

DEPARTMENT OF SPEECH PATHOLOGY AND AUDIOLOGY
UNIVERSITY OF IOWA

Newsletter

Vol. 3, No. 3 and 4, April - May, 1970

The Newsletter is circulated about the 20th of each month excluding January, August, and September. News items should be written out and either deposited in the Newsletter box in the lounges or given to any of the following people: C. Collison, A. Compton, L. Hanau, M. Kaiser, T. Middleton, K. Monkhouse. For additional information, please see Arthur Compton or Kay Monkhouse.

Everyone in the department is encouraged to contribute any information which they consider to be of departmental interest. It is of special importance to get information concerning alumnae, since there is no systematic method for keeping in touch with our graduates.

Departmental News and Announcements:

STUDENT PARKING: Because the University parking meters have been removed in the lot adjacent to the football stadium, suggestions for other parking places are needed.

One can complete an application for a parking ramp ticket at the Traffic and Parking Office in the Old Dental Building for the balance of the semester and perhaps the summer session.

Meters are also available in the lot south of the Field House but you must arrive early to secure a space. Price - 5¢ an hour.

A conference on speech and language problems of persons who have suffered from strokes was held on Friday, April 24, at the Wendell Johnson Speech and Hearing Center. The conference was attended by 163 persons from throughout the state who represented a variety of professions dealing with delivery of health care to disabled persons. Physicians, psychologists, vocational counselors, nurses, administrators of intensive care units, social workers, physical therapists and speech pathologists were among those who listened to discussions of the physical cause of strokes, the types of speech and language problems that frequently result from strokes and suggestions for helping the post stroke victim. Miss Breta Lawshe, who organized the conference, demonstrated a number of types of communication problems that are called aphasia. Throughout the conference emphasis was placed upon the need to involve the family in an educational program in order that they may best assist their family member in compensating for and improving his speech and language handicap.

The conference was sponsored by the Department of Speech Pathology and Audiology, Department of Neurology and the Iowa Regional Medical Program. Additional speakers at the conference were Dr. John R. Taylor, Assistant Professor of Neurology and Administrator, Stroke Education Program of the Iowa Regional Medical Program, James C. Hardy and Barbara Moeller. Dr. Shirley Salmon, Assistant Professor of Speech Pathology from the University of Kansas School of Medicine was a guest speaker who demonstrated teaching programs for post stroke patients who initially show little ability to communicate and perform muscular function necessary for daily living activities.

Following a lecture ("Behavioral Phonetics with Special Reference to Retention") by Dr. Harris Winitz on April 9th, the faculty sponsored an informal gathering of students and friends at the Ramada Inn. Gallons of beer were consumed before all adjourned at midnight. It is the general feeling of the students that this type of gathering is an excellent way to meet and talk with visiting members of the profession and wish the opportunity were available more often - with or without free refreshments.

REMINDER: Registration for Summer Session is on Monday, June 15, and classes begin on Tuesday, June 16.

Professional Activities of Members in Department

DEAN WILLIAMS was a guest lecturer on April 9 at the School of Speech and Hearing Sciences at Bradley University in Peoria, Illinois. His topic for a seminar and a general lecture was "New Concepts in the Management of Stuttering." He also led a discussion on "Continuing Education for Speech and Hearing Clinicians" at the I.S.H.A. meeting in Ames, Iowa, on April 11.

DEAN WILLIAMS, MARGARET EVANS and WILLIAM YOVETICH participated as speakers and discussion group leaders at a workshop entitled, "The Public Schools - A Good Place To Do Stuttering Therapy." The workshop was sponsored by the Northern Illinois Speech and Hearing Association and was held in Rockford, Illinois, on April 18.

KENNETH MOLL presented a talk entitled "Normal Articulatory Functioning" at the Wisconsin Speech and Hearing Association meeting in Madison, Wisconsin, on May 1.

HUGHLETT MORRIS attended an Editor's conference at the Information Center on Hearing Speech and Language Disorders at Johns Hopkins University, Baltimore, Maryland, on April 29.

