ILLUSTRATIONS OF THE IPA

Standard Austrian German

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The development of Standard Austrian German (SAG; de-AT) is closely linked to the development of Standard German German (SGG; de-DE) as spoken in Northern Germany. Traditionally, SAG is strongly geared towards SGG norms. The orientation towards SGG norms goes back to at least 1750, when Maria Theresia ordered the adoption of the Upper Saxonian norms in place at that time (Ebner 1969, Wiesinger 1989). Since then, SAG pronunciation is modelled on SGG and Austrian newsreaders are instructed according to the norms of Duden's (2005) *Aussprachewörterbuch* and Siebs (1958, with an addendum for Austria) (Wächter-Kollpacher 1995, Soukup & Moosmüller 2011). This procedure leads to an inconsistent usage of SGG features in Austrian broadcasting media (Wiesinger 2009, Soukup & Moosmüller 2011, Hildenbrandt & Moosmüller 2015). Therefore, from a methodological point of view, pronunciation used in the Austrian broadcasting media is unsuitable for defining SAG (Moosmüller 2015).

Instead, some authors claim that SAG needs to be defined according to criteria of acceptability and described against the background of the social and regional characteristics extracted from the results of analyses of acceptability (see Moosmüller 1991, Soukup 2009, Goldgruber 2011). According to these analyses, SAG is spoken by educated speakers with an academic background. Regionally, SAG is located in the urban centres, especially Salzburg and Vienna. Educated speakers who make use of South Bavarian characteristics are not considered as speakers of SAG (Moosmüller 1991).

The present description of SAG is based on two corpora, one collected from 1984 to 1988, comprising 100 speakers,[1] and the other from 2011 to 2013, comprising 48 speakers.

[1] The corpus contains speakers from Innsbruck, Graz, Salzburg, and Vienna (Moosmüller 1991:13–14).

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A smaller corpus of six speakers was collected in 2002 (Moosmüller 2007). The examples presented below are collected from a 43-year-old male speaker, born and raised in Vienna, with an academic education, who served as the model speaker. His parents were also born and raised in Vienna and have an academic education.[2]

Analyses of production reveal that SAG is largely the outcome of a contact situation (Brandstätter & Moosmüller 2015). SAG stands between SGG and the Middle Bavarian dialects (MBDs). MBDs form the basis of SAG pronunciation, yet the phonological system is modelled on SGG. The differences are to be found in fine phonetic details, which will be described below.

Consonants

	Bilabial	Labio-dental	Alveolar	Post-alveolar	Palatal	Velar	Uvular	Glottal
Plosive	p b̥		t d̥			k g̊		
Nasal	m		n			ŋ		
Trill			r				ʀ	
Fricative		f v	s	ʃ	ç	x		h
Affricate		pf	ts	tʃ		ks		
Approximant					j			
Lateral approximant			l					

The table presents the consonant phonemes of SAG. A speaker-specific representation has to be assumed regarding the trill. The chart lists both the uvular trill and the alveolar trill. Most speakers make use of a uvular production (either trill or fricative). However, for those speakers who exclusively apply an alveolar production (either trill or approximant), /r/ has to be assumed. The chart also lists cases whose phonemic status is discussed in the literature. These are the velar nasal consonant [ŋ] (see e.g. Lass 1984; Kohler 1995, 1999 for a phonemic status of [ŋ], see e.g. Vennemann 1970, Dressler 1981 for an abstract analysis of [ŋ]), the affricates (see Ungeheuer 1969, Kohler 1995 for a biphonematic analysis, Luschützky 1985, Dogil & Jessen 1989, Wiese 1996 for a monophonematic treatment; for an extensive discussion see Berns 2013), and the complementarily distributed palatal and velar fricatives (see Dressler 1977; Kohler 1990, 1995; Wiese 1996).

In order to provide an impression of the phonological and phonetic variation present in the reading of the word lists, a narrow transcription was chosen in the illustration.

