

BAUDOUIIN DE COURTENAY AS PHONETICIAN: HIS DESCRIPTION OF THE *ZASOPLI VOKALI* IN THE DIALECT OF REZIA*

De Courtenayjev opis (1875) rezijanskih zasoplih samoglasnikov je treba na novo pretestiti, kajti de Courtenay slovi kot eden največjih glasoslovcev svojega časa, in vendar so v opisu nekatere nadržbnosti tako nenavadne, da zbujajo nejevero. Pričujoči pretres izhaja iz nedavno postavljenih podmen o izvoru teh samoglasnikov in iz glasoslovnih opažanj zadnjih 20 let ter si dovoljuje določeno spekulacijo o fonemski relevantnosti »napetosti«, zasoplosti oz. centraliziranosti med zaporednimi zgodovinskimi stopnjami. De Courtenayjev opis je, če drugega ne, verjempljiv, v zvezi z njim pa bo potrebno še precej raziskovalnega dela.

Baudouin de Courtenay's description (1875) of the Resian *zasopli vokali* requires reexamination because (1) he is honoured as one of the greatest phoneticians of his time, and (2) the description includes details so unusual that they invite disbelief. The reexamination made here is based on recently proposed hypotheses about the rise of these vowels and phonetic observations made in the last 20 years, and involves some speculation about the phonemic relevance of, respectively, "tenseness", *zasoplost* and centralization during successive historical stages. It is concluded that Baudouin de Courtenay's description is, at least, plausible, and that much more work remains to be done.

It is generally accepted that one of the contributions made by Jan Baudouin de Courtenay to the development of linguistic science was the proper assessment of the place of phonetics in that science. It was, in the first place, he who combined the "quest for maximal accuracy and objectivity" that inspired contemporary phoneticians, with the insistence that synchronic description should precede diachronic analysis.¹ The importance that Baudouin de Courtenay (BdC) accorded to phonetic description can be seen, for example, on the one hand in his programme of lectures for 1875-76,² and on the other in the fact that he founded the first great phonetic tradition in Russia (that of the Bogorodickij School in Kazan') and later the second great such tradition (the Leningrad School with phoneticians such as Zinder, Matusevič, Bondarko, and others). Indeed, as early as 1871 BdC had been moved to insist that "The scientific study of the sounds of language from a physical point of view must be based on the findings of physiology and acoustics. Some linguists do not wish to have anything to do with acoustics or physiology. . . . I think

* This paper was originally presented at the Conference "Jan Baudouin de Courtenay and Linguistic Contacts in the Eastern Alpine Area," Prato di Resia/Ravnca, September 1979; publication of the conference proceedings was scheduled in Poland but eventually cancelled. The present version has been extensively revised and updated in the light of recent research (cf. note 8); my thanks are due for their comments on earlier versions to Jadranka Gvozdanović, Willem Vermeer, and Han Steenwijk. – This article is offered by a linguist who happened to be working in the dialectological *kartoteka* of the Academy when Professor Rigler's untimely death was announced, as a small token of appreciation for his work in linguistics and especially dialectology.

¹ Häusler 1968:41, Stankiewicz 1976:18.

² BdC 1963: 79–80.

that, if one is concerned with scientific investigation of a certain subject, one must become acquainted with all possible research into that subject...³

Now it has been argued⁴ that an emphasis on phonetics was not only a theoretical belief, but also a matter of personal practice in BdC's own work; and that is proved by his first phonetic description, which in fact preceded the better-known works by Sievers and Winteler.⁵ The work in question is none other than his description of the phonetics of the dialect spoken in the Rezia Valley, written in 1875, in which—to quote Häusler—“(er) gibt eine ausführliche Lautbeschreibung der von ihm 1872/73 erforschten Sprache.”⁶

The contemporary reader of BdC's description of the articulatory characteristics of what are nowadays called the *zasopli vokali* in this dialect, however, will surely be rather surprised. The description is—to say the least—extremely odd: the articulatory gestures described appear very improbable in human speech. What are modern linguists to make of such a description, over a century later? Can every sentence be taken as an exact statement of fact? Or should we dismiss it (in part if not in whole) as some kind of (perhaps, typical) nineteenth-century aberration?

Note that BdC himself admits to being dissatisfied with his own description: “I am unable to describe the physiological conditions with suitable accuracy.”⁷ Was he simply being modest?

