

## GONÇALVES VIANA AND THE PHONIC SCIENCES

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ANICETO DOS REIS GONÇALVES VIANA (1840-1914) is to be regarded, among Portuguese scholars, chiefly as a phonetician on the order of Sievers, Sweet, and Passy, although he did publish some works on philology and lexicography. It is to him that Portuguese philology owes its scientific basis of accurate phonetic data. “We cannot expect that everybody will do everything!” said Leite de Vasconcellos of him, intending to excuse rather than praise his friend in this respect.<sup>1</sup>

Gonçalves Viana was the first to pursue the study of Portuguese phonetics in itself, and, while he was of course aware of the urgency of the descriptive science of sounds for historical Portuguese grammar, his direct aim was an objective statement of the standard pronunciation of Portuguese. Like other phoneticians of his time, he wanted to establish a standard pronunciation based on actual spoken language, and was opposed to the grammarians’ bias in favor of the written language.

By *phonetics* he meant a complete general description and classification of speech sounds according to the physiology or their production, with little regard for the description of the speech organs: that is, the *Lautphysiologie* of the German phoneticians of his time. After this preliminary stage he developed Portuguese *phonology*, which implied an over-all description of Portuguese speech-sounds. Early in his career he borrowed from Leite de Vasconcellos the word *phonem* in its naturalistic sense<sup>2</sup>, and since then it has been a favorite term among Portuguese and Brazilian phoneticians as a mere synonym of *speech-sound*<sup>3</sup>. Gonçalves Viana’s classification of the Portuguese “phonemes”

<sup>1</sup> Academia de Ciências de Lisboa – *Homenagem a Gonçalves Viana Boletim de Segunda Classe*, Vol. X, Nº 3, p. 629

<sup>2</sup> Leite de Vasconcellos had taken the term from Louis Havet (cf. *A Evolução de Linguagem*, in *Opúsculos*, Vol. II (Coimbra, 1928), p. 37).

<sup>3</sup> Some Portuguese and Brazilian phoneticians state that “phonemes” are used to form words (cf. Sá Nogueira – *Elementos para um Tratado de Fonética Portuguesa* (Lisboa, 1938), p. 5) or are the significative elements of language (cf. José Oiticica, *Estudos de Fonologia* (Rio, 1916), p. 21), but with no phonemic implication: apparently they intend to distinguish speech sounds, from other oral sounds such as the whistle and the cough (Sá Nogueira makes this very clear).

as set forth in his basic work on the standard pronunciation of Portuguese<sup>4</sup> is based entirely on articulation, from which one may conclude that he regarded articulation as the most scientific basis for phonetic classification<sup>5</sup>. His system is extremely complicated, with each sound classified under a wide range of physical headings. He lists them according to their relation to the mobile and immobile organs of speech, juxtaposing the two, and then proceeds to combine them under a third, mixed heading. In this he was trying to reach an eclectic solution of the controversy then going on among the motor phoneticians. He arrives at a list of 92 Portuguese speech sounds, including both vowels and consonants, and represents them with Roman letters and diacritical marks.

This unusually large number of phonetic elements is accounted for by the inclusion of what we would now consider allophones. Even if we exclude the dialectal sounds which he first lists and then omits in his exposition of the pronunciation of standard Portuguese, there remains even in his final presentation a large number of positional variants. His naturalistic bias, however, does not lead him so far as to include what we would today call free variants. This step was taken only much later, by the phonetician Rodrigo de Sá Nogueira<sup>6</sup>, when the Prague School and the North American phonemicists had already effectively counterposed this kind of atomistic phonetics.

Naturally, he does not consider stylistic variants at all, for this category of speech sound was entirely unknown in Gonçalves Viana's generation. It has recently been brought into focus by Armando de Lacerda<sup>7</sup>.

It is typical of the naturalistic tendency still prevalent among Portuguese phoneticians that for Sá Nogueira free variants (such as the palatal [æ] of the fisherwomen of Lisbon crying their wares) are not regarded as such, but treated in exactly the same way as the speech sounds of standard Portuguese<sup>8</sup>. Likewise the researches of Lacerda have not brought him to *Lautsylistik* in the Trubetzkoyan sense. He rather concentrates on the expressive function of phonemes and deliberately minimizes their representation. In this he is nearer the Laziczius than of Trubetzkoy, Jakobson, and Bloomfield. But in another branch of phonetic studies Gonçalves Viana may be regarded as a genuine pioneer in developing

<sup>4</sup> Gonçalves Viana, *Exposição da Pronúncia Normal Portuguesa* (Lisboa, 1892)

<sup>5</sup> But in a former work, written in French, he uses acoustical terms such as *obscurcissement, sifflement, plenisonant, sombre, étouffée, bourdonnée* (cf. *Essai de Phonétique et de Phonologie de la Langue Portugaise d'après le dialecte actuel de Lisbonne*, Extrait de la *România*, XII (Paris, 1883).