HUGHLETT MORRIS and ROBERT KREMENAK attended a conference in Ann Arbor in early March sponsored by the Joint Committee for Dentistry and Speech Pathology and Audiology. The conference was on oral-facial disorders and was attended by dentists and speech pathologists from all parts of the country. Hugh Morris will serve as Editor of the conference report.

JIM ABBENHAUNS, JERRY CARNEY, JOE CLAWSON, STEFAN DEMJEN, ROBERT KREMENAK, HUGHLETT MORRIS, WILLIAM OLIN, SALLY PETERSON, JAMES SCHWEIGER, LARRY SEVEREID, and JEANNE SMITH attended the 1970 meeting of the American Cleft Palate Association in Portland, Oregon. William Olin was President of ACPA during 1969-1970. Hughlett Morris retired as Editor of the Cleft Palate Journal after holding that position since 1964. Robert Kremenak is the new chairman of the ACPA membership committee. Authors of papers presented at the meeting were Jerry Carney and Hughlett Morris, Larry Severeid and Brian McCabe, and Robert Kremenak and Stefan Demjen. Jeanne Smith was a secretary at one of the scientific sessions and Hugh Morris presided at one of the round table discussions.

BRETA LAWSHE presented a lecture on "Adult Rehabilitation" to students enrolled in the Medical Information Core Curriculum on May 7. On March 31, she also attended a conference on "The Use of the Family as Supportive Personnel in Speech Therapy," in Santa Barbara, California.

ARTHUR J. COMPTON presented a lecture on developmental phonology to the students and faculty in the Department of Linguistics at the University of California in Berkeley on April 3.

DAVID LILLY and ARNOLD SMALL attended the 79th meeting of the Acoustical Society of America in Atlantic City, New Jersey, from April 21-24. Arnold Small was also a participant in deliberations of the Editorial Council and the Committee on Education.

Social Announcements and Personals

DEBBIE LAWHORNE and JACK CHAFFEE plan to be married this fall. Jack is a senior in civil engineering at Iowa.

CAROL RYE is engaged to Steve Hoth who is a senior in social work at Wartburg.

CHERI MAXWELL will marry Vern Potts on June 21. They will live in Japan while Vern completes his tour of duty in the Air Force.

LIZ BOYSEN and KEN KOCH will be married on August 21. Ken is a first year dental student at Iowa.

ANN HANKEN will marry Robert Briggie on May 31. Robert is working on his doctorate in Spanish.

JAN SCHWARTZ has been selected for membership in Mortar Board.

BON VOYAGE to Janie and Ehud Yairi who are leaving on May 22nd for a few weeks in Israel. They plan to spend three days in New York visiting Janie's family before flying to Tel Aviv.

An all-encompassing tour of Israel is planned, with a visit to Ehud's family heading the list of priorities. Of special interest will be a tour of the old city of Jerusalem and a detailed inspection of the new Speech and Hearing Clinic which was opened just this year at the University of Tel Aviv.

Janie plans to return to Iowa City for summer school (she says with a great suntan!) before she and Ehud leave in August for Lubbock, Texas, where Ehud has received an appointment as Assistant Professor in Speech Pathology at Texas Technological University.

SALLY SCHNEIDER and JIM THELIN announced their engagement on April 7, 1970. Both are students working toward M.A. degrees - Sally in Speech Pathology and Jim in Audiology. They plan an early August wedding in Iowa City.

DENISE MILLER and MARK SELIGMAN announced their engagement shortly after Easter recess. Denise is an M.A. degree candidate in Speech Pathology. Her fiancé is a junior medical student. They plan to be married on August 15, 1970, in Peoria, Illinois.

SUE STRATHMAN and JERRY SNEIDERS have announced their engagement and plan to be married on August 8, 1970, in Pocahontus, Iowa. Sue is working toward an M.A. degree in Speech Pathology and plans to graduate in May. Jerry is an undergraduate student majoring in Geology.

STUDENTS gathered at the Pub on April 15th to say an informal "goodbye" to Mary Jane Collins.

