistics or phonological grammar and the articulation and acoustics of speech. Ground breaking works, such as Pierrehumbert’s in probabilistic linguistics or Browman’s on the phoneme, reveal the distance covered in 12 years. Recent computational and technological tools now help further those goals set up by LabPhon as an interface between phonetics and phonology.

**References**


This book presents the Natural Language Processing (NLP) modules used in speech synthesis through the analysis of Hungarian and elaborates parts of the syntax prosody interface. This is the first trial using a syntactic analysis for Hungarian speech synthesis.

Speech synthesis is a well-established domain of computational linguistics and has many applications in voice messages, man-machine dialogues, and for the disabled, to mention only a few of the most important fields. Synthesized speech is available for many languages and nowadays is often built into telephone services and also appears in multimedia applications. There is a growing interest and demand for more natural synthesized speech. Therefore, NLP is taking on a more important role in speech synthesis. The focus has shifted from phonetic-phonological processing to syntactic and pragmatic approaches in the last fifteen years in order to improve the prosody and offer more expressiveness and different speaker styles. Rule-based methods give way sometimes to statistical methods based on substantial speech corpora. The first chapter gives a concise survey on how NLP is used in Text-to-Speech (TTS) systems.

The author outlines the non-Indo-European structure of the Hungarian language based on up-to-date language descriptions in Chapter 2. There are substantial theoretical studies on Hungarian syntax (É. Kiss 2002, Kiefer 1992), and on accent and intonation (Kálmán–Nádasdy 1994, Varga 2002), but they are not oriented to practical applications, such as speech synthesis. The linguistic processing for speech synthesis involves, by necessity, the transcription of written text into oral representation, the grapheme-phoneme conversion, and is present also in the following steps of artificial speech generation.

In Chapter 3, the author describes Hungarian syntactic structures in the framework of dependency grammar. She considers it more suitable to the flexible word order of Hungarian at the sentence level. Nevertheless, constituency rules are also introduced on the phrase level (later in Chapter 6). A restricted parser was created in order to find the main functional constituents for the purposes of the synthesis of Hungarian speech.

Chapter 4 presents the valency dictionary which is used to assist sentence-level parsing with dependency grammar and also for the syntactic generation in the Blissvox system (presented in Chapter 10). Chapter 5 describes the preprocessing necessary as the first step of NLP. It refers to the Hungarian morphological analyzer Humor, since its output is used by this grammar and parser.

Research on the communicative structure of sentences (in terms of given–new, theme–rHEME or topic–focus) has been receiving increasing attention in speech synthesis in recent years. The place of focus is syntactically bound in Hungarian. Hungarian is a topic- and focus-prominent language. In other words, Hungarian sentences can be divided into two main constituents: a logical subject-like constituent, the topic, and a logical predicate-like...
the comment, at the beginning of which, just before the verb, is the place of the focus (É. Kiss 2002). The author has undertaken the practical determination of the topic–focus structure in a significant range of Hungarian sentence types in Chapter 6. The placement of sentence accent and a correct prosodic interpretation relies on this.

Chapter 7 starts by describing the relationship between syntax and prosody, which is thoroughly discussed in the literature of the field. Some researchers dispute the syntactic foundation of prosody, while others make use of syntax for speech synthesis when possible. It is well-known that not every piece of information conveyed by prosody is coded in syntax. This is also a language-dependent question. There are different prosody models for TTS, each using a particular repertory of prosodic entities and symbols. The current method to establish a Hungarian model is based on the analysis of the human voice by computer and on theoretical and practical works on prosody. A carefully designed sentence set (Annex) was read aloud. Prosodic features were computed and compared to available results. The stated correlations between syntactic structure and prosody were formulated and tested by synthesis using ProfiVox in such a way that the results of the parsing were simulated in these and other sentences, then the synthesized sentences underwent a listening check.