/p/	[pɑs]	*Pass*	‘passport’	/b̥/	[b̥ɑs]	*Bass*	‘bass’
	[ˈsɪpɛ̥]	*Sippe*	‘clan’		[ˈsiːb̥ɛ]	*Siebe*	‘sieves’
/t/	[tɪʃ]	*Tisch*	‘table’	/d̥/	[d̥ɑχ]	*Dach*	‘roof’
	[ˈmitɛ]	*Mitte*	‘center’		[ˈmiːdɐ]	*Mieder*	‘bodice’
/k/	[kʰɔx]	*Koch*	‘cook’	/g̊/	[g̊uːtʰ]	*Gut*	‘property’
	[ˈhɛg̊ːɛ]	*Hecke*	‘hedge’		[ˈheːg̊ɐ]	*Hege*	‘gamekeeping’

[2] These criteria have been developed from the results of the analyses discussed above and have been applied to all SAG speakers of Vienna.

/f/	[fiʃ]	*Fisch*	'fish'
	[ˈoːfm̩]	*Ofen*	'stove'
/s/	[ˈsɔnɛ]	*Sonne*	'sun'
	[ˈvɑsɐ]	*Wasser*	'water'
/ʃ/	[ˈʃuːlœ]	*Schule*	'school'
	[ˈhʊʃn̩]	*huschen*	'to dart'
/ç/	[liçtʰ]	*Licht*	'light'
[x, χ]	[lɔχ]	*Loch*	'hole'
/h/	[ˈhoːsɛ]	*Hose*	'trousers'
/pf/	[p̥fɛːɐtʰ]	*Pferd*	'horse'
	[ˈɑp̥fl̩]	*Apfel*	'apple'
/ts/	[tsæ̝̊tʰ]	*Zeit*	'time'
	[ˈhɛtsn̩]	*hetzen*	'to rush'
/tʃ/	[ˈtʃɐ̯çjɛn]	*Tschechien*	The Czech Republic
	[ˈheːtʃn̩]	*hätscheln*	'to pet'
[ks]	[ˈg̊sɑːfɐ]	*Xaver*	Xaver (first name)
	[ˈhɛˈg̊sɛ]	*Hexe*	'witch'
/v/	[ˈʋɑːsɛ]	*Vase*	'vase'
	[ˈløːvɛ]	*Löwe*	'lion'
/m/	[mɑ̃n]	*Mann*	'man'
	[ˈhɑmɐ̃]	*Hammer*	'hammer'
/n/	[nɑ̃ːtʰ]	*Naht*	'seam'
	[ˈkɑ̃nɛ]	*Kanne*	'pot'
[ŋ]	[ˈhũŋɐ̃]	*Hunger*	'hunger'
	[kʁɑ̃ŋkʰ]	*krank*	'ill'
/ʁ/	[ˈʁoːsɛ]	*Rose*	'rose'
	[ˈleːɐʁɐ]	*Lehrer*	'teacher'
/j/	[ˈjɑmɐ̃]	*Jammer*	'sorrow'
	[ˈkʰɑjɑkʰ]	*Kajak*	'kayak'
/l/	[ˈlʊstɪkʰ]	*lustig*	'funny'
	[ˈhɑlɛ]	*Halle*	'hall'

With the exception of the labiodental fricative, all obstruents are voiceless. Plosives are distinguished by aspiration (as measured by VOT) and closure duration (Moosmüller & Ringen 2004). In formal speech styles, e.g. reading, the VOT of lenis plosives ranges between 5 ms and 20 ms; the VOT range of fortis plosives lies between 40 ms and 60 ms (Moosmüller 2011a). In spontaneous speech, though, bilabial and alveolar fortis and lenis plosives might collapse, especially in word-initial position, so that *packen* 'to pack' and *backen* 'to bake' become homophonous: [ˈp̥ɑkŋ].[3] Neutralisation of bilabial and alveolar plosives is a characteristic of MBDs. In the case of the velar plosive, lenition might occur before sonorants, e.g. *klauben* [ˈg̊lɑɔ̯bm̩] 'to pick up', *Kraft* [g̊ʁɑftʰ] 'strength', *Knie* [g̊niː] 'knee'. Preceding front vowels, the velar plosive might be subjected to affrication (Moosmüller & Ringen 2004), e.g. *Kübel* [ˈkˣyːbœl] 'bucket'. In intervocalic position, lenis plosives might be pronounced either voiced or as voiced fricatives, especially in unstressed positions, e.g. *aber* [ˈɑːbɐ] or [ˈɑːβɐ] 'but', *oder* [ˈoːdɐ] or [ˈoːðɐ] 'or', *rege* [ˈʁeːgɛ] or [ˈʁeːɣɛ] 'busy'. After nasal consonants, lenis plosives are voiced, e.g. *Hunde* [ˈhʊndɛ] 'dogs', except word-finally, e.g. *Hund* [hʊn̥d] or [hʊntʰ] 'dog'.