Departmental Research and Publications

TEMPORAL AUDITORY INTEGRATION IN NARROW BAND NOISE by Mary Jane Collins (Ph.D. thesis, May, 1970) The purpose of the investigation was to evaluate the effects of narrow band noise on temporal auditory integration of a sinusoidal signal. Using a method of constant stimuli in a two interval temporal forced choice paradigm, sound pressure levels for constant detectability ($d' - 1$) were obtained. The signal was a 1000 Hz sinusoid whose durations were varied (5 to 200 msec) and presented in a background of continuous noise of varied bandwidth (5, 50 and 300 Hz), but constant spectrum level (60 dB SPL re .0002 microbar). Eight normal hearing young adults served as subjects.

The results indicate that the auditory system is able to integrate signal energy from 5 to 100 msec and that the rate of integration tends to increase as masker bandwidth decreases. Estimates of critical bandwidth for masking (made from determinations of sound pressure level for constant detectability as a function of masker bandwidth) indicate that there is an increase in critical bandwidth as signal duration decreases.

In the presence of the 30 Hz noise band, energy levels for constant detectability as a function of signal duration vary in a manner which can be explained if the critical bandwidth changes with signal bandwidth (duration) over a range from 10 to 100 msec duration. The increase in the rate of integration as masker bandwidth decreases can be explained on the basis of a narrowing of the critical bandwidth for masking as noise bandwidth decreases and is taken to be indicative of tuning of the critical band by masker characteristics. Also, there is evidence that suggests the possibility of a dual critical band system, with one critical band for signal integration and another, greater in magnitude, for masking. A model is presented which assumes a dual critical band system which can be tuned by either masker or signal characteristics and which appears to adequately explain the present data.

A CINEFLUOROGRAPHIC-SPECTROGRAPHIC INVESTIGATION OF THE COMPONENT GESTURES IN LINGUAL ARTICULATION by Ray Kent (Ph.D. thesis, 1970)

The purpose of this study was to investigate configurational and dynamic constraints in speech articulation using the techniques of cinefluorography and spectrography. The cinefluorographic films were taken with a lateral perspective at a rate of 150 frames per second, and the spectrographic analyses were performed on acoustic recordings that were obtained simultaneously with the films. Tongue-body movements in the films were described by means of a point parametrization of the lingual surface in the midsagittal plane. This parametrization was accomplished by attaching **small radiopaque** markers to the tongue of each speaker. With this approach, the displacement patterns of the tongue markers describe the direction and extent of tongue motion, and the rate of change in position for a given marker serves as an index of articulatory velocity. In addition to the analyses based on point parametrization, measurements were made for various dimensions of vocal-tract configuration.

Two major hypotheses underlay the design of the study.

(1) The closure and release gestures associated with an intervocalic lingual consonant are executed within time intervals that are relatively invariant with changes in vowel context and speaking rate. The neuromuscular control of such articulations thus exhibits a constraint on the duration of movement.

(2) The dynamic invariance in the case of vowel and diphthong gestures is a restriction on the velocity of tongue-body movement: there is a distinct and invariant velocity for a given motion of the tongue-body articulator. This "characteristic" velocity is independent of speaking rate and the phonetic consequence of the movement (i.e., whether the articulation represents a diphthong or a transconsonantal vowel-to-vowel transition).

Observations were made for two speech samples, one primarily for examination of consonant articulations and the other primarily for examination of vowel and diphthong articulations. Two speakers were used for each of the two speech samples. The speech sample for study of consonant articulations consisted of symmetric VCV (vowel + consonant + vowel) utterances where C is a lingual stop, fricative or glide. For the most part, utterances in the speech sample for examination of vowel and diphthong gestures were sets of words that were presumed to have a similar tongue-body articulation but a different role of this articulation in the phonetic sequence, i.e., a diphthong vs. a transconsonantal vowel-to-vowel transition.

