Portuguese, a language of the Ibero-Romance subgroup of the Romance languages, has a
variety which is spoken in Brazil, a country with circa 170 million inhabitants, of whom
about 161 million speak Portuguese and 138 million live in cities. For this illustration of
Brazilian Portuguese (henceforth BP), we have recorded a speaker whose choice was guided
by two demographic criteria, namely, to represent the most populous dialectal region, that
of São Paulo, and the most frequent age range (15–29 years, corresponding to 28% of the
Brazilian population. Source: IBGE, Demographic census 2000). The speaker was a female
undergraduate student at the University of Campinas at age 21 at the time of the recording.
She was born in the city of São Paulo, where she lived up to age 10. From then on she has
been living in Valinhos, a city on the outskirts of Campinas.

BP comprises several regional dialects, which can be roughly identified with the
boundaries of the States of the federation. It is further possible to subcategorise these dialects
into urban and rural. The following illustration is based on an urban variety of the São Paulo
State dialectal region.

In the transcriptions that follow, stress marks are omitted in penultimately stressed words,
since this stress pattern is canonical in Portuguese.

BP is distinct from European Portuguese (EP) in several respects. One of the most
striking differences concerns vowel reduction, including the extreme case of deletion. Both
phenomena are far less extreme in BP (cf. pagar pa'gar ‘to pay’ in BP vs. pr'gar in EP), which
does not present the long sequences of consonants typical of pre-stressed position in EP (cf.
depen'i'kar ‘to pluck’, in this variety of BP vs. depenicar dpn'i'kar in EP). By contrast, BP
exhibits vowel epenthesis, breaking most two-obstruent sequences. For phonotactic reasons
common to both BP and EP, one of the consonants is always an apical: psicologia pisiko
ši̯i̯a or psikološi̯i̯e ‘psychology’ in BP vs. psikološi̯e in EP. The epenthetic vowel is always
[i] or [j], a fact which follows in part from the high front position of the tongue body
at the (apical) consonant release, since the tongue front is involved in raising the tongue
tip.

In the consonant table and in the vowel inventory, allophones are indicated by parentheses.
When not explicitly signalled, all transcriptions of this illustration are phonetic, in order to
give a detailed account of the dialect presented here. For brevity and convenience, capital
roman letters between slashes are used to indicate archiphonemes.
Consonants

<table>
<thead>
<tr>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Postalveolar</th>
<th>Palatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>k</td>
<td>g</td>
</tr>
<tr>
<td>Affricates</td>
<td>(tʃ)</td>
<td>(dʒ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>Tap</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f</td>
<td>v</td>
<td>s</td>
<td>z</td>
<td>ʒ</td>
<td>ŋ</td>
</tr>
<tr>
<td>Lateral approximant</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| p | pata | ‘paw’ | b | bata | ‘knock!’ |
| t | tata | ‘kind of house for African chiefs’ | d | data | ‘date’ |
| tʃ | Tita | a proper name | ʒ | dʒita | ‘said (fem.)’ |
| k | kata | ‘(s/he) picks out’ | g | gata | ‘she-cat’ |
| f | faka | ‘knife’ | v | vakà | ‘cow’ |
| s | saca | ‘sack’ | z | zaka | ‘Buddhist high priest’ |
| ʒ | chaga | ‘open sore’ | ʒ | jaca | ‘jackfruit’ |
| m | mata | ‘woods’ | n | nata | ‘cream’ |
| l | galo | ‘rooster’ | ŋ | ganho | ‘profit’ |
| ŋ | gaço | ‘branch’ | | raro | ‘expensive’ |

