

Pitch Accent Systems

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1 Introduction

This chapter deals with the typology of *word prosodic systems* and, specifically, discusses the notion of “pitch accent (system),” asking whether there is a class of pitch

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accent languages distinct from “stress languages” and “tone languages.” Several issues will turn out to be crucial. First, there is the issue of recognizing (or not) a notion of *accent* which could be said to underlie both pitch accent and “stress” (or indeed stress accent), and perhaps other phenomena which are not frequently referred to as accentual (such as phonotactic asymmetries). Second, there is the question as to whether we wish to distinguish between pitch as a *nondistinctive* and thus perhaps strictly phonetic property (assigned in phonetic implementation) and pitch as the exponent of a phonological category (namely, *tone*). Third, there is the possibility of having tone, stress and accent (in various combinations) “side by side” within the same language, which raises the questions of whether and if so, how these notions interact in any given language.

The structure of this chapter is as follows. In §2, I will introduce the basic notions and definitions. §3 will briefly discuss examples of languages that have been referred to as pitch accent languages, where accent is apparently realized in terms of *nondistinctive* pitch. In §4, I examine cases in which tone realization or tone distribution has been said to depend on accent (or on stress), a class of languages that is also often included in the pitch accent type. §5 and §6 focus on the different ways in which alleged pitch accent languages have been analyzed, with or without using the notion “accent.” In §7, I fine-tune the notion accent by differentiating between syllabic accent, moraic accents and word (or rather domain) accents. I also suggest that stress languages may or may not be accentual. In §8, I offer some conclusions.

2 Accent, tone and stress: definitions and usage

2.1 Accent and stress

For many languages, researchers have reported word-level “prominence,” associated with a specific syllable in the word, which is called “stress” (an English term) or “accent” (the term used in, e.g. French or German) (see also Lexical Stress). In literature written in English on the subject, both “stress” and “accent” have been used for word-level prominence, which has led to a good deal of confusion, in particular because there are writers who use the terms for different things. Cutler (1984), for example, regards “stress” as a property of words and “accent” as a property of sentences. There is thus a need for clarity on how these two terms are used.¹

2.2 Accent and its cues

On closer scrutiny, the informal notion of “prominence” can be divided into two distinct aspects. On the one hand, we have the *location* of the most prominent syllable (e.g. penultimate; final if the final syllable has a long vowel, otherwise penultimate; etc.) and on the other hand, there are phonetic (and phonotactic) *cues* that signal the location of the prominent syllable (Stress: Phonotactic and Phonetic Evidence). In one (fairly old) terminological tradition, the locational aspect of prominence is referred to as *accent*. The characterization of the accent (location) is essentially sequential (or *syntagmatic*); only one syllable within the relevant domain can have this property. This is what Martinet (1960) and Garde (1968) refer to as the *culminative* property of “accent,” a term also used by Trubetzkoy (1939). The realizational aspect of prominence is, in a sense, paradigmatic (cf. Coetsem 1996): there are various (not



necessarily incompatible) phonetic and phonotactic means for cueing the accent. Some languages may favor one specific cue (e.g. pitch or duration), but several cues may simultaneously conspire to manifest the accent. This realizational sense of “prominence” correlates with traditional terminological terms such as *musical accent vs. dynamic accent* or (with much the same meaning) *pitch accent vs. stress accent*; see Fox 2000, Chapter 3 for an excellent general review of the notion *accent*; also Coetsem 1996; van der Hulst 1999b, 2010b). In each case, the modifier of the head noun (“accent”) says something about the way in which the accent is “manifested” or “realized.” In this chapter, I will focus on relationships that involve accent and pitch, whether used distinctively (in terms of contrastive tones) or nondistinctively. However, I will also consider the relationship between accent and stress.

2.3 Word prosodic types

While in some languages, pitch is a property of words, all languages use pitch features within an *intonational system*, a system that aligns “sentences” or “clauses” with a melody that can be defined in terms of pitch events that mark boundaries of (syntactic or prosodic) units as well as the informational packaging of the utterance with reference to the notion “focus” (Bolinger 1982; Gussenhoven 2004; The Representation of Intonation). At the same time, there are languages in which pitch is a property of “words.” Within this group of languages, we commonly find the labels in (1b) and (1c). The label “stress” in (1a) is reserved for languages that need no specification of pitch at the word level, although, like all other languages, they use pitch for intonation purposes.

