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## Working on the Rate of Speaking in Artistic Speech Therapy for the Mass-Media – Needs and Possibilities

### SUMMARY

The article discusses the matter of pace as one of several elements of text prepared to be read or delivered, emphasizing the relationship between pace and clarity of speaking. The terms defining the speed of speaking and describing its diversity, used in literature in the fields of phonetics and phonology, orthophony and artistic speech therapy, are indicated. On the basis of analysis of sample recordings of texts that are or may be the subject of work in artistic speech therapy and/or speech therapy for the mass-media, differences in pace, resulting from the nature of the text, type and situation of the speech, are shown. The article also highlights the factors that should be taken into account when working on the pace of speaking.

**Key words:** pace of speech, artistic speech therapy, speech therapy for the mass-media

### INTRODUCTION

The source of artistic speech therapy should be seen in the culture of the living word, and the culture of the living word derives from rhetoric (and precisely one of its elements, referred to as *actio, pronuntiatio*). The culture of the living word involves such matters as: correctness of articulation and pronunciation, speech techniques and use of voice, the prosodic level of speech, its expression and esthetics, as well as the ability to affect the recipient. These same issues are also the subject of artistic speech therapy, but apart from them – following the definition of speech therapy given by S. Grabias (2012) – the biological con-

ditions of these skills and language behaviours. In this view, a speech therapist involved in artistic speech therapy has at his/her use – along with knowledge in the area of language culture and normative linguistics – also knowledge allowing for the diagnosis of possible difficulties in mastering the mentioned abilities, as well as possibilities of their improvement. S. Grabias situated artistic speech therapy in the area of logopaedic prophylactics, which “increase knowledge on the subject of diagnosis of speaking, developing and maintaining skills in language behaviour, also in people remaining in the biological and mental norm” (S. Grabias 2012, p. 59). The goal of activities constituting artistic speech therapy is seen by S. Grabias as the following: “building a theory of model competence and improving skills in its realisation: thus may be perceived activities that were once referred to as rhetoric, and which have become a part of the culture of words and are transformed into artistic speech therapy” (ibid).

It can therefore be claimed that the modern view of the essence of artistic speech therapy takes in not only the realisation of speech, but also the biological conditions of its creation, considering factors that determine the mastering or improvement of particular competencies and linguistic abilities (the domain of logopaedic prophylactics), as well as the removal of possible disorders in the area of speech and voice (activities in the area of diagnosis and therapy of impaired competencies and abilities). Therefore, it is not limited to work on improvement of diction as a fundamental element of clear speech, but on the whole linguistic form of speech, its esthetics and expression. In artistic speech therapy, one works on the orthophonic-esthetic properties of speech: clarity, word expression, correct accenting, phrasing of text and its interpretation, appropriate intonation, tempo, breathing and phonation (emission), which make it possible to use the proper strength and tone of voice in various communicative situations. In recent years, from artistic speech therapy one has begun to distinguish speech therapy for the mass media, which is the domain of preparation for work and improving the communication of people appearing in the mass media. The range of artistic speech therapy is broader, as it includes work on the spoken word, reading aloud and the voice, but also interpretation (along with gestures, mimics) not only in the mass media, but also on the theatre and musical stage (professional and amateur), at the rostrum (not only of parliament) and the pulpit, in the courtroom, during public appearances (not necessarily of the mass media) and during professional telephone conversations<sup>1</sup>.

This article will discuss the matter of needs and possibilities in the area of work on pace of speech (and its correlation with above-mentioned elements) in artistic and media speech therapy.

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<sup>1</sup> Further on this subject – see S. Milewski, B. Kamińska, 2007; B. Kamińska 2016.

## DETERMINING THE PACE OF SPEECH

In work in the fields of phonetics and phonology of the Polish language, as well as in speech therapy publications, one may find the following terms referring to the speed of speaking: *pace of speech*, *of pronunciation*, *of articulation* and *pace of speaking*. The first of these – *pace of speech*, appears in the work of B. Ročlawski (1986), L. Dukiewicz (1995), M. Wiśniewski (1998) and A. Wagner (2017), among others. *Pace of speech* is the term used by I. Sawicka (1995), *pace of articulation* – by B. Szczepankowski (1985), while the expression *pace of speaking* can be found in the publications of O. von Essen (1967), J.T. Kani (2001), B. Wierzchowska (1971, 1980) and B. Ročlawski (1986). It occurs that the same author makes alternating use of the given terms. In publications devoted to artistic speech therapy, the above-mentioned expressions are repeated, e.g. *pace of speaking* - B. Toczyska (2007), *pace of pronunciation* – M. Walczak-Deleżyńska (2001). In the work entitled “A multi-dimensional view of rhythm in speech and language” from 2017, Agnieszka Wagner provided information of the differences between the speaking rate and the articulation rate: in measurements of speaking rate one takes pauses into consideration, while in measuring the rate of articulation – one does not (ibid, p. 65). However, in practice the term *pace of speech* is used in the sense of *pace of articulation*. B. Ročlawski (1986, p.200), writing on testing the speed (*pace*) of speaking, also emphasized that pauses are left out. It would seem, therefore, that the terms: *pace of speech*, *pace of articulation* and *pace of speaking* may be alternately used. Such a solution has been accepted in this article.