If we do indeed decide to doubt that accuracy of this description, in any particular (and below it is explained why we may do so), the consequences will be serious. First, it will naturally call into question BdC's status as an advocate of pure phonetics: it will suggest some kind of mismatch between theory and practice. Second, it will tend to invalidate any analyses based on data collected by BdC: in this instance, the data from the villages in the Rezia Valley, and hence the analyses based thereon, including those by Groen, Gvozdanović, Stankiewicz, Steenwijk and Vermeer.⁸ By extension, a shadow will be cast over all of BdC's phonetic descriptions of Slovene and other Slavic dialects and languages. For dialect history this will be a great blow: good phonetic descriptions from the nineteenth century are rare. Third, for other linguistic areas the results will be equally grave. We may take as an example BdC's extensive child language studies: see Chmura-Kleketowa, who calls one such diary a “systematiczny i bardzo dokładny opis.” If these notes are phonetically unreliable, they become almost completely valueless.⁹

It may therefore be said that the descriptions of the *zasopli vokali* are a kind of

³ BdC 1963: 65–66. All the translations from Russian are by the present author.

⁴ See Zinder 1960: 15–16, Häusler 1968: 42.

⁵ Sievers 1876 and Winteler 1876; these are, generally, even today better known among linguists than is BdC's work.

⁶ Häusler 1968:42.

⁷ BdC 1875: 5.

⁸ Groen 1980, 1983, 1984, 1987; Gvozdanović 1987; Stankiewicz 1986; Steenwijk 1987; and Vermeer 1987a, 1987b.

⁹ Chmura-Kleketowa 1974: 9. Polish *dokładny* means both “thorough” and “exact”. BdC was lauded for being both thorough (cf. Häusler's “ausführlich”) and exact (cf. Čedomanov 1956: 36, “B. was one of the first linguists to draw attention to the exactness of phonetic transcription in dialect speech.”)

touchstone. These vowels may well have been the most unusual sounds that BdC ever had occasion to describe: he himself stated that "I have never before met (these) vowels in any language."¹⁰ Can we at least say that his description is plausible? Can we go further, and assume that it is accurate and reliable? Or is it, along with his "Turanian theory," something best ignored?¹¹

BdC's description of these vowels may now be presented; note that distinctions among the vowels are for the time being beside the point. He wrote: "When these vowels are being pronounced the larynx is lowered as far as possible, the whole throat is elongated and tensed, and the tip of the tongue is thrust out forwards between the upper and lower teeth. From such an idiosyncratic configuration of the throat and such an idiosyncratic tensing of the vocal cords is produced that muffled sound which gives all these vowels the character of vowels pronounced by deaf mutes... and, in fact, if you hear Rezians from a distance and you are not previously acquainted with their language, you may sometimes think that deaf mutes are talking."¹²

There are four details in this description that require scrutiny. The first is acoustic: the "muffled" sound of the vowels. The other three are articulatory: the (visible) lowering of the larynx; the tenseness of the throat; and the position of the tongue-tip. Is there any connection among these details? Does any one presuppose another? While we may not be surprised to find that a "muffled" sound is somehow related to an unusual articulation, or that a tenseness in the throat is connected to a lowering of the larynx, it does seem *a priori* unlikely that a lowered larynx and a stuck-out tongue can naturally co-occur.

Observations made in the Rezia Valley a century after BdC's fieldwork do not support the accuracy of these descriptions, at least not in every detail.¹³ The *acoustic* impression off "muffledness" (*zasoplost*), although more or less noticeable (depending on the speaker, the village, and the vowels concerned), does not appear to be the specific distinctive feature that sets off these vowels from ordinary, *nezasopli* vowels; rather, this muffledness, however it may be produced, seems to be a secondary feature, while *centralization* is their characteristic feature. As for the articulatory details, two of the 1875 particulars are not difficult to observe, but neither is to be seen:

With respect to the *unusual larynx position*, BdC gives further details: "If one looks at the neck of a Rezian when he is speaking, one may notice a continual transition from the deepest possible lowering of the adam's apple to a relatively high position."¹⁴ In recent observations, no larynxes were (so to speak) "caught red-handed" moving abnormally, bobbing up and down, as BdC describes them. Nor, during periods of careful scrutiny (with the occasional risk of embarrassment!) were any *out-thrust tongue-tips* observed, or secondary interdental articulations heard, as further described by BdC:

¹⁰ BdC 1875: 5.

