

INSTITUTE OF PHONETICS
JULY 1, 1981 - JUNE 30, 1982

I. PERSONNEL OF THE INSTITUTE

PROFESSOR:

Jørgen Rischel, dr.phil.

ASSOCIATE PROFESSORS:

Børge Frøkjær-Jensen, cand.mag. (seconded to the Audiologopedic Research Group)

Peter Holtse, cand.phil.

Birgit Hutter, cand.mag.

Niels Reinholt Petersen, cand.phil.

Nina Thorsen, lic.phil.

Oluf Thorsen, cand.mag.

TEACHING ASSISTANTS:

Michael Bundgaard, stud.mag.

Peter Molbæk Hansen, cand.mag.

Eva Rosenvold, cand.mag.

ENGINEERS:

Otto Bertelsen, M.Sc.

Preben Dømler, B.Sc.

TECHNICIAN:

Svend-Erik Lystlund

SECRETARY:

Else Parkmann

TEACHERS FROM OTHER INSTITUTES:

Niels Ege, mag.art. (Institute of Linguistics)

GUEST RESEARCHER:

Eli Fischer-Jørgensen, dr.phil.h.c.

II. PUBLICATIONS BY STAFF MEMBERS

Jørgen Rischel "Nogle komplicerende faktorer vedrørende verbers betoning i dansk", Arbejdsrapporter II, Institut for Lingvistik, University of Copenhagen, 1981.

Jørgen Rischel "Greenlandic as a three-vowel language", Inuit Studies 5, Supplementary Issue, 1981, p. 71-80.

Jørgen Rischel "A note on diachronic data, universals and research strategies", Phonologica 1980, ed. W.U. Dressler, O.E. Pfeiffer & J.R. Rennison, 1981, p. 365-371.

Nina Thorsen "Sentence intonation in Danish", preprint for the Working Group on Intonation at the 13th International Congress of Linguistics, Tokyo 29.8.- 4.9. 1982, 10 pp.

Nina Thorsen and Oluf Thorsen Fonetik for Sprogstuderende, 3rd edition, 5th printing, Copenhagen 1982, 170 pp.

III. LECTURES AND COURSES

1. ELEMENTARY COURSES IN GENERAL PHONETICS AND LINGUISTICS

One semester course (two hours a week) in elementary general phonetics (intended for students of phonetics and linguistics) were given by Nina Thorsen in the autumn semester 1981.

Courses in general and German phonetics were given by Michael Bundgaard both in the autumn semester 1981 (one hour a week) and in the spring semester 1982 (two hours a week).

A course in general phonetics for students of Modern Greek (two hours a week) was given in the autumn semester 1981 by Eva Rosenvold.

A course in general phonetics for students of Italian (two hours a week) was given in the autumn semester 1981 by Peter Molbæk Hansen.

Courses in general and Russian phonetics (two hours a week) were given by Peter Molbæk Hansen both in the autumn semester 1981 and in the spring semester 1982.

An introductory course in general linguistics (two hours a week) was given in the autumn semester 1981 by Niels Ege.

2. PRACTICAL EXERCISES IN EAR-TRAINING AND PHONETIC TRANSCRIPTION

Based on tape recordings as well as work with informants, three semester courses of two hours a week were given as follows:

Beginners and advanced students, in the autumn semester 1981 by Oluf Thorsen.

Intermediate level, in the spring semester 1982 by Nina Thorsen.

3. PHONOLOGY

Courses in phonology (two hours a week) were given by Jørgen Rischel, for more advanced students in the autumn semester 1981, and for beginners in the spring semester 1982.

4. PHYSIOLOGY AND ACOUSTICS OF SPEECH

A course in the physiology of speech (two hours a week) was given in the autumn semester 1981 by Peter Holtse.

A course in instrumental physiological phonetics (two hours a week plus individual exercises) was given by Birgit Hutter in the spring semester 1982.

A course in instrumental acoustic phonetics (four hours a week plus individual exercises) was given in the autumn semester 1981 by Niels Reinholt Petersen.

