

## CONTENTS

Introduction .....	iii
H. Hirose	
Personnel .....	v
Vocal Fold Tissue of a 104-Year-Old Lady .....	1
M. Hirano, S. Kurita and S. Sakaguchi	
Electromyography of the Tongue Muscle During Vowels in /əpVp/ Environment .....	7
T. Baer, P. Alfonso and K. Honda	
Production and Perception of Accented Devoiced Vowels in Japanese .....	21
M. Sugito and H. Hirose	
Modelling the Air Flow in the Glottis .....	41
J. Gauffin and J. Sundberg	
Tense and Lax Vowels Pairs: A Problem Revisited .....	53
K.S. Harris	
Some Remarks on Consonant Clusters .....	59
O. Fujimura	
Significance of Combined Use of Fiberscopy and Fluorovideoradiography in Cleft Palate Speech .....	67
N. Isshiki and M. Kawano	
The Effect of Laryngeal Surgeries on the Speech Cepstrum .....	75
Y. Koike and J. Kouda	
A Pitch Synchronous Analysis of Hoarseness in Running Speech .....	85
H. Muta, T. Baer, H. Fukuda and S. Saito	
A Preliminary Study of Acoustic Evaluation of Dysarthric Speech .....	97
H. Hirose, G. Ohyama and K. Konno	
Design of a Computer-aided Speechreading Training .....	105
A-P. Benguerel	
Lexical Access of Kana Words and Words in Kana .....	117
S. Sasanuma, N. Sakuma and I. Tatsumi	
Phonological Awareness and Reading Experience: A Cross-Linguistic Perspective .....	125
V.A. Mann	

Thoughts on Grozinsky's Theory of Agrammatism .....	135
J.A. Bisazza	
A Study on Dynamic Characteristics of Speech Signal .....	143
S. Saito and K. Tamaribuchi	
Advanced Technique for Speech Synthesis -A Research Plan on Techniques for Synthesizing Segmental Features- .....	153
S. Kiritani and S. Imaizumi	
The Physiological Role of the Sternothyroid Muscle in Phonation: An Electromyographic Study .....	165
S. Niimi, S. Horiguchi and N. Kobayashi	
Some Remarks on Prosody in Reading a Story in Japanese .....	173
T. Ueno and H. Imagawa	
Realization of Linguistic Information in the Voice Fundamental Frequency Contour of the Spoken Japanese .....	183
H. Fujisaki and H. Kawai	
Recent Publications .....	193

## INTRODUCTION

This issue, our twenty-second Annual Bulletin, is dedicated to Dr. Masayuki Sawashima on his sixtieth birthday and his retirement from the University of Tokyo. For this issue, we asked his friends and colleagues to contribute papers to this occasion. To our great pleasure, we have been able to receive many favorable responses and we would like to present this issue to him with warmth and gratitude.

Dr. Masayuki Sawashima celebrated his sixtieth birthday on November 3, 1987 and, according to the rules of the University of Tokyo, he retired from the University on the last day of March, 1988.

Dr. Sawashima was born in 1927 and graduated from the Faculty of Medicine of the University of Tokyo in 1952. After a one-year internship, he entered the Department of Otorhinolaryngology of the University of Tokyo. The Director of the Department at that time was Prof. Ichiro Kirikae. Dr. Sawashima participated in both clinical and research works, particularly in research on the physiological mechanism of sound conduction in the middle ear.

In 1959, Dr. Sawashima presented his doctoral thesis, "An Experimental Study of Bone Conduction with Impaired Mobility at the Oval and the Round Windows", and received the degree of Doctor of Medical Science (DMS). Since that time, he has given priority in his work to logopedics and phoniatics.

In 1961, Dr. Sawashima was nominated to participate in a symposium on "Cleft lip and cleft palate" at the Annual Meeting of the Japan Society of Otorhinolaryngology held at Nagasaki. He reported on the topic of "Speech rehabilitation of cleft palate and its postoperative speech therapy". He was still a research associate at that time, and it was quite unusual for such a young person to be nominated to participate in such an important meeting.

In 1962, he became a clinical instructor of the Department of Otorhinolaryngology of the University of Tokyo. He also was placed in charge of surgery for cleft palate and related pathologies.