Analysing a few chosen academic textbooks on the phonetics and phonology of the Polish language, it may be noticed that various musical terms are used to describe variances in *pace*: *lento* – slow, *moderato* – moderate, *allegro*, *presto* – bright, *quick*<sup>2</sup>. Most often, however, variances in tempo are described using the following terms: *slow*, *normal*, *average*, *quick*. In particular works it appears as follows: *fast*, *too fast*, *not too fast*, *slow* (B. Wierzchowska 1971); *slow*, *normal*, *fast*, *very fast* (B. Ročlawski 1986); *lento (slow)*, *allegro (quick)* (D. Ostaszevska, J. Tambor 1993, 1997); *slow/slower*, *quick/quicker* (L. Dukiewicz 1995; J. Strutyński 1996); *slow (lento)*, *quick*, *bright (allegro)*, *average*, *emphatic*, *slowed*, “*normal*” – written so, in quotations (I. Sawicka 1995); *slow (lento)*,

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<sup>2</sup> In music these terms have “precisely determined, absolute values marked by the number of ticks of the metronome per minute; so *lento* means 52 ticks, *moderato* -88, *allegro* – 132, and *presto* 184. H. Gaertner [...] drew attention to the conventional character of these terms in phonetics” (J.T. Kania, 2001, p. 35). M. Wysocka (2016) gives the following values: *slow tempo* – *largo* is 40-60 rhythmic units per minute, *moderate tempo* – *moderato* is 108-120 units per minute, *quick tempo* – *presto* is 168-199 units (ibid, p. 221–222).

*moderate (moderato), fast (presto), very fast (allegro)* (M. Wiśniewski 1998; B. Dunaj 2015); *quick* (J. Szpyra-Kozłowska 2002). Pace is similarly described in work in the areas of rhetoric, culture of the living word, and diction: *appropriate, slow, accelerated* (M. Korolko 1990); *fast, moderately fast, too fast, slowed* (A. Budzyńska-Daca 2008); *slow, moderate, quick (allegro)* (B. Toczyska 2000; M. Walczak-Deleżyńska 2001); *slow, quicker pace* (M. Oczkoś 2007). M. Wysoka (2016), writing on pace as a component of the prosodic layer of speech, draws attention to the distinction of: *steady* pace (slow, moderate, fast) – *variable* pace (acceleration, slowing) and *unstable* (ambiguous in character). However, without definite measurements it is difficult to accurately describe differences in tempo, as its conditions are complex. Among factors affecting pace and its evaluation/perception, one may mention:

- physiological: age, sex, past illnesses;
- psychological: emotional state of the speaker;
- socio-phonetic: ethnic and social origin, characteristics/age of speaker, type of relation with interlocutor;
- linguistic: type of speech or written text, subject/topic, length of phrase/utterance, position of given element in a word or text, phonetic proximity (especially right-sided) and word frequency (B. Dunaj, 2015; A. Wagner 2017).

In objectivising measurements of pace, the unit of speech realised in a determined unit of time is significant. These may be: speech sounds, syllables or words. The tempo may be given: in number of words per minute, number of syllables per minute, number of syllables per second, and in number of speech sounds per second. “Studies vary among each other regarding the units/intervals for which the pace is calculated: it may be the whole utterance (whole text), phrase or sequence of syllables/words restricted by pauses [...]. One of the most frequently used measures is the number of syllables per second” (ibid, p. 65). Taking under consideration the consonantal character of Polish, it would seem that accepting the number of speech sounds per second as the measurement of pace is an appropriate solution. Use was made of this by the authors of the above-mentioned academic textbooks, beginning from the earliest mentioned work by O. Von Essena (1967). For instance: B. Wierzchowska (1971, p. 211) refers to data for the English language<sup>3</sup>: slow pace – 5 speech sounds per second, lively conversational pace – 10–12 sounds per second, very fast pace – up to ca. 21 speech sounds per second. At the same time she points out: “The number of 21 sounds per second is near the upper limit of speech comprehension, depending on the ear’s so-called resolu-