<sup>6</sup> Cf. *Elementos para um Tratado de Fonética Portuguesa* (Lisboa, 1938)

<sup>7</sup> Cf. Armando de Lacerda, *Características da Entoação Portuguesa* (Coimbra, 1941), 2 volumes.

<sup>8</sup> Cf. *Elementos para um Tratado*, pp. 58-60

the functional approach to speech sounds. He sought to apply his phonetic discoveries to the problem of the Portuguese orthography, which at that time was in a state of great confusion. This undertaking was analogous to Sweet's proposed "broad transcription" of English sounds. Sweet's transcription has of course remained merely theoretical, since it was impossible to supersede the existing English spelling, which is too far removed from a rational phonemization of the spoken language. In the case of Portuguese, however, the obstacles were far from being as great, and Gonçalves Viana could legitimately hope to replace the old spelling habits with a system of orthography based on general and logical phonetic principles.

He first set forth his ideas on this problem in 1904, in his book on the national orthography<sup>9</sup>, which marked the beginning of the movement for spelling reform, and led to the introduction of the new Portuguese orthography by a government Act in 1911<sup>10</sup>. But the 1904 work gives a better picture of Gonçalves Viana's real ideas about spelling than the precepts of this Act or his own *Orthographic Vocabulary* of 1913<sup>11</sup>. The Reform Committee had by that time introduced certain essential changes which Gonçalves Viana had generously accepted.

It should be pointed out that Gonçalves Viana's orthographic reform movement was in competition with another movement, led by an Oporto physician named Barbosa Leão<sup>12</sup>. The major difference between these two movements was not only that between a scientific and an amateurish approach. Gonçalves Viana sought to develop a spelling system which would provide an exact representation of the standard pronunciation. His system was objective and stable, while Barbosa Leão's was impressionistic and subjective. This task of reforming Portuguese orthography compelled Gonçalves Viana to regard Portuguese speech sounds in a new light. Since he was now forced to limit himself to the existing alphabet, he had to abandon any attempt to represent graphically the minute phonetic differences his delicate ear had caught. And this led him to disregard positional variants and to represent only true phonemes.

In this way, although he had not the slightest notion of the theoretical concept of phoneme, he followed the phonemic principle by linguistic instinct. He made no attempt to represent the back [ɑ] which occurs before velar *l* or *u*

<sup>9</sup> Gonçalves Viana, *Ortografia Nacional* (Lisboa, 1904)

<sup>10</sup> This Act was later modified several times by agreement with the Brazilian government after 1931, when Brazil accepted the idea of carrying out a spelling reform conjointly with Portugal.

<sup>11</sup> Gonçalves Viana, *Vocabulário Ortográfico e Remissivo da Língua Portuguesa* (Lisboa, 1913).

<sup>12</sup> CF. *Coleção de Estudos e Documentos a favor da Reforma da Ortografia em Sentido Sônico; publicada pelo Dr. Joze Barboza Leão* (Lisboa, 1878)

in the same syllable (which he could easily have done by means of diacritical marks such as *ä* or *ǎ*), or the open [i] (which could have been written *i*), or reduced vowels occurring in clearly definable positions in a syllable or word. Similarly, he used only *l* for both the post-vocalic velar consonant and the prevocalic dental, although he insisted on the phonetic difference between the two. He did not even attempt to represent the neutral [ə], which could have been written *ĩ* or *i*. It is true that he wanted to confine himself to the Latin alphabet, but he could of course have used existing diacritical marks if he had been convinced of the necessity of such distinctions. We can thus infer that he considered that these sounds, including the neutral [ə], did not require any special sign, or, as we should put it today, that they were positional (or contextual) variants<sup>13</sup>. On the other hand, he did insist on representing by a diacritical mark (a circumflex accent over the close vowel) the distinction between close /e/ or /o/ and open /ɛ/ or /ɔ/ under stress. And indeed this is a phonemic opposition: cf. *sêde* “thirst” and *sede* “seat”, *sôco* “a blow” and *soco* “a sock”, or the contrasts between such nouns and verbs as *pêso* “a weight” and *peso* “I weigh”, *rôlo* “a roll” and *rolo* “I roll”.

In order to avoid inconsistency in the relation between letters and speech sounds, he tried to stick to the principle of one letter equals one sound<sup>14</sup>, and by “sound” he intuitively meant distinguishing sound or *phoneme*. The letter *x*, for instance, was to be used only for the palatal sibilant /ʃ/, as in *eixo* “axle”, and never for /ks/, /s/, or /z/. Later, however, he was obliged to accept the multiple usage insisted on by the Reform Committee. The Committee also disapproved of his proposal to replace the letter *g* with *j* in position before a front vowel. His argument was that in this position both letters had the sound [ʒ]. His only concession to traditional spelling had been to retain “provisionally” the initial *ge* and *gi* and also initial *h*, since he felt that a change in the beginning of a word would be more shocking to the eye<sup>15</sup>.