¹¹ See Lencek 1977, 1978.

¹² BdC 1875: 5.

¹³ The observations reported here are those of the author and, in particular, those of Eric Hamp and Han Steenwijk (personal communication), made on a number of occasions over the last 15 years.

¹⁴ BdC 1875: 5.

"On the thrusting-out of the tongue-tip between the two rows of teeth depends that particular nuance of the English *th* which is characteristic of the consonants pronounced in combination with vowels studied here."¹⁵

"...(the consonants) take on an especial acoustic nuance, which is manifested by... the fact that they somewhat resemble English *th*... In general, these sound-combinations give to the dialect a lisping character."¹⁶

Two of the three articulatory particulars under discussion, then, are not apparently observable today. The third, laryngeal "tenseness," may be demonstrable by means of laboratory instrumentation, but for now must be put aside as too difficult to disprove or prove.

The fact that BdC's description does not fit, in at least two particulars, with observations made today, together with the oddity of the description itself, is surely enough reason for us to question the accuracy of that description. Given the lapse of time between his own fieldwork and our own times, however, the discrepancies do not necessarily show that BdC must be discredited; for the five or more generations that have been born in the meanwhile may have witnessed extensive phonetic developments. What can be done? Is this a problem that must be left in limbo, never to be answered?

It is suggested here that a satisfactory answer MAY be attempted. In the first place we have a potential historical starting-point: the vocalic system as it may be reconstructed for the period preceding the development of the *zasopli vokali*. As an end-point we have contemporary observations, in particular the fieldwork of Logar and Rigler; even though no complete articulatory description has been made, and even though (given the unusual phonetic facts) instrumental measurements are really required, we have enough for preliminary speculations. We have the "before" and the "after": does BdC's unusual description fit "in between"? If it represents a plausible intermediate stage between the reconstructed starting-point and what may be observed today, it may be assumed that the description (bizarre though it may sound) has been vindicated.

It is accepted that the Rezia dialects developed from a Carinthian Slovene pattern, and thus had until the middle ages and perhaps much later a vocalic system with distinctive *pitch* and *length*.¹⁷ Contact with the Zilja dialects, with which Rezia is assumed to have shared its vocalic system, was broken in the fourteenth century or a little later;¹⁸ this gives a gap of some 500 years between the time for which we can reconstruct a vowel-pattern on comparative evidence, and BdC's observations. In this context we may now briefly consider the most recent reconstructions of the development of the *zasopli vokali*, in particular those by Gvozdanović and Vermeer, which are in apparent disagreement.

Gvozdanović derives the *zasopli vokali*, for the most part, from short stressed vowels, and links the development with influence from Friulian (note that "dark" is the term, originating with BdC, for the *zasopli vokali*): "The basic hypothesis

¹⁵ BdC 1875: 5.

¹⁶ BdC 1875: 4.

¹⁷ See Ramovš 1928, Logar 1963, 1972, and Rigler 1963, 1972, and now Gvozdanović 1987 and Vermeer 1987.

¹⁸ Vermeer 1987a: 252, quoting Ramovš.

suggested here... is that (Rezian) had vowel-length distinctions at the time when Friulian borrowings introduced the tense vs. lax distinction, which was rendered in (Rezian) as "light" vs. "dark." The quality of the Friulian lax vowels, which were phonetically short in comparison with the corresponding tense ones, was adopted by the (Rezian) short vowels... and this quality became phonological after the loss of phonological length distinctions."¹⁹ Note that Gvozdanović (personal communication) emphasizes that *tense vs. lax* here follows the Jakobson-Halle ACOUSTIC feature-specification, which corresponds to the *peripheral vs. central* articulatory opposition. Note also that a development of short (or non-distinctively long) vowels into acoustically lax vowels fits in with the general diachronic principles set out by Labov, Yaeger and Steiner;²⁰ by this theory, the further development of *zasoplost* is quite fitting.