<sup>3</sup> For comparison, one may view data of the above-mentioned work of A. Wagner (2017), which, referring to research in 2003, states that “normal tempo in German, English and French amounted to 5.36, 5.78 and 6.8 syll./sec. respectively (...)” (ibid, p. 68; my emphasis – B.K.).

tion capability, and also on the articulatory capabilities of speech organs” (ibid). B. Rocławski (1986, p. 200) provides the results of his research, conducted among a group of 6 Polish-speaking people: normal tempo: 12–14 speech sounds per second, very fast tempo: 18–23 sounds per second. Noteworthy are the mentioned works’ visible discrepancies in evaluation of average, normal pace, indicating a gradual increase in the number of speech sounds uttered in a second.

These data may be compared to the example of another measure of pace, taken from work in the field of rhetoric: “Most people speak 125 words a minute” (A. Budzyńska-Daca, 2008, p. 159); thus, 2.08 words a second should be accepted as average tempo<sup>4</sup>. Even the comparison of two Polish phrases, each containing four words: “*nic tu nie ma*” (there’s nothing here) and “*niewiele przykładów mogę podać*” (I can’t give many examples), demonstrate the influence of both the varied phonetic-phonological structure of words, as well as their length, on the measurement of pace expressed in words per minute. Therefore, in speech analysed for the purposes of this article as a measure of pace, the number of speech sounds per second has been used, realized in phrases or sentences restricted by pauses. Example evaluation is given for a few utterances, belonging to various, functionally conditioned stylistic varieties of the Polish language.

### WORK ON PACE OF SPEECH IN ARTISTIC SPEECH THERAPY

In artistic speech therapy, the matter of pace of speech is connected to mindful care of speech. In work devoted to language culture, orthophony and artistic speech therapy, the relation of tempo to carefulness of speech is usually presented in the following view: slow tempo – careful speech, quick – careless. Carelessness appears in more numerous simplifications and articulatory preferences causing reduced clarity (see among others “Rules of proper Polish pronunciation”, 1988; B. Toczyska 2000, 2007; J.T. Kania, 2001; M. Walczak-Deleżyńska, 2001). However, as M. Wiśniewski has rightly noted (1998, p. 134), “a slow pace does not guarantee communicative effectiveness, while an allegro tempo does not rule out articulatory skills and does not necessarily hinder understanding”. Speaking quickly and clearly usually requires exercise – not many people are able to speak longer texts in a quick pace while maintaining full clarity without special preparation. Apart from that, accelerated pace affects the intonational structure

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<sup>4</sup> G. Demenko (1999) refers to data for English: “typical speed of speaking is in the range of 150–250 words a minute, 4–7 syllables a second [...]” (ibid, p. 29).

of a spoken text<sup>5</sup>; however, broader discussion of these matters goes beyond the framework of this article.

In work on pace in artistic and media speech therapy, it is important to adjust the pace to the nature of the text, age of recipient, and situation, for example: in work on a theatrical text (classical vs. modern drama), in work with journalists (radio program vs. news, sports commentary, advertising), in preparing public speaking of various types (presentation vs. short media announcement). It is important to consciously make use of pace as a means of expression (O. Von Essen, 1967; J.T. Kania 2001; B. Toczyńska 2007, 2008; M. Walczak-Deleżyńska 2001; E. Wojnarowska 2016; M. Bończykowska 2016). This should not be mistaken for dynamics of speaking or reading, as young journalists often do. Dynamics refer to differences in intonation and volume of voice.

A brief analysis<sup>6</sup> of five short recordings illustrates varied pace of speech in various situations of people who in preparing for them may take advantage of the assistance of a speech therapist specialising in artistic and media speech therapy. The recording that underwent analysis for the purpose of this article presents extracts of the following utterances: a culinary recipe taken from the internet, a stage interpretation of a literary text, a radio report, and two instances of radio sports news.

1. The fragment of a recipe for blind people is done in a rather relaxed linguistic form, representing colloquial style, given in the pace of 9.4 speech sounds per second<sup>7</sup>.
2. The extract of a classical text (“School for Wives” by Molière), from the author’s own materials, was recited in an official situation by memory by an art school student in a varied pace, dependent on interpretation: from 9.1 speech sounds per second to 14.2 sounds per second; the text represents formal style (text prepared for reciting during an exam of the subject “Basics of acting”).