Voiceless plosives are unaspirated, as in other Portuguese varieties, and their contrast with the voiced series is ensured by clear, early voicing and shorter total duration of [b d g]. In BP, unlike EP, voiced plosives are seldom realised by their homorganic fricatives in intervocalic position (e.g. acabar akabar ‘to finish’ in BP vs. ekɾ̥bar in EP). Dental plosives are realised as affricates before [i] and [I] in the variety illustrated here (see transcribed passages). This affrication apparently follows from extensive coarticulation between the consonant and the vowel (see Albano 2001: 68–86 for details). Affrication is quite common in the State of S˜ao Paulo, but still more widespread in other states, such as Rio de Janeiro and Bahia. The palatal nasal very frequently reduces to a nasalised palatal approximant. In intervocalic position there is a phonemic contrast between the so-called strong and weak ‘r’ s’, /r/ vs. /ɾ/. While the latter phoneme is always realised as a tap ( [|]) in this position, the former varies considerably across the Brazilian territory. In the variety described here, it is a velar fricative, usually voiced between voiced sounds and voiceless elsewhere (which justifies the use of the symbol [ɾ] to indicate the realisation of /ɾ/). It can nevertheless be realised as a glottal fricative, usually in weak prosodic positions, particularly in casual speech.

In coda position, four archiphonemes are allowed in BP: /R/, /S/, /N/, /L/ (cf. D’Angelis’ (2002) reanalysis of Câmara’s (1970) treatment of the issue). If complete contrasts such as carta /kaRta/ karte ‘letter’ vs. casta /kaSta/ kastê ‘chaste (fem.)’ vs. canta /kaNta/ kẽhẽte ‘(s/he) sings’ vs. calta /kaLta/ kaço:tê ‘marsh marigold’ are rare, a three-archiphoneme contrast is frequently found. As regards /R/, its phonetic realisation is extremely variable in BP, and it may even include a tap. Within the framework of Labovian sociolinguistics, Callou, Moraes & Leite (1996) showed, on the basis of phonetically transcribed data, that an isogloss for /R/ realisations can be established between the States of S˜ao Paulo and Rio de Janeiro: a higher frequency of the tap from S˜ao Paulo southwards, as opposed to a higher frequency of the velar and glottal fricatives from Rio de Janeiro northwards (this result still awaits confirmation by means of instrumental phonetic analysis). The tap is the preferred realisation for /R/ in the variety presented here. In infinitives, however, this sound usually drops word-finally.
except if followed by a vowel. The archiphoneme /S/ surfaces either as a voiced or as a voiceless alveolar fricative. As in most varieties, it tends to assimilate the voicing of the following sound. The archiphoneme /N/, in words such as *canta* /kaNta/ ‘(s/he) sings’ or *irmã* /iR̃maN/ ‘sister’, triggers the nasalisation of a preceding sound. Moreover, it also surfaces as a reduced nasal taking the place of articulation of a following, non-fricative sound. The archiphoneme /L/, which some generations ago used to be a velarised lateral approximant, is changing into a labial-velar approximant throughout the entire Brazilian territory, producing homophones such as *mau* maµ ‘bad’ and *mal* maµ ‘evil’.

### Vowels

<table>
<thead>
<tr>
<th>i</th>
<th>siku</th>
<th>sico</th>
<th>‘chigoe’</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>seku</td>
<td>seco</td>
<td>‘dry’</td>
</tr>
<tr>
<td>e</td>
<td>seku</td>
<td>seco</td>
<td>‘(I) dry’</td>
</tr>
<tr>
<td>a</td>
<td>sakú</td>
<td>saco</td>
<td>‘bag’</td>
</tr>
<tr>
<td>o</td>
<td>soku</td>
<td>soco</td>
<td>‘hit (noun)’</td>
</tr>
<tr>
<td>u</td>
<td>sukú</td>
<td>suco</td>
<td>‘juice’</td>
</tr>
</tbody>
</table>

(i) sakú | saque | ‘withdrawal’
(g) númêó | número | ‘number’
(u) sakú | saco | ‘sack’

### Nasalised vowels

(i) si²tu | cinto | ‘belt’
(e) sê²tu | sento | ‘(I) sit’
(θ) sê¹tu | santo | ‘saint’
(õ) sôºdu | sondo | ‘(I) probe’
(ũ) sũºtu | sunto | ‘summed up’

