

DEVELOPMENT OF LOGOPEDICS AND PHONIATRICS IN JAPAN

---A HISTORICAL REVIEW---*

Ichiro Kirikae

Introduction

Thirty years have passed since the Japan Society of Logopedics and Phoniatics was established in 1956. When we look back upon the past, we realize that there was a sort of preparatory period of almost eighty years before the establishment of the Society as a professional organization. Actually, this period corresponded to the introduction of western medicine to Japan. In this paper, a review will be made first of the preparatory period preceding the modern development of logopedics and phoniatics in Japan and then of the progress made by the Japan Society during the last thirty years.

I. Preparatory era preceding the modern development of logopedics and phoniatics in Japan

It was 1858 when Japan opened the port at Nagasaki to foreign countries after a long period of a national isolation during the Tokugawa era. Even before this opening, there was a route for the inflow of western medicine from the Netherlands, the only country certified for foreign trade. In fact, several Dutch doctors visited Japan at that time. For example, Pompe van Meerdervoort came to Japan in 1857 by the invitation of the Tokugawa government and made a lecture on medical sciences. After their such visits, a few Japanese doctors practiced the use of laryngoscopy (T. Hashimoto, 1867; T. Ishiguro, 1869).

In the meantime in Europe, a laryngeal mirror was invented by M. Garcia in 1854, and posterior rhinoscopy was developed by J. N. Czermak in 1858. Many other scholars, such as Broca and Helmholtz, reported their important, epoch-making findings in the eighteen-sixties.

1. Introduction of otorhinolaryngology to Japan

In Japan, modern medicine spread after the return of many young doctors who had studied abroad particularly in European countries in the late nineteenth century. In 1877, the University of Tokyo was founded as an academic center for the western sciences. In the field of otorhinolaryngology, S. Okonogi, T.

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Kako, E. Kanasugi, K. Horiguchi and others studied in England or Germany to acquire new knowledge in the specialities of otology, rhinology and laryngology.

2. Early development of otorhinolaryngology in Japan

In 1893, E. Kanesugi opened a speciality hospital for otorhinolaryngology in Tokyo after his return from Europe. Later, he founded the Tokyo Otorhinolaryngological Society and contributed to the early development of this speciality in Japan.

The Department of Otorhinolaryngology was first established in the University of Tokyo in 1899, and W. Okada was nominated as the chairman of the department after his return from Germany. After these events, modern otorhinolaryngology developed rather quickly in Japan.

Okada became interested in logopedics and phoniatics when he was studying otorhinolaryngology in Germany and, after the founding of his department at the University of Tokyo, he decided to ask C. Satta, who had graduated from Tokyo Musical College, to specifically study logopedics and phoniatics.

Even during the early era of the development of otorhinolaryngology in Japan, several papers on voice and speech problems were reported in scientific meetings. Table 1 presents a list of the papers reported during the period from 1907 to 1917. The early interest in these topics might have been influenced by the research activities of H. Gutzmann, E. Froeschels and other scholars in Europe.

Table 1

Kubo:	Hysterical aphonia and its psychotherapy
Kanasugi:	Phonatory function after brainstem section
Asai:	Phoniatic approach to the treatment of deaf-mutes
Asai:	Hygiene for singers
Hosoya:	Neurological disorders in singers
Hirose:	Stuttering
Kanasugi:	A case of aphasia
Kanasugi:	Voice science

3. Steps toward the foundation of the Japan Society of Logopedics and Phoniatics

Following the foundation of the University of Tokyo, other national universities were founded in Kyoto and Fukuoka (1913). In addition, medical colleges were also founded in several big cities. Thus, modern systems of medical education and welfare gradually developed throughout Japan.

A voice and speech clinic was first established in the Department of Otorhinolaryngology, Kyushu University (Prof. I. Kubo). Later, voice and speech clinics were opened at the University of Tokyo (1931, Prof. C. Satta) and Keio University (Dr. Y. Hayashi). However, both research and clinical activities were suppressed during the World War II.

After the war, new information quickly entered Japan particularly from the United States, where practical aspects of welfare for the handicapped had been emphasized and speech pathology had developed in close collaboration with the social sciences, psychology, psychiatry, phonetics etc. and in parallel with marked progress in electroacoustic and speech sciences.

In 1956, the time was becoming ripe for the establishment of a professional association for voice and speech medicine, and the Japan Society of Logopedics and Phoniatics was founded at the suggestion of Satta.

II. Progress of the Japan Society of Logopedics and Phoniatics during the last thirty years

The first meeting of the Japan Society of Logopedics and Phoniatics was held in an auditorium of the University of Tokyo on November 25, 1956. Sixty-six members gathered, and 12 papers were reported. After that first meeting, an annual meeting has been held every year, and, in 1985, the Japan Society celebrated its 30th anniversary.