The labiodental fricative /v/ is mostly pronounced as an approximant [ʋ]. In intervocalic position, /s/ might be voiced, e.g. *Reise* [ˈʁaɐ̯zɛ] 'journey'. The velar fricative [x] alternates with [χ], an alternation that has also been described for SGG (Kohler 1990). However, in SAG, [x] is also observed after [ɔ], i.e. the distribution of the velar and the uvular fricative is less clear-cut in SAG than in SGG (for comparison, see the realisations of *Koch* 'cook' and *Loch* 'hole' in the list of examples above). Generally, orthographic <h> is not pronounced in word-medial, unstressed position, e.g. *Ehe* [ˈeːɛ][4] 'marriage'.

The alveolar nasal consonant /n/ is usually subjected to both regressive and progressive place assimilation, e.g. *anbeten* [ˈɑmb̥eːd̥n̩] 'to worship', *Anfahrt* [ˈɑmfɑːt][5] 'approach', *Angeber* [ˈɑŋgeːbɐ̯] 'braggart', *geben* [ˈg̊eːbm̩] 'to give', *kaufen* [ˈkɑɔ̯fm̩] 'to buy', *Regen* [ˈʁeːgŋ̩] 'rain'.

SAG features a wide variety of realisations of the trill. In approximately the past 40 years, the pronunciation norm has changed from an alveolar to a uvular trill. The latter is mostly

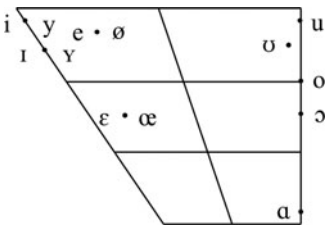
[3] The in-text examples refer to optional phonological processes which are not easy to elicit in the task of reading a wordlist. Therefore, the examples are embedded in sentences. Thus, most of the phonological processes were realised by our model speaker.
[4] The pronunciation of [h] in *Ehe* is a result of reading pronunciation.
[5] In *Anfahrt*, the model speaker did not apply nasal assimilation.

pronounced as a fricative, either voiced or voiceless. Alveolar trills are still in use, mostly pronounced as an approximant. In final position and before consonants, the /ʀ/ is vocalised to either [ɐ̯] or [ɐ], e.g. *Vater* [ˈfɑːtɐ̯] or [ˈfɑːtɐ] 'father' or *Kirche* [ˈkɪɐ̯xɛ][6] 'church'. Preceding /ʀ/, the vowel quality of [+constricted][7] vowels usually changes to [–constricted], before r-vocalisation takes place, e.g. *Moor* [mɔɐ̯][8] 'bog'. Reduction of the sequence *er* to [ɐ] is only allowed in unstressed prefixes, e.g. *verkaufen* [fɛɐ̯ˈkɑo̯fn̩] or [fɐˈkɑo̯fn̩] 'to sell'. However, reduction to [ɐ] is not allowed in prefixes without consonantal onset, e.g. *erlauben* [ɛɐ̯ˈlɑo̯bm̩][9] 'to allow'. Following /ɑ/, /ʀ/ is vocalised as well, however, the result of vocalisation, [ɐ̯], is absorbed, e.g. *Parlament* [pɑːlɑˈmɛnt] 'parliament', *rar* [ʀɑː] 'scarce'. In intervocalic position, /ʀ/ is preserved. Again, in case of a preceding [+constricted] vowel, a change in vowel quality takes place and [ɐ̯] emerges, e.g. *Lehrer* [ˈleɐ̯ʀɐ] 'teacher'.

The vocalisation of the lateral is a process of MBDs which might be applied in SAG. In most varieties of MBDs, front vowels preceding /l/ are rounded. The lateral is vocalised to [o̯] after rounded vowels. In the case of front rounded vowels, the vocalised lateral [o̯] is absorbed by the preceding vowel, whereas it is preserved after back rounded vowels. It has to be emphasised that l-vocalisation in SAG is restricted to unstressed positions and to high frequent words, as in e.g. *also* [ɔo̯so] 'also' or *halt* [hɔo̯d̥] 'just'.