Vermeer, however (although in favour of some Friulian-Rezian interference), derives the *zasopli vokali* from two sources: (1) high-mid (but not low-mid) vowels; and high simple (but not high diphthongized) vowels. Thus, the opposition /e ē o ô/ vs. /ɛ ɛ̃ ɔ ɔ̃/ develops into the opposition /ɛ̣ ɛ̣̃ ɔ̣ ɔ̣̃/ vs. /e ē o ô/; and (2) the opposition /ī ū/ vs. /ie uo/ changes into the opposition /ị̄ ụ̄/ vs. /ī ū/. When, later, length is lost, the opposition *zasopli vs. nezasopli* takes on a greater functional load, but this opposition arises independently of length differences.²¹

This appears to be a fundamental disagreement, which places us in an even greater quandary. We can hardly test BdC's observations about the *zasopli vokali* against a reconstructed "before" unless there is agreement about this preliminary stage. Is there a way out of this confusion?

Recourse to Ramovš's observations may help towards a solution. He suggested that only stressed vowels that were simultaneously HIGH and "TENSE" developed the *zasoplost*, and high vowels that remained *nezasopli* must have been non-"TENSE" (thus the high diphthongs, see above). This introduces a phonetic term, "TENSE", which is still not properly defined (especially with respect to the larynx and pharyngeal cavity), but it does seem to link up with certain details of BdC's descriptions: "the whole throat is elongated and *tensed*... such an idiosyncratic *tensing* of the vocal cords." Moreover, if ANY gesture is likely to tense the articulatory apparatus, it is surely the gesture described here, with lowered larynx and thrust-out tongue-tip. The derivation of *zasoplost* from "TENSENESS" appears plausible, and gives support to Vermeer's reconstruction; but because Gvozdanović's hypothesis depends on distinctions of length rather than distinctions of quality, it is not refuted either. I return to this below.

The most bizarre of all the details in BdC's description is, surely, the interdental co-articulation. Whatever its origin (in "TENSENESS"?), I wish to emphasize that it is a plausible concomitant to the development of *zasoplost*. Here we must consider the articulatory specification of the four vowels. This follows Logar and Rigler, with confirmation from Hamp, Steenwijk, and my own observations:

¹⁹ Gvozdanović 1987: 113; further details, 112.

²⁰ Jakobson-Halle 1971: 485, Labov-Yaeger-Steiner 1972: 106.

²¹ Vermeer 1987a: 253.

²² Ramovš 1928: 114.

/i/ high central unrounded:	[i̥] or [ī]
/y/ high central rounded:	[y̥] or [ȳ]
/e/ mid central unrounded:	[e̥] or [ē]
/ø/ mid central rounded:	[ø̥] or [ø̄]

(The alternative representations, without the subscript dots, reflect the variant pronunciations where the *zasoplost* is not occurent.) Personal experiments will quickly show that if the tongue-tip is thrust forward between the teeth during the articulation of vowels, the spontaneous result is a centralized articulation. Today's centralized articulation is therefore indirect evidence of the plausibility of the most unusual detail in BdC's descriptions.

I suggest therefore that we must reconstruct a chain of interrelated developments, beginning with the TENSENESS postulated by Ramovš which involved an articulatory gesture (a forward movement of the tongue-root?); this resulted in a forwards thrusting of the tongue-tip, and this in turn resulted in the centralization of the vowels concerned. During one of these stages the muffled quality, the *zasoplost*, must have become a concomitant articulation; presumably, a result of the "TENSENESS" and/or of the tongue-tip position. At some stage or stages, too, we must fit in both the loss of pitch and the loss of length: note that it is relatively difficult to produce pitch distinctions on "muffled" vowels.

It is clear that, whatever the details of this chain of events, different components of these complex articulations could well have, and almost certainly did, vary in importance at the different stages. At an earlier stage we may be able to talk of a *tense vs. non-tense* opposition, later, of a *zasopli vs. nezasopli* one; and today, the distinction seems to be the *centralized vs. non-centralized* one.

We are not yet in a position to assess the relative merits of Vermeer's and Gvozdanović's reconstructions; indeed, both may contribute insights into the solution of the development of the *zasopli vokali*. It should now be noted that Steenwijk, on the basis of painstaking fieldwork, has concluded that what BdC showed as QUANTITATIVE distinctions are now to be regarded as QUALITATIVE distinctions.²³ Since a central part of the apparent disagreement between Gvozdanović and Vermeer involves the feature of vowel-length, Steenwijk's conclusions may show a way out of the puzzle.