- (1) a. Stress (or stress accent)
b. Pitch accent
c. Tone

There is, however, a great deal of controversy concerning the use of the terms tone and pitch accent, and, for that matter, the term stress.²

Hyman (2001, 2006, 2009) makes a case for treating systems that we label stress and tone systems as “prototypes,” meaning that languages that belong to one or the other (or both) type(s) display one or more specific defining properties (see below).³ “Pitch accent,” according to Hyman, is not a prototype, but rather a label for a large class of hybrid systems that mix “tone” and “stress” properties in various ways, or systems that are clearly tonal, although displaying various restrictions on the distribution of tones, making them what are called restricted tone languages (Schadeberg 1973; Voorhoeve 1973). In effect, Hyman regards the notion *accent* as unnecessary, whether as a formal mechanism in analyses of languages or as a prosodic type. Other researchers (such as Gussenhoven, e.g. 2004) who also reject the idea of “pitch accent languages,” nonetheless recognize the notion of *accent* as an “analytic device.” In this chapter, these views will be discussed and compared to views that attribute a fundamental role to the notion *accent*.

2.4 Definitions and use of tone

A traditional way of defining the notion *tone* is in terms of “*distinctive* use of pitch.” Thus, if a language uses pitch to distinguish different otherwise identical morphemes,



pitch has a phonological or contrastive (distinctive) status. The following frequently quoted definition captures what is perhaps the canonical use of distinctive pitch:

A tone language may be defined as a language having lexically significant, contrastive, but relative pitch on each syllable (Pike 1948, 3).

If tones are distinctive on all syllables (like properties such as frontness, height, or roundness in many languages), we can say that the distribution of tones is *unrestricted*. Most researchers, however, agree that there is no reason to limit the term tonal language to cases in which the distribution of tones is *entirely* unrestricted (see The Representation of Tone). In fact, perhaps all tonal systems show restrictions of some kind resulting from (i) tonal spreading or tone deletion (Schuh 1977; Hyman 2007), from (ii) using a limited set of tonal melodies which are properties of morphemes rather than of syllables (Leben 1971; Goldsmith 1976b; Halle and Vergnaud 1982), from (iii) the avoidance of sequences of identical tones (dissimilatory or OCP effects), or indeed from (iv) relations between tone distribution and accent (or “stress”) (see §4). Also, it is not uncommon to find that the full range of contrasts is not found in affixes (as opposed to roots or stems) (Root-Affix Asymmetries). Finally, initial or final syllables may fail to bear tonal contrast (sometimes to leave room for intonational tones or for other, perhaps “perceptual,” reasons; Speech Perception and Phonology).⁴ In all these cases, there is neutralization of tonal contrast in certain positions in the word; see Mergers and Neutralization. Since it would be unwise to maintain the strictness of Pike’s definition (according to which perhaps there is not a single tonal language), van der Hulst and Smith (1988) quote the much more liberal definition of Welmers (1973, 2):

A tone language is a language in which both pitch phonemes and segmental phonemes enter into the composition of at least some morphemes.⁵

Note the use of the term *pitch phoneme* (The Phoneme), which suggests that Welmers requires that to speak of tone, pitch must be used contrastively, a crucial point to which I return below. Welmers’ definition includes languages in which there are tonal contrasts in certain positions, or even in only one position, in some morphemes.

With this broader definition, tonal languages can be ranked on a scale of *tonal density* (Gussenhoven 2004, 35–36), which indicates how many positions in the word have how much tonal contrast. In a sense, such a scale indicates the relative *functional load* of tone properties. Stretching Gussenhoven’s notion, we could say that relative density arises not only in the syntagmatic dimension (depending on how many positions display tonal contrast), but also in the paradigmatic dimensions (depending on the number of contrastive tones per position; here for illustration assuming three contrastive tones):

(2) (Tonal density matrix)

T1	±	±	±	±	±	±
T2	±	±	±	±	±	±
T3	±	±	±	±	±	±
	x	x	x	x	x	x

(tone bearing-units)

Each potential plus/minus symbol would indicate the presence or absence of a restriction on the distribution of a distinctive tone. However, no matter how dramatic the



restrictions are, as long as there is tonal contrast (i.e. distinctive use of pitch), phonological tones *must* be specified in the lexical entries. The smallest tonal system would have two tones, H and L.⁶ More extensive systems would add an M tone, or possibly two different M tones (high mid and low mid). In addition, systems can have contour tones (rise, fall, etc.) (The Representation of Tone).

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2.5 Culminativity and obligatoriness

I already mentioned the term “restricted tone language,” introduced by Schadeberg (1973) and Voorhoeve (1973). This term clearly indicates a scale of restrictiveness, although Voorhoeve introduced it in the context of Bantu languages whose tonal systems *is* so severely restricted (up to one H per word in a H/L system) that he suggested that a purely accentual analysis might be considered (Bantu Tone). Indeed, adding syntagmatic and paradigmatic restrictions on the distribution of tone together, one could see that a language, despite having a H/L contrast, while allowing at most one H tone per word could easily permit an accentual analysis in which the H “tone” is regarded as the predictable pitch cue of an accent, whether or not there are additional independent cues for this accent. I will return to analyses of this kind for what others see as a tone language.