Vowels

In SAG, 13 vowels are distinguished. They are plotted here on the conventional vowel chart.[10]



/i/	[ˈb̥iːdɐ]	*bieder*	'stuffy'	/u/	[muːs]	*Mus*	'gruel'
/ɪ/	[ˈb̥ɪd̥ːɛ]	*Bitte*	'request'	/ʊ/	[b̥uːs]	*Bus*	'bus'
/y/	[ˈhyːtɐ̯]	*Hüte*	'hats'	/o/	[ˈoːdɐ]	*oder*	'or'
/ʏ/	[ˈhʏd̥ːɐ̯]	*Hütte*	'hut'	/ɔ/	[ˈʔɔtɐ]	*Otter*	'otter'
/e/	[ˈb̥eːtʰ]	*Beet*	'patch'	/ɑ/	[sɑːtʰ]	*Saat*	'seed'
	[ˈkeːfɐ]	*Käfer*	'beetle'		[sɑtʰ]	*satt*	'replete'
/ɛ/	[b̥ɛtʰ]	*Bett*	'bed'				
/ø/	[ˈhøːlɛ]	*Höhle*	'cave'				
/œ/	[ˈhœlɛ]	*Hölle*	'hell'				

[6] After vocalisation of the trill, place assimilation of /ç/ to the preceding vowel [ɐ] takes place in SAG and MBDs (see also Hildenbrandt 2013 for a discussion).

[7] Since the terms 'tense' and 'lax' are rather misleading for describing the vowel quality difference of the respective vowels (see e.g. Mooshammer 1998 for a discussion), Moosmüller (2007) introduced the feature [±constricted] in order to describe vowel quality differences in SAG.

[8] In this example, our model speaker did not change the quality of the vowel, but produced [moɐ̯].

[9] In this example, our model speaker assimilated [ɛɐ̯] to [æ]. Note that the result is a full vowel [æ], and not a reduced vowel [ɐ].

[10] It is explicitly stated in the *Handbook of the IPA* that 'the vowel quadrilateral must be regarded as an abstraction and not as a direct mapping of the tongue position' (IPA 1999: 12).

The vowels are best described with respect to their location of constriction,[11] tongue height, and rounding. Compared to the e-vowels and their rounded cognates, the i-vowels and their rounded cognates hold a more fronted constriction location. Therefore, /i/ and /e/ are distinguished by horizontally moving the tongue from a mid-palatal to a pre-palatal position, without considerable changes in tongue height. Acoustically, this difference is reflected by an approximation of F3 and F4 in the case of /i/, and an approximation of F2 and F3 in the case of /e/ (Stevens 1999: 277f.). The front vowels are subdivided into unrounded and rounded; the vowels on the right of the front-vowels cluster denote the rounded cognates, the vowels on the left of the front-vowels cluster denote the unrounded cognates. For the back vowels, X-ray studies on vowel articulation proved that a retraction of the tongue is needed to form a constriction in the upper pharynx for /o/ and /ɔ/ and in the lower pharynx for /ɑ/, while /u/ and /ʊ/ are articulated in the region of the soft palate (see e.g. Fant 1965; Straka 1978; Wood 1979, 1982).[12]

The intermediate position of SAG, between MBDs and SGG, is most apparent in the articulation of high vowels. Whilst MBDs distinguish high vowels by quantity, i.e. /iː i uː u/,[13] in SGG, they are distinguished by quality, i.e. /i ɪ y ʏ u ʊ/. Primary quantity distinction is assumed for the vowel /ɑ(ː)/ (Jessen et al. 1995, Simpson 1998). Since SAG is geared towards SGG, high vowels are distinguished by quality as well. However, only a few speakers are able to consistently sustain this distinction, as already observed over a century ago by Luick (1904, see also Wiesinger 2009). Most speakers, with speaker-specific differences, tend to neutralilze /i/ and /ɪ/, especially in velar context (Brandstätter & Moosmüller 2015; for an articulatory analysis see Harrington, Hoole & Reubold 2012). Similar results have been obtained for the high vowel pairs /y–ʏ/ and /u–ʊ/ (Brandstätter, Kaseß & Moosmüller 2015). The model speaker produces [+constricted] high vowels in *Mitte* [ˈmitɛ] ‘center’, *Fisch* [fiʃ] ‘fish’, *Licht* [liçtʰ] ‘light’ (see examples illustrating consonants above), and *Bus* [b̥uːs] ‘bus’ (see examples illustrating vowels above).