The prosodic module is another focal point of the research on Hungarian speech synthesis – and serves as the topic of Chapter 8. A three-level prosodic model was established (Koutny–Olaszy–Olaszi 2000), where the final prosodic characteristics are computed from the interaction of sentence-, phrase- and word-level characteristics. Based on the results of the restraint parsing, it is possible to determine phrase boundaries with and without breaks, stresses for every word, and the intonation contour for the sentence. An inventory of tone groups (also called intonational phrases) is defined, and applied to the functional constituents of the sentence, from which the whole sentence melody is composed. The utility of the method is illustrated by its consistent application to different sentence types (synthesized with ProfiVox) and its performance is discussed on the basis of comparison to the prosody of natural pronunciation.

Giving an overview of the current state of speech synthesis, the role of discourse and emotions cannot be left out. In Chapter 9, some references and the first steps of text/discourse analysis are presented.

Two of many possible application fields to which the author has contributed are dealt with in detail in Chapter 10. The use of synthesized speech is discussed in the context of communicative language teaching, and some tasks are offered. The use of synthesized speech in the computerized version of the Bliss system (an international communication tool for the disabled) for Hungarian brought to light new NLP problems that were solved on a limited scale, as the author reports. She worked out a language model where morphological and syntactic generation takes place using restricted input (word-strings mostly without grammatical endings, according to the pictograms of Bliss) before speech synthesis.

The book gives an overview of the speech synthesis related research the author has been involved in for more than fifteen years.

References
Asher Laufer (2008)

Chapters in Phonetics and Phonetic Transcription
Jerusalem: The Hebrew University, Magnes Press, Language series
(in Hebrew, xiv + 275 pp., with CD ISBN 9789654934015)

Reviewed by: Judith Rosenhouse
Swantech - Sound Waves Analysis and Technologies, Haifa 32684, Israel

Professor Asher Laufer has been the director of the phonetic laboratory of the Department of the Hebrew Language at the Hebrew University of Jerusalem for many years. We also know him as a member of the managing board of ISPhS. His work has focused on many aspects of Hebrew phonetics, and as such, he is one of the few Israeli phoneticians.

The book under discussion is a fundamental or introductory source of information for learners of linguistics, and in particular to students of speech, perception and communication impairments. To this end, Laufer mentions that anyone who needs to articulate properly in professional or non-professional communication (e.g., actors, media broadcasters and teachers, etc.) can benefit by this book. In his Foreword, the author notes that the book is based on his many years of experience in teaching phonetics at the Hebrew University and reflects also well known scholars' works which are properly referred to in the footnotes. In addition to phonetic transcription, readers can learn about the structure of speech, manner of articulation and differences between various languages, with special attention to the features of Modern Hebrew as well as to the old tradition of Tiberian Hebrew (Chapter 15).

The book includes twenty chapters, each of varied length and dedicated to a topic or a few related topics. The chapters are designed so that they are only weakly connected. This independence allows learners (or teachers) to advance without relying on the order of chapters (e.g., in teaching/learning vowels before consonants). The topics discussed in the book appear in the list of chapters:


Before Chapter 1, Laufer gives an Introduction in which he explains the importance of transcription, the goals of a book which deals with phonetics and phonetic transcription and the basics of the articulatory description of speech. In this section, Laufer demonstrates various transcription options (broader and less broad) in Table 0.1 and a girl's profile face picture on which the sketch of the vocal tract is depicted. The exercises 1.1-1.7 of Chapter 1 explore the different articulation loci of consonantal phonemes surrounded by the vowel /a/ on both sides (/aCa/) and not all these phonemes belong to Hebrew. In examples 1.8-1.10, the utterances reflect different articulators and the learners are asked to imitate the sounds they hear in the recording and then to define which articulators are used in them. This system continues throughout the book.

Distinct phonemes are demonstrated in Chapter 14 on the IPA, including double articulation and secondary articulation, such as pharyngealization. Examples are taken from French and English (for phonemes such as /ɔ, ʊ/), Arabic (pharyngealization) and Russian (palatalization and velarization). Some of the examples in this chapter (and elsewhere) are based on the UCLA language database (1993), but the recordings used in the book are mainly by native speakers of the demonstrated languages whose names are mentioned.