The results confirm the experimental hypotheses in some respects but not in others. Generally, for all the articulations under investigation, variations in speaking rate had relatively little effect on the velocity of articulatory movement. The data for intervocalic consonants revealed that although the velocity of a consonantal articulator depends on vowel context, there is only a gross correspondence of the transition durations for a given consonant in different vowel environments. For vowel and diphthong gestures, the data suggested the presence of both intrinsic physiological constraints and phonemic conditioning in the determination of dynamic characteristics. Typically, a diphthong gesture was slower

than a comparable transconsonantal vowel-to-vowel transition. With increases in speaking rate, undershoot was noted for both vowel and diphthong articulations, and it appeared that a velocity constraint on tongue-body movements may explain the occurrence of undershoot effects.

The data also were analyzed to evaluate such articulatory characteristics as physical adjacency constraints on the tongue and the synergy between tongue and jaw. Regarding the former, it was possible to demonstrate that essentially the same shape of the tongue body obtains for different vowels, despite variations in tongue height and antero-posterior positioning of the tongue mass. Regarding the latter, procedures were employed to eliminate the jaw-dependent component in lingual displacements and thereby assess the contribution of mandibular articulation to various tongue gestures.

PERCEPTION OF PARENTAL ATTITUDES BY STUTTERING AND BY NONSTUTTERING CHILDREN by Ehud Yairi (Ph.D. thesis, January, 1970) The purpose of this investigation was to study parental behavior and attitudes as perceived by stuttering and nonstuttering boys.

The CRPBI (Children's Report of Parent Behavior Inventory) Mother and Father Forms were used in measuring perceived parental behavior. Two scales were constructed and added to the original inventory: (1) Scale of Positive Attitudes Toward Speech, and (2) Scale of Negative Attitudes Toward Speech.

The subjects who participated in the study consisted of 34 male stutterers (17 mild and 17 moderate/severe) and 34 male nonstutterers. All subjects were in sixth and seventh grades of elementary school and between the ages of 11 years 6 months and 13 years ten months. For each stutterer, a nonstutterer was matched according to grade, age, academic achievement scores (according to the Iowa Test of Basic Skills), and social economic status in terms of father's education.

Each subject completed both the CRPBI Father and Mother Forms. The main analyses included comparisons between (1) the scores of the two groups of subjects on each scale of the Father Form, (2) the two groups' scores on each scale of the Mother Form, (3) the stutterers' scores on each scale of the Father and Mother Forms, (4) the nonstutterers' scores on each of the two forms, (5) the scores of the mild and moderate/severe stutterers on each scale of the two forms.

Significant differences between stutterers' and nonstutterers' scores on the Father Form were found for the scales of Possessiveness, Control Through Guilt, and Hostile Control. In all cases the nonstutterers perceived Father to employ more of the behaviors measured by the scales. Significant differences between stutterers' and nonstutterers' scores on the Mother Form were found for the scales of Possessiveness, Control, Intrusiveness, Hostile Control, Instilling Persistent Anxiety, and Negative Attitudes Toward Speech. In each instance the nonstutterers perceived Mother to employ more of the behavior measured by the scale.

Significant differences between stutterers' scores on the Father and the Mother Forms were found on scales of Acceptance, Child Centeredness, Possessiveness, Positive Involvement, and Positive Attitudes Toward Speech. Similarly, significant differences on the

nonstutterers' scores on the two forms were found for the scales of Acceptance, Positive Involvement, Intrusiveness, and Hostile Control. In both groups Mother was perceived to employ more of the behaviors measured by the scales.

No significant differences were found between mild and moderate/severe stutterers' scores on the two forms.

The results were discussed and implications for further research suggested.

Editorial: RANDOM REACTIONS TO APRIL 1ST NEWSLETTER

Surprised - unaware that this kind of publication existed.

Some of the digs at faculty members were witty, but some were cruel and unnecessary...hope the publisher was not aware of how cruel some of it was...if it was done maliciously then it was completely out of place - REGARDLESS OF HOW TRUE THE COMMENTS MIGHT HAVE BEEN.

Enlightening and funny.

Too pointed in a few instances but worthwhile humorous reading.