The most intuitive way to analyse the Portuguese vowel inventory is by reference to the lexical stress pattern (see next section for details), as proposed by Câmara (1970). Portuguese phonemically contrasts seven oral vowels in stressed position: /i e a o u/, as illustrated above. There is a phonetic contrast of five nasalised allophones in stressed position before the archiphoneme /N/ (which induces the so-called phonological nasalisation, illustrated by the preceding list), as well as before heterosyllabic nasal consonants (which triggers the so-called phonetic nasalisation): [i e õ õ u]. The latter condition is exemplified by the following list: *(em) cima sîmê ‘above’, sema sêmê ‘same’, sama sêmê ‘pine tree leaf’, soma sômê ‘sum’, (em) suma sômê ‘to sum up’*. This yields a total of twelve contrasting vowels in stressed position. In pre-stressed position, there is a ten-vowel phonetic contrast, where the quality of the corresponding stressed vowel is roughly preserved: [i e a o i e õ õ u]. Nasalised vowels in this position surface either before /N/ (e.g. *temporal têmºpar ‘temporal’) or before /n/ (e.g. *ganhar gêºpar ‘(to) win’). In post-stressed position, the variety studied here contrasts four oral vowels, including a centralised version of [e] (in this variety, only in non-final post-stressed position under antepenultimate stress, as in *ôpera ɔɾêpə ‘opera’ and número nûmêrʊ*).
There is also a five-nasalised-vowel opposition after lexical stress, as illustrated by \( \text{im\text{"a}} \) ‘magnet’, \( \text{hi\text{"e}}\text{\text{"en}} \) ‘hyphen’, \( \text{p\text{r\text{"o}}\text{t\text{"o}}} \) ‘proton’, \( \text{inter\text{'m\text{"i}}} \) ‘interim’, and \( \text{\text{\text{'b\text{"o}}} \) ‘album’, even though minimal pairs cannot be found.

A large list of oral diphthongs can be formed by combining the stressed oral vowels above with the offglides \([i]\) and \([u]\), \([ii]\) being the only impossible diphthong in the dialect illustrated here (a similar-sounding sequence, however, is found in dialects in which a palatal approximant often substitutes for the palatal lateral, e.g. \( \text{filho} \) ‘son’). Nasalised diphthongs are formed by combining \([\text{e} \, \text{"o} \, \text{\text{"u}}]\) with the offglide \([i]\). With \([o]\), on the other hand, the only possibility is \([\text{\text{"o}}]\). There are two post-stressed nasalised diphthongs: \([\text{\text{"e}}\text{\text{"o}}]\), as in \( \text{b\text{"e}}\text{\text{"o}}} \) ‘blessing’, and \([\text{\text{"e}}\text{\text{"i}}]\), as in \( \text{hi\text{\text{"e}}} \) ‘hyphen’. Due to the realisation of /L/ as a labial-velar offglide, which has a vocalic quality in BP, it is possible to add an inventory of phonetic diphthongs to the preceding list, which yields a larger diphthong inventory than that of EP (see, for instance, \( \text{sol} \) \( \text{\text{\text{\text{"u}}} \) ‘sun’ and \( \text{sul} \) \( \text{s\text{\text{"u}}} \) ‘South’ in the transcribed passages). Following \([k]\), the onglide \([u]\) can form additional diphthongs such as \( \text{quando} \) \( \text{\text{\text{\text{"u}}} \) ‘when’ (including sequences of diphthongs, traditionally called triphthongs in BP, e.g. \( \text{quais} \) \( \text{\text{\text{\text{"u}}} \) ‘which ones’). In casual and fast speech, adjacent heterosyllabic vowels usually turn into diphthongs, triphthongs or sequences of them (e.g. \( \text{o menino e o amigo} \) \( \text{\text{\text{\text{"u}}} \) ‘the boy and his friend’). Diphthongs also emerge in this variety from yodisation of vowels (with the exception of \([i]\)) followed by /S/, as in \( \text{arroz} \) \( \text{\text{\text{\text{"u}}} \) ‘rice’ and \( \text{mas} \) \( \text{\text{\text{\text{"u}}} \) ‘but’ (see Albano 2001: 86–91 for details).