I hope to have shown that each of BdC's "unusual" articulatory descriptions is, in one way or another, plausible in the light of what we know to date. This means neither that they have been vindicated, nor that they can serve to support any one developmental theory. Alongside a re-examination of the diachrony, which is now imperative in the light of Steenwijk's work, a second imperative is extensive instrumental analysis. Not only must the *zasopli vokali* be analyzed acoustically, but their speakers must be persuaded to allow themselves to undergo articulatory measurements. The contemporary concomitants of centralization, which may still

²³ Note that Steenwijk now reports a further loss of phonemic distinction from his fieldwork in 1987, for the localities of Bela and Njiva: namely, the merger of /e/ and /ø/ as one phoneme, phonetically [ø]. This development, insofar as it becomes (or has become) valid for each local sub-dialect, represents yet another (logical?) step in the succession of phonological events described here.

be heard among some speakers and which are the presumed "echoes" of *zasoplost* (breathiness?), can surely be expected to retain (in reduced form) the physical characteristics that were once so crucially (phonemically) distinctive.

Bibliography

- Baudouin de Courtenay, Jan I. N. 1871. "Nekotorye obščie zamečanja o jazykoznanii i jazyke." *Žurnal ministerstva narodnago prosvješćenija* 153, 279–316 (= 47–77 in Baudouin de Courtenay 1963).
- . 1875. *Opyt fonetiki rez'janskix govorov*. Sankt Peterburg/Warszawa: Koževnikov/Wende.
- . 1963. *Izbrannye trudy po obščemu jazykoznaniju*. Moskva: Akademija nauk.
- Chmura-Klekotowa, M. ed. 1974. Jan Baudouin de Courtenay. *Spostrzeżenia nad językiem dziecka*. Wybór i opracowanie. Wrocław: Polska akademia nauk.
- Čemodanov, N. S. 1956. *Sravnitel'noe jazykoznanie v Rossii*. Moskva: Gosudarstvennoe pedagogičeskoe izdatel'stvo.
- Groen, Ben. 1980. "On the phonology of the Resian dialects. The consonant system," 69–101 in A. Barentsen, B. Groen and R. Springer, eds., *Studies in Slavic and General Linguistics I*. Amsterdam: Rodopi.
- . 1983. "On the problem of an orthography for the Resian dialects," 253–263 in B. J. Amsenga et al., eds., *Miscellanea Slavica to Honour the Memory of Jan M. Meijer*. Amsterdam: Rodopi.
- . 1984. "A few remarks on the Resian dialect," 131–143 in J. J. Baak, ed., *Signs of Friendship, to Honour A. G. F. van Holk, Slavist, Linguist, Semiotician*. Amsterdam: Rodopi.
- . 1987. "The vocalic system in Jan Baudouin de Courtenay's *Opyt fonetiki rez'janskix govorov*," *Slovene Studies* 9/1–2, 105–109.
- Gvozdanović, Jadranka. 1987. "Remarks on the development of the Resian vowels," *Slovene Studies* 9/1–2, 111–114.
- Häusler, F. 1968. *Das Problem Phonetik und Phonologie bei Baudouin de Courtenay und in seiner Nachfolge*. Halle/Saale: Niemeyer.
- Jakobson, R., and M. Halle. 1956. "Phonology and phonetics," in *Fundamentals of Language*. (Reprinted, 464–504, in Jakobson, R., 1971. *Selected Writings I*. The Hague: Mouton.)
- Labov, M., M. Yaeger and R. Steiner. 1972. *A Quantitative Study of Sound Change in Progress*. Philadelphia: The University of Philadelphia.
- Lencek, R. L. 1977. *Jan Baudouin de Courtenay and the Dialects Spoken in Venetian Slovenia and Rezija*. New York: Society for Slovene Studies.
- . 1978. "Jan Baudouin de Courtenay's concept of mixed languages," *Linguistica (Ljubljana)* 18, 3–28.
- Logar, Tine. 1963. "Sistemi dolgih vokalnih fonemov v slovenskih narečjih," *Slavistična revija* 14, 111–132.
- . 1972. "Rezjanski dialekt", 1–10 in VIII Seminar slovenskega jezika, literature in kulture, 3–15 julija 1972. Ljubljana.
- . 1981. "Solbica", 35–40 in P. Ivić et al., eds., *Fonološki opisi srpskohrvatskih/hrvatskosrpskih, slovenačkih i makedonskih govora obuhvaćenih opšteslovenskim lingvističkim atlasom*. Sarajevo: ANU BiH.
- Ramovš, Fran. 1928. "Karakteristika slovenskega narečja v Reziji," *Časopis za slovenski jezik, kulturo in zgodovino* 7, 107–21.
- Rigler, Jakob. 1963. "Pregled osnovnih razvojnih etap v slovenskem vokalizmu," *Slavistična revija* 14, 25–78.
- . 1972. "O rezjanskem naglasu," *Slavistična revija* 20, 115–126.
- Sievers, Eduard. 1876. *Grundzüge der Lautphysiologie*. Leipzig: Breitkopf und Härtel.
- Stankiewicz, Edward. 1976. *Baudouin de Courtenay and the Foundation of Structural Linguistics*. Lisse: de Ridder.
- . 1986. "The dialect of Resia and the 'Common Slovenian' accentual pattern," 93–103 in E. Stankiewicz, *The Slavic Languages. Unity in Diversity*. Berlin: Mouton de Gruyter.

