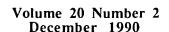
Journal of the International Phonetic Association



International Phonetic Association

Council (1990)

P. LADEFOGED, Los Angeles (President)
K. KOHLER, Kiel (Vice-President)
P. J. ROACH, Leeds (Secretary and Treasurer)
I. MADDIESON, Los Angeles (Editor)

D. ABERCROMBIE, Edinburgh

A. S. ABRAMSON, Storrs, Connecticut

J. R. BALDWIN, London R. A. W. BLADON, Oxford

J. C. CATFORD, Ann Arbor

C.-C. ELERT, Umeå

G. FAURE, Aix-en-Provence

R. FILIPOVIĆ, Zagreb

P. FIORELLI, Florence

E. FISCHER-JØRGENSEN, Virum

W. J. HARDCASTLE, Reading

W. JASSEM, Poznan

M. KLOSTER-JENSEN, Oslo

J. D. M. H. LAVER, Edinburgh

M. K. C. MACMAHON, Glasgow

B. MALMBERG, Lund

A. MARTINET, Sceaux

J. OHALA, Berkeley

M. ONISHI, Tokyo

†A. ROSETTI, Bucarest

E. T. ULDALL, Edinburgh

J.-P. VINAY, Victoria, B. C.

J. C. WELLS, London

J. WINDSOR LEWIS, Leeds

(For a report on the election of the new Council, see the IPA News section of this issue.)

Secretariat: P. J. Roach, C. Foster

The subscription to the Association is £10.00 (or \$20.00) per annum, and should be sent each January to the Secretary, International Phonetic Association, Department of Linguistics and Phonetics, University of Leeds, Leeds LS2 9JT or credited to Postal Giro Account No. 57 009 4208. Individual members may obtain life membership by paying the equivalent of fifteen years' annual subscription (£150.00 or \$338.00). At present members receive two issues of the Journal each year. Back issues of the Journal (1971-1989) may be obtained from the Secretary of the Association at the following prices:

1971-1974:	£2.00 per volume	(to members £1.50)
1975-1976:	£3.00 per volume	(to members £2.50)
1977-1978:	£4.00 per volume	(to members £3.00)
1979-1982:	£6.00 per volume	(to members £4.50)
1979-1982:		
1983-1986:	£8.00 per volume	(to members £6.00)
1987-1989:	£20.00 per volume	(to members £10.00)

Journal of the International Phonetic Association

Editor

IAN MADDIESON Phonetics Laboratory, Department of Linguistics,

UCLA, Los Angeles, CA 90024-1543, U.S.A.

Editorial Board

JARED BERNSTEIN EK-168, SRI International,

Menlo Park, CA 94025-3493, U.S.A.

BRYAN JENNER Christ Church College, Canterbury,

Kent CT1 1QU, U.K.

JOHN KELLY Department of Language and Linguistic Science,

University of York, Heslington, York Y01 5DD, U.K.

Contributions should be sent to:

Ian Maddieson, Editor of JIPA,

Phonetics Laboratory, Department of Linguistics,

UCLA, 405 Hilgard Avenue,

Los Angeles, CA 90024-1543, U.S.A.

Peter Ladefoged and Stephan Schuetze-Coburn helped in the preparation of this volume. The editor gratefully acknowledges their assistance.

Journal of the International Phonetic Association

December 1990

Vol 20, No. 2

Contents

Editorial Note	PAGE
Articles	
MIRIAM CID URIBE AND PETER J. ROACH Spanish Intonation: Design and implementation of a machine-readable corpus	1
Research Notes	
MICHAEL FULLER Pulmonic ingressive fricatives in Tsou	9
Educational Phonetics	
MICHAEL G. ASHBY Articulatory possibilities for implosives	15
Answer to spectrograms in 20.1 Additional spectrogram	19 21
Phonetic Representation	
a) Revision of the IPA Further report on the 1989 Kiel Convention Some proposals concerning glottal consonants (PETER LADEFOGED) Glottal consonants another view (J. C. CATFORD) A proposal concerning central vowels (J. C. CATFORD) The transcription of tone in the IPA (IAN MADDIESON)	22 24 25 26 28

/Continued

b) Discussion	
PETER LADEFOGED	
What do we symbolize? Thoughts prompted by bilabial and labiodental fricatives	32
c) Illustrations of the IPA Arabic (ROBIN THELWALL AND M. AKRAM SA'ADEDDIN) Hebrew (ASHER LAUFER) Comment on German (KLAUS J. KOHLER) Phonology and the IPA (PETER LADEFOGED)	37 40 44 47
Reviews	
Review of Knowles (ALLAN JAMES) Review of O'Shaughnessy (WILLIAM J. POSER)	48 52
IPA News	
Current membership list Individual members Institutional members	55 63
Publications received	70
Association business and announcements	72
Erratum	73
International Phonetic Association Accountant's Report	74