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<sup>5</sup> Quicker pace influences the formation of shifting stress combinations, of which K. Wóycicki wrote in 1912, along with many other authors, including: M. Dłuska (1976), D. Michałowska (1994), L. Dukiewicz (1995): “Acceleration of pace of speech causes a reduction in the number of accented words and locational changes of word stress: there is a greater probability of initial accent appearing” (L. Dukiewicz 1995, p. 78). This leads to changes in the intonational contour of a given sentence/phrase (lesser intonational variance, omitting cadence), a lower number of pauses, and “restricted variance of metrical and rhythmic structures” (A. Wagner, 2017, p. 222). The tempo is slowed at the end of the phrase (I. Sawicka 1995; M. Wysocka 2016; A. Wagner, 2017).

<sup>6</sup> Both the recorded material as well as the analysis have merely an exemplary nature and were conducted only for the purpose of illustrating variances in pace in particular utterances. In the conference speech, on the basis of which this article has been prepared, the recordings were present. Analyses were conducted with the assistance of the Elan 5.0 program.

<sup>7</sup> The dynamic development of audio-description leads people involved in this area to seek out the support of speech therapists. Therefore, an example of podcast for the visually impaired has been included in the set of recordings.

3. The text extract of a radio report was read by a reporter at the pace of 17.4 speech sounds per second.
4. Two instances of sports news from two different radio stations (public and private) were delivered at a pace of 15.3 speech sounds per second (at the public station) and 18.4 (at the private station).

The recordings mentioned in points 3 and 4 are examples of media utterances read in an official situation.

All of the people appearing on the recordings tried (with better or worse results) to maintain clarity of speech. Variances in tempo in the example recordings are obviously related to the type of uttered/read aloud text, to the speaking situation, the demands set for the speaker and the supposed needs of the recipients. Comparing the tempo of recordings analysed for the requirements of this article with earlier given data, showing the number of speech sounds uttered at various paces, it may be noted that they illustrate in turn: slow, normal and very fast tempo according to B. Ročlawski. The recordings of radio announcements represent a quick and very quick tempo<sup>8</sup>, in which the maintenance of clarity and a comprehensible intonational contour, facilitating reception of content by the listener, is not easy. For reading or speaking of such type as described above and many other types of texts/utterances, one may be prepared by speech therapists specialising in artistic and media speech therapy. They may work in artistic schools, in the mass media, or wherever there exists the necessity to develop abilities of quick and clear speaking for the requirements of the theatre and public appearances, including in front of the microphone and film camera. The goal of exercises is to maintain clarity and appropriate, varied intonation in various paces of speech, especially in a quick pace, and above all making use of varied tempo depending on the nature of the text, interpretation, conditions and recipients. The pace of speech and/or reading in the mass media is directly related to the profile of a given radio or television station and its recipients: at public stations one usually speaks more slowly than at commercial stations (J. Bloch, J. Wasilewski 2011; J. Luboń, 2016). Here it is worth remembering that “both a steadily fast, as well as a constantly slow tempo give an impression of monotony” (J. Luboń, 2016, p. 539). During exercises, one should consider the above-mentioned conditions of speech tempo. In this context it becomes important to ask if all those making professional use of their voice are able to speak more quickly while maintaining precision and clarity. Taking under consideration the biological-psychological character of the below-mentioned restrictions, it can be stated that overcoming them is for some people difficult, sometimes even impossible. Such restrictions that the speech therapist should take into consideration include:

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<sup>8</sup> Acceleration of pace and rhythm in speech in the mass media after 1989 drew the attention of G. Majkowska and H. Satkiewicz (1999), among others.

- a limited range of jaw movements (so-called trismus), related deformations of tone of speech sounds and the reduced clarity of speech which results (see B. Ostapiuk 2006, 2013; D. Pluta-Wojciechowska 2010, 2013; B. Sambor 2015, 2016),
- habitual articulatory carelessness, hindering the mastering of precision in pronunciation,
- lack of motivation to systematically conduct exercises,
- a short respiratory phase,
- individual habits of the speaker (including temperament, emotions accompanying speech) (B. Roślowski 1986; B. Dunaj 2015),
- cerebral conditions of the perception of emotional and rational content as well as the processing of temporal information (J. Panasiuk, 2016; A. Wagner, 2017).