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But what is “accent,” and how is it formally represented? Hyman (2009) formulates two necessary properties of what he calls stress, which I will take as a point of departure for establishing what might be seen as characteristics of accent, whether or *no* these notions are going to be distinguished. One “property” is that per “word” *only one* syllable can be stressed or accented. A second property is that each word must have it *at least once*. These two properties, following Hyman (2006, 2009) can be referred to as:

- (3) a. Culminativity (at most one)
- b. Obligatoriness (at least one)

Let us now ask whether the two properties that are characteristic of stress-accent language *must* be regarded as necessary properties of accent, as I understand that notion here, that is, as a locational property. An issue that goes to the heart of what is often seen as problematic for the notion “pitch accent” is that languages which are said to have a pitch accent system, and thus accent, sometimes have (lexical) words that appear to be unaccented (see the discussion of Tokyo Japanese in §6). This, however, is only problematic if obligatoriness is stipulated to be a *necessary* property of accent. We could investigate a more liberal interpretation of accent, in which unaccented words are permitted in an accentual language. This, as we will see, has important consequences, because it opens the door to using the presence *vs.* absence of accent as a *contrastive* option and thus to analyzing alleged tonal languages that have a H–L contrast as fully accentual languages, with H as the exponent of accent and L as the lack of accent.

We might then also question whether culminativity is a necessary requirement for defining accent. If culminativity is not required, even “H/L” languages that allow multiple H “tones” *could* be analyzed as fully accentual. Allowing words to have multiple accents separates the notions stress and accent even more dramatically than just giving up obligatoriness for accent. Still, if accent is not the same thing as stress, there is no a priori reason for believing that any properties of the latter need to be true of



the former. I return to these issues in §5.3. This does leave us with the question as to whether the properties in (3) are in fact definitional of ‘stress’ and I will turn to that question in §7.

2.6 Representational issues

Answers to the question as to whether or not the properties in (3) are definitional of accent have repercussions for, or are implicit in, the manner in which accents are formally represented. In one type of approach, the relevant syllables are provided with an “accent mark,” as is common in dictionaries and in autosegmental theory (e.g. the “star” of Goldsmith 1976a), or in terms of a segmental feature, as in the phonological theory of Chomsky and Halle (1968). In this “lexicographic” approach, there is no commitment to culminativity or obligatoriness.

A different formal approach is to provide the string of syllables with a headed tree structure, as proposed in dependency phonology (Anderson and Ewen 1987) (see also wbctp0040.pub2 The Foot) and various versions of metrical theory (Lieberman and Prince 1977). In such models, words have a head/dependency structure (which I will here call a metrical structure) that has one designated terminal unit, the head of the word, which counts as the location of (primary) “stress.” This notation (assuming that all syllables must be grouped in one metrical structure) implies culminativity, but not necessarily obligatoriness, because it does not follow from the notation that each word must be provided with a metrical tree.

However, rather than seeing asterisks and trees as competing mechanisms, we could entertain the idea that they are complementary, in that the former represent accents, while the latter represents (the formal basis for) stress. This point is acknowledged by Anderson and Ewen (1987), who, in addition to headed tree structures, also use asterisks to indicate what we might call “potential heads.”⁷ It is also perhaps present in the theory of Lieberman and Prince (1977), who propose a ‘grid’ structure in addition to their metrical trees.

2.7 Problems with the notion “pitch accent”

We have been considering the use of the term accent as an abstract mark of a position that can be cued by various phonetic properties, “stress” being one of them. Beckman (1986) refers to languages that are *not* stress accent languages, as “non-stress accent” languages (thus avoiding the term “pitch accent language”). This, of course, is compatible with the idea that in many non-stress languages pitch is the most salient property of accent. van der Hulst (1999a, 2010b, 2025) points out that if we maintain the term “pitch accent language”, we might also expect to find languages that can be labeled as “duration accent” languages (if duration is the only cue). On this view, pitch accent languages are languages in which accent is (mainly) cued by phonetic pitch, whereas stress accent languages (mainly) use non-pitch cues (often involving duration and spectral properties that underlie vowel quality).