A similar situation is to be found regarding the vowels /e/ and /ɛ/. In MBDs, the development of Middle High German *ë* led to a situation which was termed e-confusion in traditional dialectology (Kranzmayer 1956, Scheuringer 1990). In the Viennese dialect, since the late 1960s, a merger of expansion is observed with regard to the e-vowels (Seidelmann 1971, Moosmüller 2011b), which has also spread to the western parts of Austria, e.g. Salzburg (Moosmüller & Scheutz 2013). Muhr (2007: 41) claims that in SAG, the quality of the open-mid vowel [ɛ] is rather closed and proposes to symbolise this vowel with [ɐ̞]. In our data, we observed a speaker-specific treatment of this opposition. Most speakers distinguish /e/ and /ɛ/ according to SGG norms but some speakers make no clear distinction between these vowels; /ɛ/ is sometimes pronounced as [e], and /e/ is sometimes pronounced as [ɛ].

Long /ɛː/, as exemplified by *Käfer* [ˈkeːfɐ] ‘beetle’, is still assumed by Iivonen (1987). In our material, however, /ɛː/ has completely merged with /e/ (Moosmüller 2007: 52).

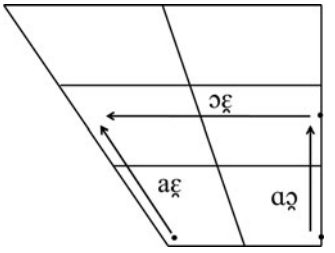
With the exception of [ɐ],[14] which is the result of r-vocalisation, full vowels occur in unstressed positions, a further trait of MBDs. /e/, as in e.g. the prefixes *be-* or *ge-*, is pronounced [e], e.g. *betrunken* [b̥eˈtʁʊŋkŋ] ‘drunken’ or *gekauft* [g̊eˈkɑɔ̯ft] ‘bought’, and unstressed /ɛ/ is pronounced as [ɛ], e.g. *Sonne* [ˈsɔnɛ] ‘sun’ or *Tische* [ˈtɪʃɛ] ‘tables’. Reduced vowels, as exemplified in the transcribed passage below, are extremely rare. In labial context, unstressed /e ɛ/ might be rounded, as exemplified in *Sippe* [ˈsɪpɐ̞] ‘clan’, *Schule* [ˈʃuːlœ] ‘school’, *Hüte* [ˈhyːtɐ̞] ‘hats’, or *Hütte* [ˈhʏd̥ːɐ̞] ‘hut’.

[11]Adding the location of constriction to the description of vowels improves transparency of many phonological processes, including the complementary distribution of the palatal and the velar/uvular fricative, since a-vowels have a pharyngeal constriction location (see also Fant 1965).
[12]This description resembles the description of consonants which has been advocated by Catford (1977).
[13]The vowel system of MBDs contains no front, rounded vowels.
[14]It should be mentioned that in MBDs, r-vocalisation results in a full vowel [ɑ].

However, another MBDs process, namely the deletion of the vowel /e/ in the prefix <ge-> might occur in SAG spontaneous speech. As a typical feature of especially young SAG speakers, this process is applied in, e.g. *gesagt* 'said', which is reduced to [g̊sɑ:kt]. It has to be noted, however, that, contrary to MBDs, the quality of the stressed vowel /ɑ/ is preserved, whereas MBDs would demand /ɔ/.

Diphthongs

Three diphthongs are distinguished in SAG: /aɛ̯ ɑɔ̯ ɔɛ̯/.