5. OTHER COURSES

A course in statistics (two hours a week) was given by Niels Reinholt Petersen in the spring semester 1982.

Niels Reinholt Petersen presided at a series of seminars for advanced students on topics in experimental phonetics (two hours a week) in the spring semester 1982.

A course in auditory perception (one hour a week) was given by Peter Holtse in the spring semester 1982.

An introductory course in computer science (two hours a week) was given by Peter Holtse in the spring semester 1982.

A course titled "Nasality" (one hour a week) was given by Birgit Hutter in the spring semester 1982.

Courses in the phonetics and the phonology of particular languages (each two hours a week) were held as follows:

Danish, autumn semester 1981 by Nina Thorsen.

German, spring semester 1982 by Nina Thorsen.

Jørgen Rischel presided over a seminar (graduate level) on Danish diachronic phonetics/phonology (two hours a week) both in the autumn semester 1981 and in the spring semester 1982.

6. SEMINARS

Nina Thorsen gave a lecture on the present state of the description of Danish utterance prosody as the final examination for the philosophical licentiate degree.

Professor Björn Lindblom (University of Stockholm) gave two lectures titled: "Motor behaviour of speech - impressions from an interdisciplinary symposium" and "The biology of spoken language - linguistics and evolutionary theories".

Björn Granström and Sheri Hunnicut-Carlson (Royal Institute of Technology, Stockholm) lectured on "Text-to-speech synthesis of various languages".

Rolf Carlson and Björn Granström (Royal Institute of Technology, Stockholm) lectured on: "Experiments with a perceptually based sonagraph".

IV. PARTICIPATION IN CONGRESSES ETC.

Peter Holtse participated in a seminar on automatic speech recognition held in Copenhagen, October 13-14, 1981.

Birgit Hutter participated in a symposium on labial and palatal anomalies in Copenhagen, January 16-17, 1982, and gave a paper on: "Nasal airflow and velo-pharyngeal insufficiency". (To appear in Scandinavian Journal of Logopedics and Phoniatrics.)

Birgit Hutter visited the linguistic institute in Uppsala, March 30, 1982, and lectured on: "Fiberoptic and glottography in phonetic research" and on: "The glottal gesture in unvoiced obstruents".

Jørgen Rischel was president of the 14th Annual Meeting of Societas Linguistica Europaea, held in Copenhagen August 16-18, 1981.

Jørgen Rischel participated in the 2nd International Symposium on "Contact + Confl(i)c(t)" at the Research Centre on Multilingualism, Bruxelles, June 2-5, 1982, and gave a paper on "Language Policy and Language Survival in the North-Atlantic Parts of Denmark". (To appear in the Proceedings of the Symposium.)

Nina Thorsen participated in a symposium on "Prosody and synthesis by rule" in Lund, September 18, 1981.

Nina Thorsen gave a paper on "The present state of the description of Danish utterance prosody" at the Annual Meeting of the Audiologopedic Association, March 19, 1982.

Nina Thorsen participated in European Psycholinguistic Association - Workshop on Prosody, held in Paris, April 21-23, 1982, and gave a paper on "Two issues in Standard Danish Prosody: the lack of sentence accent and the representation of sentence intonation".

V. INSTRUMENTAL EQUIPMENT OF THE LABORATORY

The following is a complete list of instruments available at the laboratory by the end of the first half of 1982.