A good way to brighten the atmosphere.

Glad to see that the Muse of spring is able to waft into this bastion of Gaussian noise and Fourier analysis. Will keep my copies of past papers filed along with class notes.

I was extremely upset that students who I previously thought to be intelligent, sophisticated and rational would lower themselves to indulge in gutter-humor of the worst possible kind. Although there may be some truth in the genesis of this humor - these truths are better left unsaid.

Not as clever as last year's "letter." The "Editor-in-Chief" was probably the nincompoop responsible.

In poor taste, not cleverly written and parts were unnecessarily unkind.

Just great - except the part about me.

I thought that this Newsletter wasn't as funny as previous ones. Also, I feel that some of the comments were in poor taste. What I would like to see is a Newsletter that would be specifically directed toward giving students ideas as to how to improve the quality of their training.

The funny one?

I'd like to know where they get their information.

Oh -- I can't remember that far back.

Unfair, must have been done by the audiology students.

I think the faculty probably took it in **their** stride.

Excellent. I think it should be done again.

Very healthy. Maybe more careful editing would be advisable, though.

I haven't read it.

Are you putting my name in the Newsletter?

Most of it I didn't understand because I'm not a grad student, but some of it was a little nasty.

Is that what "spill the cookies" means?

A bit overzealous, but all of it was probably true.

Don't you think we need some court jesters?

Some of it was funny, some sick. It represents a pervading sickness in the Department with its hostility and aggression.

I really didn't read it **that well to be able to comment.**

I was offended for some people, but most of it was good.

People can take a joke.

Very funny. A few were unkind. It's O.K. to make jokes of people's opinions, but it's another thing to attack personal physical attributes that people can't help.

What Newsletter?

In my eyes it's apropos to this semester.

I'm glad to see that Terry Fouts is finally getting his reward.

I want to know how they knew whose cookies were spilled!

There should have been more speech path students attacked. I think the audiology students did it and they should get to know the speech path students more.

A lot less subtle than years past.

Pretty well written, but there were a couple of individual items in poor taste.

The kind of tradition that should be continued with maybe a little brightening up of criteria used. In addition, if elected, I promise to bring home the troops from Yale...

I thoroughly enjoyed it. Got a lot of good belly-laughes.

It's hard to draw the line between humor and poor taste at times.

Graduating Students - Ph.D.

MARY JANE COLLINS has accepted a triple appointment beginning May 3 with the V.A. Hospital, Bill Wilkerson Hearing and Speech Center and Vanderbilt School of Medicine in Nashville, Tennessee. Her duties will include audiometric evaluation and diagnosis, teaching courses in audiology and other staff responsibilities. But on Saturday nights, she'll probably be at the Grand Ole Opry.

RAY KENT will be staying in Iowa City during the summer and plans to take a professional position in the fall.

Graduating Students - M.A.

MARY BOWSTEAD plans to be doing something in the near future if someone will make an offer. In the meantime she will be working at Iowa City V.A. until the 1st of July.

SUSAN FREELAND plans to continue school next year while her husband finishes Law School.

MARY PICEK hopes to be employed as a speech clinician in the public school system in North Carolina, where her husband Lou is presently stationed with the Army.

SUE STRATHMAN has accepted a position as a speech clinician in Iowa County Public Schools (Lee Fisher's program).

SUSAN THOMSEN has accepted a position as a public school speech clinician in Clinton Community Schools.

DIANE WILSON plans to be a speech clinician in the Cedar Rapids area.

Graduating Students - B.S. and B.A.

Albrecht, Judith L.
Bolin, Barbara Nelson
Buffington, Cynthia
Collison, Catherine L.
Courtois, Joyce E.
Fairfax, Lyn Manfield
Gilfoyle, David Stanley
Kellogg, Kathleen E.M.

Lang, Diane Jene
Larson, Linda Mae
Lewis, Michael W.
Longman, Gwen Cottingham
Middlebrook, Beverly
Rowden, Sheri Lee
Schlichtemeier, Ann E.
Younie, Kathryn Beth