/aɛ̯/	[ˈsæɐ̯dɛ]	*Seide*	'silk'
/ɑɔ̯/	[hɑɔ̯s]	*Haus*	'house'
/ɔɛ̯/	[ˈlɔɛ̯tɛ]	*Leute*	'people'

Diphthongs exhibit a large range of realisation variants. Ulbrich (2003), who performed an auditive analysis of five Austrian newsreaders, counted 23 different realisations of the diphthong /aɛ̯/, ranging from [aɛ̯] to monophthongised [ɛ], 19 different realisations of the diphthong /ɑɔ̯/, ranging from [aɔ̯][15] to monophthongised [ɔ], and 23 different realisations of the diphthong /ɔɛ̯/, ranging from [ɔœɪ̯] to monophthongised [ɔ].[16] Similar results have been obtained in our data of Viennese SAG speakers (Vollmann & Moosmüller 1999, Moosmüller & Vollmann 2001). As an influence of the Viennese monophthongisation, which affected the Viennese dialect and changed the diphthongs /aɛ̯/ and /ɑɔ̯/[17] to /æː/ and /ɒː/, respectively, a tendency to assimilate the onset of the diphthong to the offset can also be observed in the Viennese variant of SAG. Assimilation regarding tongue height can be observed in the case of /aɛ̯/ → [æɛ̯]. In the case of /ɑɔ̯/, rounding of the onset might take place, resulting in [ɒɔ̯], and in the case of /ɔɛ̯/, delabialisation of the onset might occur, resulting in [ʌɛ̯]. It should be noted that in SAG, monophthongisation is restricted to unstressed positions.

Prosody

Intonation

Standard Austrian German is an intonation language. To convey postlexical meanings at a suprasegmental level, the prosodic parameters f0, duration, and amplitude are used (Wunderli 1981: 292).

Intonation units are distinguished primarily by final syllable-lengthening and by resetting f0 between two intonation units. SAG shows an overall tendency of the f0 contour to gradually drift downwards over the course of an utterance, between a declining top line connecting the f0 peaks and a declining baseline connecting the f0 valleys. Imperative sentences have a higher and longer initial f0 (the nucleus contour is mostly H* or H*+ˆH; H*+L occurs less frequently) and a lower final f0 than declaratives, questions, and continuative utterances. This results in

[15]In our material of SAG speakers, the first part of the diphthong /ɑɔ̯/ is realised with dark [ɑ] throughout.
[16]Monophthongisations of /ɔɛ̯/ rather surface as [œ] in our material.
[17]/ɔɛ̯/ does not exist in MBDs.

a higher mean f0 and a stronger overall declination. Declarative sentences show a negative overall slope as well, but it is weaker and restricted to the second half of the utterance. The nucleus contour of declaratives is mostly L*+H. Monotonal L* occurs more rarely. In most cases, partial questions are also pronounced with a declining f0, but they can also have the rising final contour typical of yes–no-questions. In yes–no-questions, the overall f0 movement is rising, although a negative slope in the first half of the utterance is common. The initial f0 and the mean f0 are higher in yes–no-questions than in declarative sentences. The final rise takes place mainly in the second half of the utterance, and the target point is the highest within the utterance. H*+ˆH is the most common nucleus contour, although L*+H can be observed as well. Like yes–no-questions, continuative utterances also have a final rise with the highest utterance frequency as target point, and, furthermore, they have the same nucleus contours H*+ˆH and L*+H. However, unlike yes–no-questions, mean f0 in continuative utterances is as low as in declaratives, the overall f0 contour is relatively flat, and the final rise has a smaller f0 range.[18]

In a cross-linguistic study of the intonation of read declarative sentences in Standard varieties of German, Ulbrich (2005) found some gradual differences between SAG and SGG. Her results suggest that compared to SGG, in SAG speakers make more and longer sentence-internal pauses. Moreover, speaking rate is lower and the f0 range over the means of all peaks and valleys within an utterance is larger. SAG also shows greater quantitative differences between accentuated and unaccentuated syllables, the former exhibiting longer duration. In pre-nuclear high tones and nuclear L*+H syllables, f0 range of rising f0 is larger in SAG than in SGG. Additionally, there is a steeper fall from a high-nucleus syllable.

In the realisation of information structure, duration, amplitude, and relative height of the focus peak are gradually increased with narrowing focus, while the mean f0 over the utterance decreases. In narrow contrastive focus, a high peak can be observed shortly before the focused word, followed by a steep fall, resulting in either <H*+L or <H+L* (Schmid & Moosmüller 2013).