- Steenwijk, Han. 1987. "Puzzling evidence: an accented vowel system based on Baudouin de Courtenay's Resian texts," 237-274 in *Dutch Studies in South Slavic and Balkan Linguistics*. Amsterdam: Rodopi.
- Vermeer, Willem. 1987a. "Rekonstruiranje razvoja samoglasniških sestavov v rezijanskih govornih," *Slavistična revija* 35, 237-257.
- . 1987b. "The treatment of the Porto-Slavic falling tone in the Resian dialects of Slovene," 275-298 in *Dutch Studies in South Slavic and Balkan Linguistics*. Amsterdam: Rodopi.
- Winteler, Jost. 1876. *Die Kerenzer Mundart des Kantons Glarus in ihren Grundzügen dargestellt*. Leipzig: Winter.
- Zinder, L. R. 1960. "K istorii fonetiki v Rossii," 5-23 in M. I. Matusевич, ed., *Voprosy fonetiki* (= *Učene zapiski leningradskogo universiteta* No. 237, serija filoloških nauk, vypusk 40). Leningrad: Leningradskij universitet.

POVZETEK

Baudouin de Courtenay na splošno velja za enega od vodilnih glasoslovcev svojega časa tako v teoriji kakor v praksi. Toda njegov opis zasoplih samoglasnikov v l. 1875 je tako nenavaden, da zbujajo nejevero. Če bi se res izkazal za napačnega, bi bilo treba ne le na novo oceniti de Courtenayjevo mesto v zgodovini, marveč podvomiti o vseh njegovih transkripcijah (vštevši zapise več slovenskih narečij) in o vseh na njih nastalih analizah.

Pozoren premislek terjajo štiri nadrobnosti v njegovem opisu teh samoglasnikov: (1) njihov "pridušeni" zvok, po njegovih besedah podoben govorjenju gluhomemih; (2) hkratno poskakovanje Adamovega jabolka gor in dol; (3) napetost grla; (4) pomaljanje jezične konice in od tod medzobni izgovor sosednjih soglasnikov.

Proučevanja zadnjih 20 let teh nadrobnosti ne potrjujejo povsem. (1) "Pridušenosť" ni nič drugega kakor drugotna soizreka (koartikulacija), podrejena posredičnjenju (centralizaciji), ki te samoglasnike odlikuje od navadnih; (2) nobenih nenavadnih gibov goltanca in (4) nobenih izplaženih jezičnih konic ni bilo opaziti; (3) "napetost" grla pa bi bilo treba potrditi z instrumenti.

Upoštevanje ta dejstva, se je po rešitev nujno zateči k zgodovinski rekonstrukciji nastanka zasoplih samoglasnikov. Pregledani nedavni dve rekonstrukciji, Gvozdanovičeve in Vermeerjeve, se najprej zdita med sabo v določenem neskladju. Ko pa pritegnemo Ramovševo (1928) razlago nastanka teh samoglasnikov, ki se naslanja na njih NAPETI izgovor, in dognanja terenske raziskave, ki jo zdaj opravlja Steenwijk, se izkaže, da ni mogoče zavreči niti podmen Gvozdanovičeve niti Vermeerjevih. Za rešitev je marveč mogoče predlagati razvojno zaporedne stopnje, v katerih so si kot fonemsko pomembne sledile (1) "napetost", (2) zasoplost in (3) centraliziranost.

De Courtenayjev opis moramo torej imeti najmanj za verjembljivega, toda potrebno bo nadaljnje rekonstruiranje, pa tudi instrumentalna analiza sodobnih "odmevov" zasoplosti.