There are, in fact, various factors that have made the use of the term pitch-accent problematic. One factor is, obviously, that people may simply define the term differently. For example, as we will see in §4, tonal contrast is often limited to specific syllables in the word; cases of this sort have been analyzed by identifying a notion “accent,” with association of contrastive tones being dependent on this accent. While in this case, the *presence* of tone can be said to function as a cue of accent, the cue is not a



phonetic one, but rather a phonological one (namely the phonotactic distribution of tones). The fact that the possibility of tonal contrast may signal the accent location is part of a much more general pattern, found in many languages, where accented syllables display contrastive or structural options that are exclusive to a particular syllable (see Downing 2010; van der Hulst 2010b).⁸ Pursuing the terminological path that we started out with above, we might refer to such cases in which tonal contrast is limited to the accented syllable as *tone accent* (or *tonal accent*) languages, rather than pitch accent languages. It is apparently the case that accented syllables can be referred to by the phonology (phonotactics) as well as by the phonetic implementation system, in the latter case to assign non-contrastive pitch. In fact, word accents can be referred to by other grammatical modules as well, for example, the intonation system when intonational tones associate to the accented syllables of words that form part of phrases that are ‘in focus’. Does this mean that we can refer to English as an “intonation accent” language in addition to calling it a stress-accent language? Clearly, languages cannot be put in a single box as far as cues for accent are concerned.

Tonal accent systems, then, differ from pitch accent systems if we agree that in the latter pitch is not used distinctively. However, some writers (e.g. Downing 2010) use the term “pitch accent” for *any* system in which pitch properties (whether distinctive or not) enter into a relationship with accent or stress. This would include not only what is referred to here as a pitch accent or tone accent language, but also another class of languages that have both tone and accent, in which accent (or “stress”) is assigned with reference to tone (see §4). Downing’s use of the term pitch accent is thus much broader than the one considered above which limits its use to systems in which word accents are realized with a nondistinctive pitch event.

Finally, we return to Hyman’s (2006, 2009) use of the relevant terminology. It would seem that he agrees that there are systems in which pitch *could* be analyzed as a predictable phonetic cue of a notion accent, but he argues that systems of that sort can always be analyzed as tonal, which means that certain syllables bear a (non-contrastive) tone.⁹ He refers to Gussenhoven’s analysis of Nubi, a language in which each word has precisely one syllable with high pitch. Gussenhoven argues that Nubi presents a case that can be analyzed as a pitch accent language or even as a stress language, but adds that it is also possible to propose a tonal analysis. If a tonal analysis is chosen, it follows that in Nubi the culminative and obligatory distribution of H tone is “accidental”. Nubi is then seen as simply being at the far end of a continuum of tonal languages in which the distribution of tones is dramatically restricted in a certain way.

wbctp0045.pub2 It is important to realize that Hyman (2006, 2009, *The Representation of Tone*), like Gussenhoven (2004) (in line with the approach initiated in Pulleyblank 1986; cf. §5), adopts a definition of tone that is even more liberal than that of Welmers. For these authors, then, the notion tone clearly no longer entails “tonal contrast” (i.e. distinctivity). For this reason, they maintain that a language like Nubi, although it could be analyzed as a pitch accent system, can also be seen as tonal.

2.8 Intonational pitch accents

Before we examine some cases of (alleged) pitch accent systems, let us consider one other use of the term pitch accent. The term is also used in the intonation literature where, following Bolinger (1982), intonational events that associate to *phrasal* accents



(often called phrasal “stresses”) are called *pitch accents*. In the autosegmental-metrical tradition of Liberman (1975), Bruce (1977), Pierrehumbert (1980), Goldsmith (1981), Gussenhoven (2004) and Ladd (2008) (see also *The Representation of Intonation; Tonal Alignment*), intonational pitch accents are *phonological* tones (H, L or some combination). The reason for this is that in many intonational systems that have been studied within this model, there are tonal *contrasts* at the intonational level, because different tones or tone combinations have different meanings. Arguably, if in some language each phrasal accent associates with the same pitch event, it would be perfectly possible to analyze that pitch event as a direct phonetic interpretation of the phrasal accent without postulating an intervening phonological tone.¹⁰ However, when intonational pitches are contrastive, it would actually be better to call them tonal (phrasal) accents instead of pitch accents.

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2.9 The issue of distinctivity

Analyses within the autosegmental-metrical tradition are not, however, much concerned with distinctivity (or indeed with a distinction between “phonological” and “phonetic” phenomena), and all phrase level pitch phenomena are usually analyzed in terms of “tones” (mirroring Hyman’s general use of tones at the word level, which also ignores distinctivity).