The research of B. Sambor (2015), conducted among drama school students, makes clear that “so-called trismus<sup>9</sup> in each tested case is combined with anatomical, functional or linked: anatomical-functional disorders. Overall over 65% of people in the group with so-called trismus have functional disorders of movement of the masticatory organ (such as: skip-overs, crackling, motor disorders in one or both temporo-mandibular joints, enlarged masseter muscles, parafunctions of the masticatory organ – mainly bruxism” (ibid, p. 161). Problems resulting from limited range of jaw movements also occur in people representing other professions – teachers and lawyers, with whom speech therapists also work (B. Sambor, M. Jakowczuk, 2016). Disorders of vowel opening in relation to accelerated pace of speech may cause their reduction (J.T. Kania, 2001<sup>10</sup>), which considerably weakens the clarity of an uttered text. Acceleration of tempo may be accompanied by malformation of vowel tone not resulting from trismus, reduction of speech sounds (not only vowels) and assimilations. Achieving articulatory precision and comprehension of utterances is connected to increased effort of the articulatory and respiratory muscles, which is not observed in colloquial speech: “the most tense, and therefore precise articulation belongs to careful pronunciation, while loose articulation, in a sense reduced, is characteristic of colloquial style” (J.T. Kania, 2001, p. 35). Minimizing this effort is possible due to systematic exercise, and strong motivation is necessary for its conduct. For future actors, vocalists, journalists, this is a basic and necessary condition. In the case of other people preparing for public appearances it is a voluntary decision. Only the automatizing of exercised, proper articulatory and respiratory models allows free-

<sup>9</sup> Instead of using the term “trismus” (which has a different meaning in medicine), B. Sambor proposes using the expression “disorders of vowel opening” (see B. Sambor, 2016, p. 476).

<sup>10</sup> “In some work, attention is drawn to pace of speaking as a significant and independent factor causing changes in vowel articulation (...)” (J.T. Kania, 2001, p. 43).

dom in their use (B. Sambor, 2016), and in combination with pace, other prosodic factors and the voice, influence the esthetic aspect of speech.

It is important to correlate breath with text phrasing. A too short respiratory phase is connected to the necessity of frequent inhalation; this has a negative effect on fluency of speech and gives an impression of hurrying (J. Bloch, J. Wasilewski 2011, p. 209). Speaking in a fast pace requires long respiratory phases. Additionally, in work with a microphone, one aims at eliminating loud taking in of air; therefore attention is paid to efficient, soundless inhalation (J. Bloch, J. Wasilewski 2011; M. Bończykowa 2016).

Quickness of speech is also an individual feature of the speaker, dependent on temperament, level of stress, emotions, etc. (B. Rocławski 1976, p. 199; J.T. Kania 2001, p. 35, M. Bończykowa, 2016, p. 532). It is obvious that there is a correlation between speed of speaking and the emotional state of the speaker. Emotional expression is evident not only in the tempo and intonation, but also in the voice<sup>11</sup>, mimics and gestures (S. Grabias, 2015). “The speaker’s emotional states are always present [in his utterances]” (S. Grabias, 2012, p. 64). In reference to the dependencies between emotions and pace of speech, one cannot forget the neurobiological bases of these processes. The multiplicity and complexity of links in brain structure influencing the process of speech and controlling its particular elements, including perception of emotional and rational content as well as processing of temporal information, has been written about numerous times by J. Panasiuk (including 2014, 2016).

On the basis of the above-mentioned examples, one can formulate postulates regarding needs in the area of research on pace in artistic speech therapy. These may include:

- measurements of pace of texts spoken and delivered of various type (e.g. along with media information also telemarketing);
- studies of the dependencies between tempo and perception and understanding of texts (e.g. informational, advertising) in various age groups.

One may assume that their usefulness goes beyond the framework of artistic and media speech therapy, and even beyond the framework of speech therapy in general.

## SUMMARY

The esthetics and comprehensibility of speech, which artistic and media speech therapy are concerned with, are influenced by many factors included in the

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<sup>11</sup> Relations between the sound of voice and its psycho-physical conditions, the effect of emotions on prosody and the behaviour of speakers have been described by: E. Binkuńska (2016), B. Sambor i M. Jakowczuk (2016), M. Wysocka (2016), A. Załazińska (2016a, b), among others.

supra-segmental layer. One of these, discussed in this article, is pace of speech. In work on tempo in artistic and media speech therapy, one should consider:

- phonetic-phonotactic and phono-statistic aspects of texts used,
- capabilities in the area of movement and efficiency of the tongue and jaws (temporo-madibular joints),
- individual habits/restrictions of the speaker,
- nature of text/utterance,
- respiratory efficiency,
- needs and capabilities of text recipients,
- neurobiological conditions.

An important argument justifying the postulate of work on pace is its influence on the effectiveness of communication. Speaking with a speed rendering it difficult to remember content or even bordering on perceptive capabilities leads one to question the essence and purpose of the communicative act.

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