Word stress

Like SGG, SAG has variable word stress, which depends on morphological rules. Mostly, stress is realised on the lexical root, and, consequently, often on the first syllable. Affixes can either be stressed or unstressed. In compounds, stress usually falls on the first syllable. Additional syllables can have secondary stress. The position of word stress may have a distinctive function. It can be grammatically distinctive, e.g. ˈ*Perfekt* ‘perfect (ling.), N’ and *perˈfekt* ‘perfect, ADJ’, or semantically distinctive, e.g. ˈ*übersetzen* ‘to ferry across a river’ vs. *überˈsetzen* ‘translate’. Some stress placements differ from SGG, e.g. *Kaˈffee* ‘coffee’ or *Taˈbak* ‘tobacco’ (see Wiesinger 2009 for an overview).

Acoustic analysis of stressed and unstressed vowels in disyllabic words in nucleus position shows that SAG as well as SGG use f0, duration, intensity, and vowel quality (formants) to convey word stress. However, different tendencies are observed between the two language varieties, especially concerning f0 and formants: SAG speakers realise the unstressed vowels more often with higher f0 values than the preceding stressed vowels. Especially in the realisations of male speakers, formant values of stressed and unstressed e-vowels largely overlap. Unstressed vowels often preserve a full vowel quality.

Transcription of ‘The north wind and the sun’

ˈnɔɐ̯tvĩnd̥õnd̥ˈsɔnɛ

æɐ̯nstʰ ˈʃd̥ʁɪd̥n̥ sɪç ˈnɔɑ̯tvĩnd̥õntˈsɔnɛ | ʊeɐ̯fɔnˈiːnẽm bæɐ̯ed̥n̥ ʊoldɐ ˈʃd̥ɛɐ̯kɐʁɛ veɐ̯ʁɛ | ʔɑlsɛmˈvɑndɐʁɐ | d̥ɛĩn ænẽɱ ˈvɑːmẽˈmãntl̥ ɡ̊ɐ̯ˈhʏltʰ ʊɑː d̥ës ˈveːgɛs d̥ɑˈhɛɐ̯kʰn̥̈m̥ ‖ sɪ̯ ʊʊɐ̯dn̥

[18]The annotation of pitch contours follows the GToBI standards (see Grice & Baumann 2002), further phonetic descriptions are made after acoustic analysis.

ˈæɲnikʰ | d̥ɐs ˈd̥eɲjeːnɪgɐ fʏˈɐn ˈʃd̥eɲɡ̊ɐʁɛ̃ɲˈɡ̊ɐld̥n̩ ˈsɔltɛ | d̥ɐdemˈvandɐʁɐ ˈtsʊɪŋɛ̃ɱ ˈvʏɲd̥ɐ | sænɛ̃ˈmãntl̩ ˈbɔ̝stsʊˌtsi̯ːɲ̃ ‖ d̥ɐ ˈnɔɑtʰvɪntʰ b̥liːs mĩt ˈʔɑlɑ ˈmɑːχtʰ | ɑßɛjeː ˈmeːɲ̃ ɛɲ̃ ˈb̥liːs | d̥ɛsd̥o ˈfɛsd̥ɐ ˈhylʲtʰɛ̈ sɪɕd̥ɐ ˈvɑ̃ndɐʁ ĩnsænɛ̃ ˈmantl̩ æɛ̃n ‖ d̥ɑ̃ ɛɲ̃ˈvɛɲ̃ᵏmd̥ɛdi ˈsɔnɛ d̥ɪ ˈluftʰ mid̥ɛɲ̃n̩ ˈfʁɔ̝ɲd̥lɪɲ̃ ˈʃd̥ʁɑːlṇ | ɳ̊ʃɐnɑxˈveːnigŋ̊ ˈb̥ɔ̝ɑ̝ŋ̊ˌb̥liŋ̊ŋ̊ ˈtsɔɔ̝ɡ̊ d̥ɑ ˈvandɐʁɐ sænɛ̃ˈmãntl̩ ɒ̝ɔ̝s ‖ d̥ɑ̝ ˈmʊsd̥ɛðɐ ˈnɔ̝ɑtʰʊɪn ˈtsuːɡ̊ɐːbm̩ | d̥ɑsθɪ ˈsɔnɛ fɔ̃n ˈĩːnɛ̃m ˈb̥æɛ̃dn̩ d̥ɪ ˈʃd̥ɛɲ̃kɐʁɛ vɑ̃ː ‖

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