It could be argued that definitional decisions are, paradoxically, not the crucial issue. Does it really matter whether we “call” Nubi a tone language or a pitch accent language or even a stress language? What *is* of importance is how specific systems are analyzed and which theoretical tools are used. However, we must also be aware of the bigger issue regarding how we see “phonology” as distinct from and interacting with “phonetic interpretation or implementation.” A traditional stance would be to maintain that using a formal object “H” in the phonology entails that this unit has a contrastive function within the linguistic system (Contrast). If pitch is distinctive, we are dealing with *phonological* entities such as /H/ and /L/. If one sets up the system of phonetic implementation by translating a non-tonal property X (e.g. accent) into a phonetic property “H” which is implemented in terms of relative F₀, we seem to be dealing with [H] (rather than with /H/).¹¹

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3 Some (alleged) pitch accent systems

In this section, I provide references to languages that have been analyzed as pitch accent systems or that have played an important role in the treatment of systems that have pitch or tonal cues correlating with accent.

3.1 A tour around the world

The chapters in van der Hulst et al. (2010b) offer a survey of word accentual systems in the world’s languages. I refer here to the chapters on languages in the Americas (van der Hulst et al. 2010a; Rice 2010; Wetzels and Meira 2010) for many examples of languages that have been described as realizing accent exclusively or mainly in terms of pitch. Several additional examples can be found in the chapters on Papuan languages (van Zanten and Dol 2010), Asian languages (Schiering and van der Hulst



2010) and European languages (van der Hulst 2010a), specifically Caucasian languages (see Kodzasov 1999). Even though these surveys do not prove that the category of pitch accent languages is a genuine prosodic type, it is not without significance that so many systems have been identified with obligatory and culminative (and nondistinctive) high pitch.

3.2 Basque and Japanese

The languages discussed in the following two sections differ from the cases referred to in §3.1 in that explicit reference to unaccented words, that is, lack of obligatoriness, is required. Yet in both cases it would seem that the alleged accents have distributional properties that are very similar to those of stress accent, which supports a pitch accent analysis.¹²

3.2.1 Basque

The dialects of Basque present a great diversity of word prosodic systems (see Hualde 1999). Gussenhoven (2004, Chapter 9) presents an analysis of Northern Bizkaian Basque with reference to the Gernika and Lekeitio dialects. Both have accented and unaccented roots, the former being in the minority. There are inflectional and derivational suffixes that are accented or pre-accenting. In Lekeitio, if a word has one accent, this accent always ends up on the penultimate syllable. In Gernika, more than one accent can emerge (when multiple morphemes in a complex word have an accent) in which case the leftmost (non-final) accent prevails; this is the more common case in Basque dialects. In Lekeitio, unaccented words form a ‘accentual domain’ with an accented word to their left or right, whereas sequences of unaccented words together form a single domain. Each such domain either has an accent (if it contains an accented word) or is unaccented. Unaccented domains receive a default final HL tonal sequence in certain syntactic positions, namely, at the end of the sentence or before the finite verb. Each accent, whether lexical or default, is associated with a HL tone sequence. The left edge of the accentual domain is marked by a LH boundary sequence; a high plateau is formed between the boundary H and the H of the pitch accent. Systems of this sort seem obvious candidates for accentual analyses, which does not necessarily mean that they *must* be analyzed accentually (see §5). One argument that could be made for an accentual approach is that in the various dialects we note a variety of accent locations (ranging from lexical to rule-governed) which is very reminiscent of the distribution of stress in stress accent languages. The second argument again involves the fact that pitch is nondistinctive in Basque dialects. Note that in Basque, unaccented words are provided with default accent, at least in some cases.¹³

3.2.2 Japanese

We also find a broad array of word prosodic systems among the dialects of Japanese (cf. Haraguchi 1977); see Japanese Pitch Accent. An overarching property of all systems is the relevance of pitch at the level of the “word,” or, as some researchers prefer to put it, the “accentual domain.”¹⁴ An interesting overview in the context of autosegmental theory of dialectal differences is offered by Haraguchi (1977, 1988), who divides Japanese dialects into two broad categories: pitch accent systems and



unaccented systems. Cross-classifying with this dichotomy, he suggests a “universal” inventory of melodies (H, L, HL, LH and LHL), from which a system may select one or at most two. In addition to the choice of one or more melodies, the differences among dialects depend on:

- (4) a. The location of accent/H: predictable by rule or lexically specified.¹⁵
 b. The spreading of H: no spreading, rightward or leftward.