1. INSTRUMENTATION FOR SPEECH ANALYSIS

- 1 sonagraph, Kay Elemetrics, type 6061 A.
- 1 sonagraph, Kay Elemetrics, type 7029 A.
- 1 amplitude display/scale magnifier unit, Kay Elemetrics, type 6076 A.
- 1 contour display unit, Kay Elemetrics, type 6070 A.
- 1 fundamental frequency extractor ("Trans Pitchmeter")
- 1 intensity meter (dual channel, with active variable highpass and lowpass filters)
- 2 air-pressure manometers, Simonsen & Weel, type HB 66 (modified)
- 1 photo-electric glottograph
- 1 Fabre glottograph
- 1 palatoscope with complete outfit for palatography
- 1 segmentator, type PT.
- 1 electro-aerometer, four channel, type AM 508/4
- 1 audio frequency filter, type 445
- 1 vocal cords fiberscope, Olympus, type VF
- 1 fundamental frequency meter, type FFM 650
- 2 intensity meters, Fonema
- 2 fundamental frequency meters, Fonema

2. INSTRUMENTATION FOR SPEECH SYNTHESIS

- 1 formant-coded speech synthesizer
- 1 voice-source generator
- 1 larynx vibrator with power supply.

3. FILTERS

- 1 LC highpass filter (with stepwise variation of cut-off frequency)
- 1 active RC lowpass filter

4. INSTRUMENTATION FOR VISUAL RECORDINGS

- 1 mingograph, Elema 800 (8 channels)
- 1 mingograph, Siemens-Elema, type 803.
- 1 automatic frequency response and spectrum recorder, Brüel & Kjær, type 3332
- 1 oscilloscope, Tektronix, type 465
- 1 oscilloscope, Tektronix, type 5115
- 2 oscilloscopes, Tektronix, type 564 storage

- 1 dual-trace amplifier, Tektronix, type 3A1
- 1 four-trace amplifier, Tektronix, type 3A74
- 1 dual-trace differential amplifier, Tektronix, type 3A3
- 1 time-base, Tektronix, type 3B3
- 1 time-base, Tektronix, type 2B67
- 2 dual-trace amplifiers, Tektronix, type 5A18N
- 1 time-base, Tektronix, type 5B10N.

5. TAPE RECORDERS

- 1 instrumentation recorder, Lyrec, type TR 86
- 1 professional recorder, Lyrec, type TR 42
- 2 professional recorders, Lyrec, type TR 20
- 10 semi-professional recorders, Revox, type A 77
- 1 professional recorder, Revox, type A 700
- 1 portable semi-professional recorder, Uher, type 4000
- 1 cassette recorder, Tandberg, type TCD 310 MK-2

6. GRAMOPHONES

- 2 gramophones, Delphon (mono, Ortofon pick-up)

7. MICROPHONES

- 1 microphone, Neuman, type KM 56
- 3 dynamic microphones, Sennheiser, type MD 21
- 1 1" microphone, Brüel & Kjær, type 4131/32
- 1 1/4" microphone, Brüel & Kjær, type 4135/36
- 1 larynx microphone
- 2 1" microphones, Brüel & Kjær, type 4145
- 1 microphone, power supply, Brüel & Kjær, type 2807
- 1 microphone, power supply, Telefunken.

8. AMPLIFIERS

- 1 microphone amplifier, Brüel & Kjær, type 2603
- 1 power amplifier, Brüel & Kjær, type 2706
- 2 microphone pre-amplifiers, Brüel & Kjær, type 2627
- 2 measuring amplifiers, Brüel & Kjær, type 2607 A
- 1 power amplifier, Nikko, type NA 590

9. LOUDSPEAKERS

- 10 headphones, Sennheiser, type 414
- 4 headphones, Sennheiser, type 424
- 2 headphones, Sennheiser, type 424 X
- 2 loudspeakers, Beovox, type M 70
- 8 loudspeakers, Philips, type RH 541 MFB

