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on y renvoie dans plusieurs études tchèques), *Limbaș și context* (București 1959, 465 pages, résumés russe et français; compte-rendu *SPFFBU* B 8 (1961) 125—126 (qui a paru aussi en traduction française: *Langage et contexte*, The Haag 1961), *Comunicarea în procesul muncii* (București 1964, 301 pages, résumés russe et anglais; compte-rendu *SPFFBU* A 14 (1966) 181—182) et *Dialogul la copii* (București 1961, 168 pages, résumés russe et français; compte-rendu *Pedagogika* 4 (1963) 515—517) qui parut ensuite en traduction tchèque (*Dialog u dětí*, Praha 1966, pages 154).

En publiant en même temps son *Atlas de psychologie* (București 1968, 299 pages), l'auteur publie une œuvre où elle offre une introduction à la psycholinguistique. Elle trace un aperçu des études consacrées aux problèmes de cette discipline nouvelle et essaie de fixer l'étendue de ce domaine interdisciplinaire et qui se distingue de la linguistique en ne se confondant point avec la psychologie du langage. Etant persuadée que la psycholinguistique devrait être encadrée dans le système actuel de sciences, elle la définit comme l'étude du message et de ses modifications, provoquées par les situations où se trouvent les partenaires et par les relations qui s'établissent entre l'émetteur et le récepteur.

Les explications théoriques sont basées sur les observations de l'auteur, avec des renvois aux constatations des autres chercheurs. L'auteur veut saisir les relations existant entre la psycholinguistique et les recherches dans divers domaines connexes, en s'appuyant sur une méthodologie psycholinguistique et, surtout, sur „la méthode dynamique-contextuelle“.

Comme le nombre des sujets que l'auteur aborde est très vaste, il est très difficile de donner dans notre succinct aperçu une analyse exhaustive de son ouvrage. Signalons en au moins quelques-uns: la pathologie et la thérapeutique de langage, la sociologie, l'éthnographie, la traduction par les êtres humains ou par les machines, l'application de la psycholinguistique à la stylistique, à la dialectologie, à l'étude des relations entre la communication et le travail (avec le cas spécial du langage technique dans les entreprises automatiques).

Une partie du livre analyse, du point de vue psycholinguistique, le développement du langage, l'apprentissage de la langue par l'enfant, le style du parler enfantin et du dialogue, l'apprentissage des langues étrangères. La dernière partie de l'œuvre expose quelques expérimentations effectuées par l'auteur qui souligne l'importance de la méthode expérimentale en linguistique et en psycholinguistique, et les résultats dans ce domaine: l'inversion expérimentale des mots, les expérimentations sur les systèmes lexiques et sur le rôle du contexte ainsi que „l'expérience de prédiction appliquée à la statistique des phonèmes et à la résolution de l'homonymie“.

Comme il existe jusqu'ici peu d'œuvres synthétiques consacrées à la psycholinguistique, Mme Slama-Cazacu a bien mérité en faisant paraître son nouveau livre introduisant à l'étude de la matière analysée et offrant en même temps une longue série de renvois bibliographiques (560 numéros p. 457—483), et qui tiennent à juste titre compte des études parues dans les pays slaves. (Sous le N^o 173 il faudrait citer aussi la suite de l'œuvre de A. Grégoire, parue en 1947, et au N^o 187 on pourrait ajouter la remarque que l'étude citée est contenue aussi dans les œuvres complètes de A. N. Gvozdev, *Вопросы изучения детской речи*, Moskva 1961, 472 pages, un livre qu'on peut plus facilement trouver dans les bibliothèques.)

Karel Ohnesorg

Eva Sedláčková: Development of the Acoustic Pattern of the Voice and Speech in the Newborn and Infant. Academia, Praha 1967, p. 111 + 24 plates.