Thus, in Tokyo Japanese, the H tone spreads leftwards (leaving an initial mora low, possibly due to a boundary L tone that comes with the left; see below). The system of Tokyo Japanese (which is discussed in more detail in §6) is such that the morphological parts of words (stems, affixes) can be accented or unaccented (or, in the case of affixes, pre-accenting). When more than one accent is present in the accentual domain (which can be larger than the word and therefore needs careful definition; Gussenhoven (2004) calls it the α -domain), the first (or leftmost accent) predominates, that is, will attract the high pitch/tone. If no accent is present, the high pitch occurs on the last (rightmost) syllable (and spreads from there). This “First/Last” pattern constitutes a system that is reminiscent of certain so-called *unbounded stress systems* (Hayes 1995; van der Hulst, in press a). In fact, Haraguchi (1988) notes that three of the possible unbounded patterns that have been identified for stress-accent languages occur in Japanese dialects that have unaccented words. In (5), we see that there are also dialects that lack unaccented words, in which case there is no need for a default clause:

- (5) a. *Systems with unaccented words* b. *Systems without unaccented words*
- | | | | |
|---------------------------|--------------|-------|---------|
| First/First ¹⁶ | Kumi | First | Fukuoka |
| First/Last | Tokyo, Osaka | | |
| Last/First | – | Last | – |
| Last/Last | Hirosaki | | |

Haraguchi (1977, 1988) also recognizes *unaccented systems*, that is, systems in which no word is accented. He mentions Sendai, Miyakonojo and Kagoshima. In such systems, the tonal melody is associated either from left to right or from right to left in his analysis. For these systems, tones are associated to words in terms of association conventions that make no reference to accents, but rather the word edges.

- (6) *Systems with only unaccented words*
 First (i.e., left to right association)
 Last (i.e., right to left association)

These same conventions are invoked for unaccented words in accentual languages (as in (5a)), which implies that in such systems, tones are associated partly to accents and partly *directly* (i.e. without “intervening” accents). It is noteworthy that Haraguchi does not analyze unaccented words as receiving a default accent that would feed tone assignment.

In all dialects that use just one melody, the question can again be raised whether this “melody” is a phonological entity or entirely due to phonetic interpretation. Haraguchi (1988) does not consider this issue, but it could be argued, as before, that only dialects that have more than one word melody are truly tonal.



3.3 Bantu languages

Many Bantu languages are commonly described as having both tone and accentual properties, while a few (such as Swahili) have lost tone, and retain only “stress” (Bantu Tone). Bantu word prosodic systems have always been of special interest in the debate regarding the appropriate analysis for languages that have both significant word-level pitch properties and indications that accent plays a role as well; see Schadeberg (1973), Voorhoeve (1973), Goldsmith (1976a, 1988), Hyman (1978, 1981, 1982, 1989), Clements and Goldsmith (1984), Odden (1988) and especially Downing (2010). The accentual analysis of Bantu languages was promoted by Goldsmith (1976b, 1988), although the approach has a long history (see the Introduction in Clements and Goldsmith 1984 for a historical perspective). In §5, we will discuss non-accentual tonal analyses for systems of the Bantu type.

4 Systems with accent and tone

Although the focus of this chapter is on pitch correlates of accent, we must be aware of the fact that in systems that display both *tone* and accent several relations between these two phenomena are possible (Hyman 1977; van der Hulst and Smith 1988; Fox 2000; de Lacy 2002; Wetzels and Meira 2010; among others):¹⁷

- (7) a. Accent and tone are independent.
 b. Accent is dependent on tone.
 c. Tone is dependent on accent.

In this section, I will focus on the systems in which tone is dependent on accent; for a discussion of the other cases, see van der Hulst (in press a, in prep.). In §2.7, I used the term *tonal accent systems* for systems in which the distribution of tone is determined by accent, but we need to be more precise about exactly what kind of relationships may exist.

The distribution of distinctive tones can be restricted for a variety of reasons (see §2). While the factors that lead to restrictions in a specific system may be unrelated to the notion “accent” (which may or may not be independently present in the language in question), there comes a point where the tonal system is so restricted that an analysis is possible in which a specific syllable can be identified as “accented” and, as such, function as the locus for the association of the tonal distinctions or a non-contrastive H tone. If the notion of accent was already needed on independent grounds (be it phonotactic or as the location of stress), the common tendency towards reduction of tonal contrast in unaccented syllables may have been a factor in the emergence of a restricted tonal system, in addition to other factors which may have played a role. However, the processes that lead to restrictions may also “accidentally” give rise to an accentual interpretation (see §2.4). Since languages in which accent and tone interact are sometimes included in the class of pitch accent languages, these cases merit attention in this chapter.

The effect of accent on tonal contrast can be twofold. It may lead to reduction and eventually neutralization of an underlying contrast (Mergers and Neutralization). This can be called *accent-driven reduction*. It is commonly claimed that the elimination of tones in certain positions in Mandarin Chinese (Conspiracies) is caused by the fact that



tonal contrast can only be maintained under “stress”; see Yip (1980, 2002), Wright (1983) and Duanmu (2000) for analyses and references on tonal reduction in compounds. A similar case can be found in the Ijô languages (Williamson 1988), where only the first word in a “tone group” retains its underlying tones. In both cases, unaccented or unstressed syllables or morphemes lose their lexical tones (which show up if the syllables or morphemes are in an accented/stressed position). In these two examples, we are dealing with accent at the compound or phrasal level, and thus with neutralization of all tones belonging to words that are not in an accented position in such domains.

