The difference in the development of speech sounds with normal children and children with anarthria is revealed at the babbling stage. In this period normal children's vocalizations exhibit "syllable-like" in which we can find segments with max-contrast and min-contrast between vocal and consonant elements. This proves that mid-contrast syllable-likes in anarthria is capable of producing only mid-contrast phonological opposition: vowel/consonant. 

By contrast to a normal child a child with anarthria is capable of producing only mini-contrast segments which are stipulated by the functioning of the speech mechanism, but production of max-contrast units is the major requirement for establishing the first phonological opposition: vowel/consonant.

The phonological system of the patient is destroyed on the level of speech production but is kept intact on the level of speech perception. This means that there are the two systems of distinctive features: one of them is connected with speech production while the other - with speech perception.

INTRODUCTION

Most authors writing on language acquisition and analysis of the process of normal speech development discuss their data in such linguistic terms as phonemes (vowel, consonant), prosodic features etc. [1]. It seems to be more correct if we analyse these facts in terms of "syllable-like", "vowel-like", "consonant-like" because such vocalizations neither moratorially, nor functionally are the simplest: the mouth opens widely, the tongue is put forward, "nasalization" appears. In the course of child's development the speech organs, and as a result their articulation are perfected and this gives him an opportunity to produce not only mid vowel-likes but sounds which are more narrow and front, like [i]. The intensity of such vocalizations is smaller, but the muscular strain is greater. We also observed the tendency to draw the tongue off and down and the general tendency is to produce mid vowel-likes without any differentiations. Labialized vocalizations of normal children at the cooing and pre-babbling stages have low loudness, timbre and duration were not stable. The repetition of syllables [i], [u] observed the movement of the tongue forward to [v] and [l] in the development of [i] and [l]. This is the so-called pre-phonemic level. From the point of view of articulation these vocalizations are the simplest: the mouth opens widely, the post-
sonantal elements are accompanied by the vocal on and off glides and vocal elements - by the noisy glottal stop or the voiceless indistinct sound. This results in the increased sonority in the first case and reduced sonority in the second [5].

$C^\nu \rightarrow C^\nu$

It determines the absence of coarticulation between consonantal and vocal elements inside such syllable-likes. The appearance of max-contrast syllable-likes is impossible. There is a similarity in vocal-consonantal vocalizations between normal babies at the cooing and pre-babbling stages and the patient with anarthria. The divergence in the acquisition of vowels and consonants in normal and pathological development begins at the babbling stage.

At this stage in normal acquisition the epiglottis is descending. This is the physiological requisition for the articulatory oppositions of sounds. Changes of the speech mechanism and its connection with perception of adult's speech (echolalia) are the basis for the formation of phonological oppositions as such. In normal development in contrast to anarthria we can observe the tendency in vowel and consonant-likes of losing their noisy and vocal on and off glides, glottal stop. The articulation becomes even more differentiated. As a result in normal development max-contrast syllables like [pə], [tə] appear. Therefore the presence of max-contrast syllable-likes in babies vocalizations is the major requisition for the opposition of sounds according to degrees of sonority, when on the one hand there are wide non-high vowels like [a], but on the other one there are voiceless stop consonants like [p], [t]. This is a manifestation of the first general phonological opposition: vowel/consonant. This opposition is the earliest in child development and is a universal one since according to R. Jakobson, it is observed in all the languages of the world [6].

This opposition is present in the patient's speech production but is present in his speech perception. At the end of the pre-babbling stage in normal development it is possible to distinguish sounds according to the types of resonators (mouth resonator - nose cavity). As a result, we can find oral and nasal vowel- and consonant-likes. This distinction in the resonator's types is the physiological requisition for the forming at the babbling stage of the phonological opposition: oral/nasal. Then babies begin to split both consonantal and vocal components and other differentiations oppositions also appear.

CONCLUSION

At the cooing and pre-babbling stages in normal development and with our patient we find vocalizations in which features of articulation contrasts are mixed up. As a result, the appearance of max-contrast syllables is impossible. The same was established by N.I. Zinkin in the sound system of hamadryads. He pointed out that in their vocalizations combinations of a vocal element with a noisy consonant-likes do not occur; only combinations of a vocal element with a sonant-like are possible [4].

The perfection of the speech mechanism and its connection with the children's perception of adult speech brings forth the appearance of max-contrast syllables, which in its turn stimulates the formation of the first general opposition: vowel/consonant. Various other oppositions modifying and alternating the primary contrast of consonant and vowel follow.

The dominating influence of adults' speech on the acquisition of the phonological oppositions is proved by the presence of such oppositions in the patients' speech perception, but their absence in his speech production. This fact shows that until a certain moment the absence of speech production skills doesn't interfere with a more or less adequate understanding of speech. These results may be used for patients' rehabilitation and in language teaching.

REFERENCES