At first glance it would seem that this underlying phonemic tendency is contradicted by his effort to retain the two symbols *x* and *ch* for the phoneme /ʃ/, and *s*, *c*, and *ç* for the voiceless sibilant /s/, and intervocalic *s* and *z* for /z/. As a phonetician for whom oral speech was fundamental in language, he was of course not sympathetic to *graphemes* as a means of differentiating among homonyms (this argument is explicitly used in Brazil as a reason for maintaining the letter pairs *s-z*, *c-s*, *x-ch*).

<sup>13</sup> The neutral [ə] of European Portuguese, lacking in Brazil, is but a realization of /e/ in well-defined unstressed positions.

<sup>14</sup> *Ortografia Nacional*, p. 287

<sup>15</sup> *Ortografia Nacional*, p. 110

Gonçalves Viana would rather have advanced historical arguments. He wanted to symbolize the Latin etymological distinction in each of these pairs (*x-s* as Romance sibilants and *ch, c* and *z* as the final result of the evolution of the stops before a yod or a front vowel: *cīto* > *cedo*, *pretiu-* > *preço*, *ratione-* > *razão*, *clau-* > *chave*). Modern Portuguese and Brazilian philologists have pointed to this argument as the only valid one for maintaining the difference in spelling. In Gonçalves Viana's reasoning, however, there was a much more important synchronic argument: he wanted to represent the phonemic distinction still existing in northern Portuguese dialects where /ʃ/ is opposed to the affricate /tʃ/, /s/ to retroflex /s̺/, and /z/ to retroflex /z̺/. This is an intermediate stage in the development of an old Romance distinction which has been entirely abandoned in the standard Portuguese and Brazilian pronunciation.

With regard to the problem of unstressed *en-* and *in-* at the beginning of words, Gonçalves Viana preferred to write *en-*. His preference, however, was not based on the historical arguments developed later (Latin *in-* > Port. *en-*); he rather had in mind the clear pronunciation [ẽ] of the Alentejo and Algarve and, he might have added, the free variation in Brazil. He also invoked the argument of grammatical symmetry, since in verbs like *entrar* /ɫ'trar/ the strong forms have /ẽ/ (cf. *entro* /'ẽtru/). Finally, he wanted to revive the distinction, obsolescent in standard Portuguese pronunciation, between such pairs as *entender* "understand" and *intender* "tend towards", *empar* "to prop up a vine" and *impar* "to stifle", *enformar* "to mould" and *informar* "to inform"<sup>16</sup>.

He also maintained the duplicate symbols *q* and *c* before *u* followed by a vowel. This was a clumsy expedient, since it was necessary to distinguish the sounded from the mute *u* (that is /ki/, /ke/, and /kw/). For the sounded *u* he wrote *qu* (now spelled *qu*), thus contrasting *freqüente* "frequent" with *quente* "hot, warm". But this was a mere compromise with established tradition, and Gonçalves Viana would have preferred to adopt a more radical solution, such as to write *cu-* before a front vowel whenever the *-u-* is not mute<sup>17</sup>. Of course, a better phonemic solution would have been to use *k* for the velar stop, thus eliminating both *c* and *q*, but Gonçalves Viana was unwilling to make so drastic a break with the past as such a reform would have entailed. Indeed, he regarded *w, k,* and *y* as "foreign" letters, which were better eliminated from Portuguese spelling. By discarding *y* he surrendered a useful expedient (utilized in Spanish) for representing the consonantal [y] in a rising diphthong: but in the last analysis he was right, since in initial position [y] is in free variation with [i], and

<sup>16</sup> *Ortografia Nacional*, p. 98

<sup>17</sup> *Ortografia Nacional*, p. 90. For the voiced velar stop he suggests two kinds of the letter *g* to correspond to *c* and *q* for the voiceless stop.

elsewhere is merely a necessary junction following [i], as in *seio* [‘se̞ju] “bosom” or *arroio* [a’ro̞ju] “rivulet”.

The achievement of Gonçalves Viana must thus be judged from two points of view: as a phonetician he introduced precise techniques for the study and classification of Portuguese speech sounds<sup>18</sup>; and as an orthographic reformer he effected a thoroughgoing revision of Portuguese spelling. Furthermore, his work may justifiably be regarded as a pioneering contribution to modern phonemics. This is a distinction which he shares with his friend Sweet, whom both Trubetzkoy and Swadesh praise for his understanding of speech sounds as functional units.

(For Roman Jakobson: on his sixtieth birthday. The Hague, Mouton & Cia., 1956).

<sup>18</sup> His importance as a phonetician has been emphasized several times; see especially Francis Rogers, *Gonçalves Viana and the Study of Portuguese Phonetics*, in *Boletim de Filologia*, VII-1 (Lisboa, 1940).