Reduction of tonal contrast *within* polysyllabic morphemes may lead to restructuring, such that tones formerly associated to unaccented syllables either disappear entirely or are attracted to one particular syllable, the accented syllable. In either case, the end result is that tonal contrast only occurs on the accented syllable. When a restricted tone system is analyzed with reference to a notion of accent, we have accent-driven tonal distribution, and the system can be called a tonal accent system. A question that arises in these cases is whether the accented syllable is cued merely by its attraction of tonal contrast, or, additionally, by other “stress-like” cues. I will consider this issue in §5. I consider here some examples from Suárez (1983), as well as from Yip (2002), in their surveys of Meso/Middle American languages. Isthmus Zapotec has two tones which associate to the accented syllable and from there spread rightwards. “Pre-stress” syllables are low-toned. Suárez also mentions Northern Pame and Yaitepec Chatino as languages that have a tonal contrast only in the syllable that is said to be “stressed” (in both cases the “final” syllable, presumably of the stem). This can be compared to Huautla Mazatec, where every syllable can have contrastive tone. In between, we find cases where the contrast on certain non-accented syllables is limited. In Palantla Chinantec, for example, there is no tonal contrast on post-stress syllables.

van der Hulst and Smith (1988) cite the case of San Juan Copola Trique, which illustrates how restricted tonal distribution can arise historically (cf. Hollenbach 1988; Yip 2002). In the Otomanguan family, in general, we find a continuum of reduction of tonal contrast and, interestingly, an *increase* in tonal contrasts on the accented syllable. A case where accent has only mildly influenced tonal contrast is found in Cajonos Zapotec (Nellis and Hollenbach 1980). Of the four underlying tones H, L, HL and M, only M is disallowed in unaccented syllables. In this case, then, we do not have a tone accent system, but simply a tone *and* accent system, with accent-driven reduction.

Among the languages in which the distribution of tone is dependent on accent, there is a subclass of cases in which tonal contrast is only found on or near accented syllables, not because tones have been neutralized in other positions, but simply because a tonal contrast historically *developed* only in this position. In these cases, the accented syllable, in addition to being an attractor for tonal association, has clear stress-like cues. Hence languages of this kind are both stress accent and tonal accent languages, with the proviso that the tone does not always associate directly to the accented syllable, but sometimes on a syllable near it (although this also depends on the details of the analysis). Two well-known cases of this sort are some of the Scandinavian languages and Serbo-Croatian. For discussions of the Scandinavian type I refer to Bruce (1999) and Gussenhoven (2004) (see also Tonogenesis). For Serbo-Croatian, see, for example, Inkelas and Zec (1988).¹⁸

We must note that the co-occurrence of stress accent and a pitch contrast enforces a tonal analysis of the latter. If the accent is not manifested in any other way than





forming an anchor for contrastive pitch, it could be argued that the opposition is one between accented words and unaccented words. However, in many of the Limburgian and Scandinavian cases, a tonal contrast (which could be analyzed as H *vs.* L or with one tone and underspecification) exists independent of a stress-accent, albeit that the tone property is realized in the vicinity of the stressed syllable.¹⁹

5 The accent debate

5.1 Accents or no accents

We have so far discussed two possible interactions between accent and pitch or tone:

- (8) a. Pitch is dependent on accent (pitch accent systems; §3).
- b. Tone is dependent on accent (accent-dependent reduction and distribution; §4).

The dividing line between the two types is distinctivity. If pitch is nondistinctive, that is, if there is no tonal contrast, the system uses pitch to cue accent. But if there is tonal contrast, tones are involved.

The Bantu systems mentioned in the preceding section have been analyzed as involving accent and tone. However, the question of whether the occurrence of tone contrast on one specific syllable requires a notion of accent cannot be taken for granted, even when tonal association seems to be limited to an “stress-accent-like” position. Consider the case in which the alleged accented syllable has no independent property apart from being the locus of tonal contrast. One could then say that there really is no accent at all, and instead assume that the tones, being specified as a property of morphemes, associate to their specific locus *directly* (either by rule or lexically) without first assigning an accent that attracts the tones. In this case, we would accept that accent rules and tone association rules fall under the umbrella of a general theory of *positional identification*, and that the principles for positional identification are similar, if not the same, for both accent placement and tone association.

- (9) a. *Indirect (accentual) approach*
 Step one: Accent goes to position X.
 Step two: Tones go to accent.
- b. *Direct approach*
 Step one: Tones go to position X.

If the direct approach is taken, the category of tonal *accent* systems reduces to tonal systems which are then further differentiated in terms of different principles of association (LR, RL, lexical).