**Prosodic features**

**Lexical stress**

Lexical stress in BP can fall in final, penultimate or antepenultimate position, penultimate being the most frequent pattern. Minimal triplets such as \( \text{s\text{\text{\text{\text{"a}}} \) ‘(s/he) knew’ and \( \text{sab\text{\text{\text{\text{"a}}} \) ‘a Brazilian thrush’ can be found. In a rather formal and conservative style, it is further possible to find stress on the fourth syllable leftwards, as in phonological words such as \( \text{fal\text{\text{\text{\text{"a}}} \) ‘(we) talked to each other’ (however, in BP, the proclitic position for the pronoun \( \text{\text{\text{\text{"o}}} \) ‘us’ is by far preferred). In post-stressed position, vowels are realised as non-peripherical allophones. The main acoustic correlates of lexical stress are a longer duration of a syllable-sized unit in stressed position (Massini 1991, Barbosa 1999) and an intensity fall from stressed to post-stressed position (Fernandes 1976) where applicable.

**Rhythm**

Duration is also the main acoustic correlate for phrasal stress. Peaks of duration of V-to-V units followed by a duration reset are the main acoustic events for the delimitation of stress groups in BP (see Barbosa 1999). Lexical stress that is not phrasally prominent introduces perturbations (local oscillations) in a general tendency for duration to increase rightwards in the direction of phrasal stress. The alleged stress timing of BP has been disputed in Barbosa (2000), who found a strong component of syllable timing, within the framework of a coupled-oscillators theory of speech rhythm production. Intonation serves mostly to signal major boundaries within the utterances, at least in lab speech.

**Transcription**

A narrow phonetic transcription is given below, in order to highlight BP specificities, mainly in relation to EP (for this purpose, the first orthographic version of the passage is the same as in the EP illustration). Stress is indicated with the appropriate symbol except if not penultimate.
Orthographic version
O vento norte e o sol discutiam qual dos dois era o mais forte, quando sucedeu passar um viajante envolto numa capa. Ao vê-lo, põem-se de acordo em como aquele que primeiro conseguisse obrigar o viajante a tirar a capa seria considerado o mais forte. O vento norte começou a soprar com muita fúria, mas quanto mais soprava, mais o viajante se acinhovejava à sua capa, até que o vento norte desistiu. O sol brilhou então com todo o esplendor, e imediatamente o viajante tirou a capa. O vento norte teve assim de reconhecer a superioridade do sol.

Narrow transcription

An alternative translation of the North Wind passage is offered below, which not only replaces EP idioms with BP ones, but also makes some adjustments taking the southern-hemisphere position of Brazil into consideration.

Orthographic version
O vento sul e o sol discutiam qual dos dois era o mais forte, quando passou um viajante envolto num casaco. Ao vê-lo, apostaram que aquele que primeiro conseguisse obrigar o viajante a tirar o casaco seria considerado o mais forte. O vento sul começou a soprar com muita força, mas quanto mais soprava, mais o viajante se embrilhava no seu casaco, até que o vento sul desistiu. O sol brilhou então com toda intensidade, e imediatamente o viajante tirou o casaco. O vento sul teve assim de reconhecer a superioridade do sol.

Narrow transcription

There are four noteworthy aspects of the typical variation of this dialect, brought up by different realisations for the same word or by particular words across both passages. First, even though /o/ is pronounced as [u] in post-stressed position, e.g. velo (first passage), a much more conservative pronunciation for this phoneme can be found, as in velo (second passage). Second, the sequence /en/ is often pronounced as [i], in pre-stressed, word-initial position, as in the words itê and ounbru'ave (first and second passages). Third, the diphthong [u][i] and its reduction to [u] are both instantiated in the word sul in the second passage. Fourth, the extreme reduction of post-stressed /u/ emerged in the pronunciation of the Brazilian word for ‘coat’, casaco, in its first and second repetition (second passage). All four processes are probably conditioned by prosodic factors, in addition to sociolinguistic factors.
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