Figure 1 shows the progress of the Japan Society in terms of the number of its members and the papers presented at the annual meetings. Compared with the figures at the time of the first meeting, the number of members had increased 20 times and that of papers had also increased 10 times by the latest meeting held in 1985. As for the 126 papers reported at that meeting, 40 dealt with basic or clinical problems of voice, while the remaining 86 were related to speech problems, including articulation disorders (33), retarded speech development (15), aphasia (11), stuttering (10) etc. as can be seen in the figure.

As for the professional backgrounds of the present members of the Japan Society, 40 % of them are physicians, mostly otolaryngologists with some other specialists such as pediatricians, neurologists, neurosurgeons and dentists, while the remaining 60 % are speech pathologists, speech therapists, school teachers,

linguists etc.

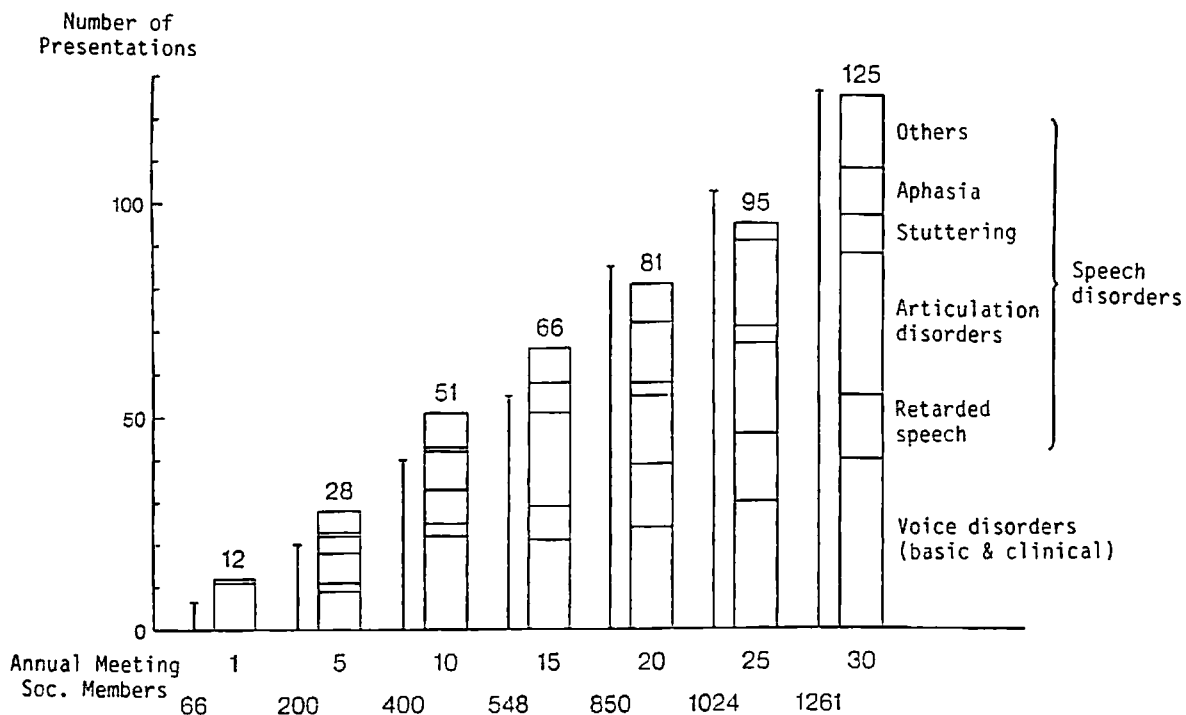


Figure 1. Number of Society Members and Presentations

From an academic viewpoint, the Japan Society was influenced by the traditional German school of experimental phonetics and systematic voice and speech medicine, as well as by the newly developing American school of speech pathology. The Japan Society publishes the Japan Journal of Logopedics and Phoniatics every 4 months for original articles and abstracts presented at the annual meetings.

1. Activities of the special committees of the Japan Society

The progress of the Japan Society has been supported in part by the activities of its special committees which started in 1975. Among them, the three committees listed in Table 2 are particularly important, and more than 60 members have participated in these committees.

Table 2

Three Main Committees of the Japan Society of
Logopedics and Phoniatics

1. Committee for the evaluation of vocal function
2. Committee for the evaluation of speech disorders
3. Committe for medical insurance

1) Committee for the evaluation of vocal function

This committee was set up for the purpose of establishing standardized test batteries for the evaluation of vocal function. Six subcommittees were established (Table 3), each of which has been studying the basic and practical problems of different aspects of vocal function. Summaries of preliminary reports from the subcommittees were published as a monograph entitled "Clinical Examination of Voice", an English version of which was also published by Springer-Verlag. The ultimate aim of the committee is to establish universally applicable test batteries. As a matter of fact, some of the proposals of the committee, particularly those regarding the classification of abnormal voice quality, have attracted world-wide attention.