In 1965, the Research Institute of Logopedics and Phoniatics (RILP) was established at the Faculty of Medicine of the University of Tokyo, and Dr. Sawashima was invited to become an Associate Professor in the Section of Speech Science under Prof. Osamu Fujimura. After moving to the RILP, he started his famous work using a flexible fiberscope. In 1968, he was invited to Haskins Laboratories, New York City, as a visiting research scientist, where his research work continued. For his great contribution to progress in laryngeal physiology, he received the Gould Award in 1973.

After coming back to Japan in 1970, the Second Section of Speech Physiology was established at the RILP and Dr. Sawashima was promoted to the position of Professor in this Section in 1971. In 1973, Prof. Fujimura moved to Bell Laboratories, and Dr. Sawashima became the Director of the RILP. He held that position for 12 years, during which the RILP continued to expand.

Dr. Sawashima has always been an excellent researcher, as well as a great clinician. Also, he has been a prominent leader in the field of logopedics and phoniatics, not only in Japan but also in the world. In addition to his research and educational work, he has served as a principal member of many academic societies, including the International Association of Logopedics and Phonitrics (IALP). In 1986, he contributed greatly as the General Secretary to the success of the IALP Congress held in Tokyo.

Upon his retirement from the University of Tokyo, we would like to praise his accomplishments, and we all wish him health and happiness in the future.

Last but not least, we would also like to extend our sincere gratitude to our contributors for articles of such a high quality in honor of Dr. Sawashima.

Hajime Hirose, Director  
RILP

## PERSONNEL

(April 1987 - March 1988)

Professor Emeritus: Ichiro Kirikae (D.M.Sc.)

Director: Hajime Hirose

### Research Staff:

Masayuki Sawashima (D.M.Sc.) Professor of Speech Physiology  
Hajime Hirose (D.M.Sc.) Professor of Speech Pathology  
Shigeru Kiritani (D.M.Sc.) Professor of Speech Science  
Seiji Niimi (D.M.Sc.) Associate Professor of Speech Physiology  
Satoshi Imaizumi (D.Eng.) Associate Professor of Speech Science  
Kenji Itoh (D.Eng.) Research Associate  
Sotaro Sekimoto (B.Eng.) Research Assistant (Jan.-)  
Kohichi Tsunoda (M.D.) Research Assistant  
Noriko Kobayashi (Ph.D.) Research Associate (-Dec.)

### Graduate Students:

Michiko Mochizuki-Sudo (M.A.)  
Fukuko Kuriyagawa (M. Pharm. Sc.)  
Yukie Masuko (M.A.)

### Special Students:

Kanae Konno (M.A.)  
Akiko Yamada (M.A.)  
Kiyoshi Makiyama (M.D.)  
Reiko Mazuka (M.A.)  
Yan Qun (B.L.)

### Guest Researchers:

John A. Bisazza (Ph.D.) Assistant Professor, Department of Literature, Meijigakuin University

### Technical Staff:

Hiroshi Imagawa (B.Eng.)  
Kenji Kawabata (part time)  
Fumihiko Suzuki (part time) (Dec.-)

### Secretaries:

Miss Kikuko Yamakoshi  
Mrs. Mieko Tanaka (part time)  
Ms. Rika Inokawa (part time) (-Sept.)  
Miss Noriko Tsunoda (part time)  
Miss Hiroko Yamane (part time) (Oct.-)

### Cooperative Groups:

University of Tokyo, Faculty of Medicine,  
Department of Otolaryngology, Voice and Speech Group.  
University of Tokyo, Faculty of Engineering,

Kogakuin University,  
Department of Electronic Engineering.  
Kitasato University, School of Medicine,  
Department of Physiology.  
Department of Otolaryngology.  
University of Electro-Communications,  
Research Laboratory of Communication Science.  
Waseda University,  
School of Science and Engineering.  
Tokyo University of Foreign Studies,  
Institute for the Study of Languages and Cultures of Asia  
and Africa.  
University of Tsukuba,  
Institute of Human Sciences.  
National Rehabilitation Center for the Disabled,  
Department of Speech and Hearing Disorders, and  
of Otolaryngology.  
Tokyo Metropolitan Institute of Gerontology,  
Department of Rehabilitation Medicine.  
Section of Communication Research.  
Tokyo Metropolitan Geriatric Hospital,  
Department of Speech Pathology.  
Osaka Shoin Women's College.  
National Language Research Institute,  
Center for Teaching of Japanese as a Foreign Language.  
Tokyo Senbai Hospital,  
Department of Otolaryngology.