10. GENERAL PURPOSE ELECTRONIC INSTRUMENTATION

- 1 oscillator, Hewlett & Packard, type CD 200
 - 1 function generator, Wavetec VGC III (0.003 c/s - 1 Mc/S)
 - 1 frequency counter, Rochar, type A 1360 CH (5 digits)
 - 2 vacuum-tube voltmeters, Brüel & Kjær, type 2409
 - 1 vacuum-tube voltmeter, Radiometer, type RV 23b
 - 1 DC millivoltmeter, Danameter, type 205
 - 1 DC nanoammeter, Danameter, type 206
 - 1 universal meter, Philips, type P 817
 - 1 transistor tester, Taylor, model 44
 - 1 Piston-phone, Brüel & Kjær, type 4220
 - 1 component bridge C/L/R, Wayne Kerr, type B 522
 - 1 AC automatic voltage stabilizer, Claude Lyons, type BTR-5F
 - 4 resistance decades, Danbridge, type DR 4
 - 1 condenser decade, Danbridge, type DK 4 AV
 - 1 multi-generator, Exact, type 126 VCF
 - 2 stabilized rectifiers, Danica, type TPS 1d
 - 1 stabilized rectifier, Danica, type TPS 3c
 - 1 impulse precision sound level meter, Brüel & Kjær, type 2204
 - 1 attenuator set, Hewlett & Packard, type 350 D
 - 1 band-pass filter set, Brüel & Kjær, type 1615
 - 1 digital multimeter, Philips, type PM 2422
 - 1 timer counter, Advance, type SC3
 - 1 oscillator, Advance, type J2E
 - 1 X-Y recorder, Hewlett & Packard, type 7044 A
 - 1 noise generator, Brüel & Kjær, type 1405
 - 1 stabilized rectifier, Danica, type TPS 21
 - 1 capacitance meter, ECD Corp.
 - 1 digital multimeter, Keitley, type 169
 - 1 stabilized rectifier, Danica, type TBS 23A
- Additional oscillators, rectifiers, etc., for special purposes.

11. OUTFIT FOR PHOTOGRAPHY

- 1 Minolta camera SR-1 (with various accessories)
- 1 complete outfit for reproduction
- 1 Telford oscilloscope camera, type "A" (polaroid)
- 1 timer, Kaiser, type 4033
- 1 enlarger, Durst, type A 300
- 1 rapidoprint, Agfa, type DD 1437
- 1 dry-machine, Durst, type 400

12. EQUIPMENT FOR EDB

- 1 computer, Digital, PDP8/E, 8k
- 1 arithmetic unit, Digital, type KE 8-E
- 1 bootstrap loader, Digital, type MR 8-EC
- 1 add-on memory system 24k, Fabri-Tek, type 8/E
- 1 dectape, Digital, type TD8-EM
- 1 tape reader, GNT, type 24
- 1 tape punch, GNT, type 34

- 1 decwriter, Digital, type LA 30P
- 1 teletype, Teletype, type ASR 33
- 1 display terminal, Tektronix, type 4014-1
- 1 real time clock, Digital, type DK8-EP
- 1 A/D converter, Digital, type AB8-EA
- 1 D/A converter, type PD
- 1 disk drive, Digital, type RK 8J-ED
- 1 disk drive, Plessey, type DD-8/B
- 1 line printer, Binder Magnete, type BM 132
- 3 CTR terminaler, Perkin-Elmer, type FOX 1100
- 1 highspeed plotter, Houston, type 12" DP-11
- 1 graphics tablet, Tektronix, type 4953
- 1 joystick, Tektronix, type 4952
- 1 computer, Digital, type PDP-11/60, 256k
- 2 disk drives, Digital, type RL02
- 1 analog real-time subsystem, Digital, type AR11-KT
- 1 8-line async. mux, Digital, type DZ11-A
- 1 CTR terminal, Digital, type VGT-100
- 1 printer, Centronics, type 739-4B
- 1 disk drive, Priam, type 15450
- 1 tape transport, Cipher, type F880.

13. INSTRUMENTATION FOR VIDEO

- 1 video camera, Sony, type AVC-3250 CES
- 1 video monitor, Barco, type CRM 2032
- 1 video camera, JAI, type JAI 810
- 1 video monitor, JAI, type JAI 710 A.

14. PROJECTORS

- 1 Leitz projector for slides.
- 1 16 mm tone film projector, Bell & Howell, "Filmsound 644"
- 1 projector, Leitz, type Pradovit color 250.