Table 3

Subcommittees of the Committee for the evaluation of
vocal functions

1. neurophysiological examination
2. aerodynamic examination
3. examination of vocal fold vibration
4. acoustic analysis of voice
5. psychoacoustic evaluation of voice
6. examination of phonatory abilities

2) Committee for the evaluation of speech function

This committee consists of 7 subcommittees (Table 4) and has been trying to establish standard tests for different types of speech disorders.

Table 4

Subcommittees of the Committee for the evaluation of speech functions

1. cleft-palate speech
2. cerebral palsy
3. dyslalia
4. stuttering
5. retarded speech development
6. aphasia
7. dysarthria

3) Committee for socialized medicine

Through the activity of this committee, the Japan Society has proposed that certain clinical tests for the evaluation of voice and speech functions must be adopted as qualified items for medical insurance. So far, such tests as laryngeal stroboscopy, laryngeal fiberscopy, sound spectrography, a standard test for aphasia, etc. have been adopted.

2. Academic activities of the Japan Society

Many important academic products have been reported by the members of the Japan Society during the past years. In this paper, topics related to voice physiology will be reviewed.

In 1966, Hiroto analyzed the mode of vocal fold vibration using ultra-high speed cinematography and observed a phase difference between the upper and lower lips of the vocal fold during phonation, stressing the importance of the mucosal surface of the vocal fold for its vibration. Based on his observations, he proposed his muco-visco-elastic aerodynamic theory of vocal fold vibration.

In 1972, Ishizaka reported his "two-mass model" and gave a theoretical explanation of the nature of vocal fold vibration with reference to the structural characteristics of the vocal fold and to aerodynamics at the level of the glottis.

In 1973, Hirano proposed his body-cover theory with special reference to the wave motion on the mucosal surface of the vibrating vocal fold based on his histological investigations of the structure of the vocal fold. This theory has been found to be very important for understanding the nature of vocal fold vibration in both normal and pathological conditions.

Sawashima and his colleagues introduced the use of a fibero-scope for laryngeal observation in 1968 and have reported on the articulatory dynamics of the larynx during speech.

Saito succeeded in obtaining an x-ray stroboscopic image of a vibrating vocal fold in 1977. This result provided a substantial evidence for understanding the mode of vocal fold vibration, particularly in the frontal plane.

Many electromyographic studies have also been reported on voice and speech activities.

These studies are quite important and unique, and widely appreciated. As a consequence, a good number of the members of the Japan Society have been awarded the Gould Award (7 members) and the Garcia Prize (3 members).

3. Research and clinical activities on aphasia in Japan

After the war, studies on aphasia have been extensively developed in Japan, particularly under the influence of speech pathology in the United States. Different types of tests for aphasia have been proposed as appropriate for Japanese aphasics. Recently, the evaluation of communicative ability in daily life has been one of the important topics in aphasiology. Linguistic aspects of Japanese aphasics have also been investigated.

The number of therapeutic institutions for aphasics was 23, with 71 speech therapists, in 1969, while the number has increased to 167, with 364 speech therapists, by 1982.

4. Research institutions and medical associations related to the Japan Society

The National Institute for the Hearing and Speech Handicapped was first established in 1958. Later, it was incorporated into the National Rehabilitation Center, to which a special course for speech pathology and therapy has been attached.

As for academic institutions, the Research Institute for the Education of Exceptional Children was founded at Tokyo Gakugei University in 1963. In 1965, the Research Institute of Logopedics

and Phoniatics was founded as an affiliated facility of the Faculty of Medicine, University of Tokyo. This Institute consists of the three sections of Speech Science, Speech Physiology and Speech Pathology, and it aims at establishing a multidisciplinary approach to speech research.

With the advance in many different medical specialities after the war, several associations were founded with close collaboration of the Japan Society, i.e. the Japan Society of Rehabilitation Medicine (1963), the Japan Association of Speech Therapists (1975), the Japan Cleft Palate Society (1976), the Japanese Society of Aphasiology (1983) etc.

Summary

Since the introduction of modern medicine from the West in the late nineteenth century, the medical sciences in Japan have developed remarkably. Our own speciality of logopedics and phoniatics has also been developing together with the advances in otorhinolaryngology and related medical specialities. In this paper, a historical review was made of this development for the thirtieth anniversary of the Japan Society of Logopedics and Phoniatics.

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