It may interest readers of this review to know about the Tiberian vowel system (Chapter 15). This is the vowel system of Classical Hebrew inherited from the scholars who lived in Tiberias in approximately the 8th-9th century CE. This vowel system is still used in written Hebrew, although not all of its vowels exist in Modern Hebrew. The Tiberian vowel system included eight vowels and four schwa-type sounds, whereas Modern Hebrew has five vowels and one schwa sound. The vowels tsere /e/, segol /e/, and qamas /o/, patah /a/, that
were distinct in the Tiberian system, have been reduced to two sounds (/e, a/) in Modern Hebrew. Likewise, the three short vowels, marked by schwa + another vowel in the Tiberian system, have been lost in modern Hebrew and only one vowel, the schwa (which is homophonous with /e/) is used.

Chapter 16 deals with intonation. This topic has been thoroughly studied by the author who has previously published a book on this topic more than 20 years ago (Laufer, 1987). Though the examples used here are not exactly the same as those in that book, the system and the structure of this chapter follow Laufer's old method (which itself relies on O'Connor and Arnold (1973)).

For the transcription part, the author has provided three appendices – the IPA transcription from 1951 (p. 257), the IPA transcription from 2005 (p. 258) and a Hebrew translation of the 2005 IPA transcription (p. 259). But descriptions of the transcription systems appear in all of the chapters, with the introduction of new features.

Numerous exercises accompany each chapter gradually leading to the linguists' required skills. The examples in the book include nonsense syllables, as well as real words from numerous languages. The exercises are organized so as to enhance learning of new speech sounds, even by non-native adult speakers, by using perception, definition, identification and imitation. Lesson 20 already contains exercises where the learner is asked to transcribe. These texts include isolated words, isolated sentences, a short story, and a longer story ("The North Wind and the South Wind") in the "Oriental Hebrew" and "general/standard Hebrew" articulations. In addition, the last two exercises ask for a comparison of these pronunciations and finally transcription of the rhymes in a Hebrew song, along with an explanation of the phonetic phenomenon they represent. These are indeed considerable tasks at the end of a phonetic course.

The CD (Appendix 4) contains the exercises and their solutions, which reflect the speech sounds described in each chapter of the book. The CD recordings enable the learners/reader to hear the new speech sounds over and over and thus to acquire them. However, some of the recorded Hebrew examples sound too pedantic, and thus artificial, relative to the "general standard" spoken Hebrew. This is expressed in the (too) perfect articulation of laryngeals and pharyngeals, for example. But then Hebrew, like any other language, has many registers, of which Laufer is well aware (as shown in the structure of lesson 20 and its exercises), and which this formal articulation partly reflects. Beyond his efforts with the exercises, the author also emphasizes (in the introduction) that a good teacher is essential for learners to assist in learning the material by providing immediate feedback on individual exercises, as well as additional exercises for difficult issues.

The book is full of illustrations, tables and figures including vocal tract and lips positions in the articulation of different phonemes. These devices demonstrate the wide variety of topics presented to the readers/students. Comments which are not directly related to the taught material or expand the topic, but are not obligatory, are often inserted in boxes. These, however, do not serve the same purpose as the numerous footnotes in the book which refer to the literature and add other explanations. The book ends with a list of references (pp. 260-269) and a subject and name index (p. 270-275).

In sum, this is a very good textbook on phonetics for readers of Hebrew, whatever their academic level. The approach is systematic and meticulous and is written in a concise style.
The great number of examples drawn from numerous languages from all over the world, including African and Asian ones, enriches and elucidates the picture. In fact, this is the first book on the subject in Hebrew which is both fundamental and deep (previous studies by Laufer focus rather on acoustic phonetics). It is certainly updated in its modern approach and recent references. We congratulate the author for this successful effort.

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