This monograph is an interesting addition to the list of works already written on the development of the vocal expressions of children with the author's attention being focussed on children between their birth and the age of 18 months. In the introduction the author outlines the aim of the present work. On the one hand she wants to check on precious data and to explain by means of objective acoustic analysis the acoustic phenomena produced by infants. On the other hand she aims at determining the acoustic characteristics of the voice of the newborn and the infant and at examining to what extent there is a relationship between the vocal manifestations and the emotional and intellectual development of children.

The present book is divided into eight sections each of which is further divided into headed paragraphs so that it is easy for the reader to find his way about.

In the first three chapters the author first gives a brief survey of opinions about infantile speech development from the psychological, physiological and phonetic points of view,

arriving at a conclusion that the present knowledge about the initial stages of speech have been usually based merely on subjective observations of at least two children. She points out that this subjective method must be necessarily supplemented by objective acoustic analysis. To finish this survey she also mentions Pavlov's theory of conditioned reflexes.

Then she presents to the reader the six stages of infantile speech development keeping to the division formulated by Kussmaul: the stage of primitive infant cries, the stage of lallation and babbling, the stage of imitation, the stage of comprehension, the stage of first words, the stage of first sentences and the beginning of abstract thinking.

In the three introductory chapters she is also concerned with the acoustic processes in the production of the voice (she deals with the questions of the source of the voice, its pitch and esp. its timbre). She points out that "very little attention has been paid to the infant voice in these spheres of research". The technique she employs in evaluating the acoustic processes of the subjects investigated is based partly on subjective observations (which she considers the basic criterion for the evaluation), and partly on objective analysis of the particular phenomena, using Siemens's frequency spectrometer. The author also explains how to evaluate spectrograms, mentions her way of recording the sounds, of selecting children and acoustic material for her research.

In the following chapters — which represent the core of her monograph — she gives a detailed physiological and acoustic analysis of the vocal expressions of children at different periods of their lives, introducing a lot of diagrams and sonagrams to illustrate the results (there's a mistake on Plate II with fig. 4 which does not show the pattern of a threemonth-old girl but that of a four-day-old newborn, comp. p. 39 — line 23).

The results of the summation spectra of the voice of children are always compared with those of the summation spectra of the voice of adults. On the basis of this comparison the author assumes that the fundamental tone of the low frequency components is suppressed and that the infant voice has formants of a higher frequency which according to the author is caused by the small dimensions of the resonant cavities,* by the higher position of the larynx, and by the special oscillatory mechanism of the vocal chords.

In the infant cries it is possible to trace the beginnings of vowel formations, but there are such subtle transitions between the timbres that we can hardly differentiate between them. The most frequent timbres resemble the vowels *a* or *ae*. The author follows the gradual development of speech production from the first hardly differentiated vocal expressions to the beginnings of articulated sounds¹ (to this question she wants to pay more attention in her next work). The sounds of the infant's speech start assuming the character of genuine speech sounds only after the infant has tried to imitate or to spontaneously create individual words.

The author also raises the question of the influence of the environment on the production of sounds which may be traced as far back as the period of lallation. Children are very sensitive not only to the melodic patterns in the voices of adults but also to the timbre of utterances. The author believes that acoustic records can reveal the social environment and family conditions of children—a theory which seems to be interesting but needs proving on the basis of further research work. When following the acoustic and physiological features of infant voices she also draws attention to the problem of the relationship between the acoustic pictures of utterances and psychic states. But as in the case of other associated problems she does not go into much detail as they exceed the range of her work.

This monograph has provided a lot of valuable information on the development of the vocal manifestations of newborns and infants. In addition to being mainly intended for workers in physiology and acoustics of the speech process it might also be interesting for workers in pedolinguistics, esp. the comments on consonant, vowel and syllable development and on the perception and reproduction of supra-segmental features of an utterance. The book is on the whole very stimulating.

Drahomíra Fialová

* Note: Here we should like to point out that it is not the dimensions of the cavities that are responsible for the higher quality of the children's formants but the mutual relationship between the cavities (and consequently between the formants).

¹ A lot of systematic experimental work in this field has been carried out by a Rumanian research worker T. Slama-Cazacu.