To what degree should tone placement and accent placement be allowed to overlap? If, for example, a tonal contrast occurs on the final syllable when it is closed, and otherwise on the penultimate syllable, should we say that there is a quantity-sensitive accent rule and that tones are attracted to the accent, or should we make the tonal association rules quantity-sensitive? The earlier literature on systems in which tone contrast is limited to specific syllables reflects the view that the theory of accent placement should *not* be duplicated in a theory of tone placement, so that in these cases accent is usually seen as playing a role in tonal association.



On the other hand, Haraguchi (1977, 1988, 1991), as we saw in §3.2, makes a sharp distinction between tones that associate to accents and tones that associate directly to tone-bearing units at edges. The latter case involves only strict directional association in his analysis (from right to left, or from left to right). But, if peripheral tone-bearing units can be marked as “extra-tonal,” we can expand the set of cases in which tonal association can be direct. However, we do not expect direct tonal association to be dependent on syllable weight distinctions or on marking peripheral syllables as extra-tonal. Hence, if tones are attracted to positions that reflect weight criteria and ‘invisibility’ of peripheral syllables one would be inclined to associate tones to accent which are assigned in a weight-sensitive fashion and sensitive to non-finality.

Despite the overlap between accent placement and direct tonal association, Pulleyblank (1986) launched an attack on the use of accents and suggested replacing accents by tones. This approach, discussed in the next section, has since become dominant, although it has not been favored by the present author.

5.2 Giving up accents

The direct tone approach was promoted by Pulleyblank (1986) mainly for various African tonal systems and by Poser (1984) for Tokyo Japanese in particular. The most important of Pulleyblank’s arguments against the use of ‘stars’ are as follows (see Blevins 1993, 238). First, using stars and tone makes the system overly rich, in that we now predict rules referring to stars *and* to tones, and even to both at the same time. Second, culminativity is not an exclusive property of restricted tone systems. Other properties than pitch or tone can also have a (near) once-per-word distribution (see below). A third argument that could be mentioned is that accent (if equated with stress) is a property of syllable, whereas accents sometimes need to be assigned to moras (see §7 on the notion *moraic accent*). Finally, as we have already mentioned, the existence of unaccented words in accentual systems, or indeed of words with multiple accents which all surface, can be regarded as problematic if accents (like ‘stress’) are supposed to be obligatory.

Pulleyblank applied the direct tone approach to a variety of cases, not only cases in which the position of the tone is predictable but also those where the former accent location had to be lexically specified. It was subsequently adopted in much other work (Clark 1988; Hyman 1989). We note again that this move entailed the use of phonological features for nondistinctive, that is, predictable properties. Even though the location of the alleged tone could be a lexical, unpredictable property, the phonetic nature of the entity (high pitch) would nonetheless be predictable.²⁰

The abandonment of accents implies first that the systems discussed in §4, where H tone is restricted (perhaps up to the point of being culminative), but not obligatory, are now analyzed as tonal. However, a further-reaching conclusion is that “straightforward” pitch accent systems (discussed in §3), where high pitch is both obligatory and culminative, are also analyzed as tonal, despite the fact that pitch is not distinctive. This may or may not be considered a (conceptual) problem (see Footnote 11). Another issue is of course that we have rules for tonal association which duplicate the theory of accent which is independently needed for non-tonal accent systems.

Abandoning accent cannot make the Scandinavian (and Serbo-Croatian) case purely tonal, since, as mentioned, in these cases we need the notion of stress (accent), independently of the tonal specifications.



5.3 In defense of accents

If accents are rejected for pitch accent and restricted tone languages, the term “accent” can simply be abandoned in favor of the term “stress” (for stress accent languages). Hyman (2007) adopts this position, reducing the typology of word prosodic systems to tone languages and stress languages. In this section, I will focus on the use of accents in “tonal” systems and suggest a different approach, one which maximizes the use of accents at the expense not just of non-contrastive “tones,” but also of (allegedly) contrastive tones.

The issue here does not revolve around languages that have obligatory and culminative high pitch such as Nubi. Here, the case for accent (some might say “stress”) could be considered uncontroversial. Rather, let us focus on languages in which H tones violate one or both of these two constraints. I will argue that languages of this sort can also be analyzed as accentual (and thus non-tonal), if obligatoriness and culminativity, while perhaps being typical or even necessary for stress, are not required for accent. These points were anticipated in §2.5.

Let us first consider the type of case in which at most one syllable per word has high pitch, meaning that high pitch is culminative, but *not* obligatory and seemingly implying that there is a tonal contrast because two words can minimally differ in having or not have the H tone. In an accent-cum-tone analysis, for words that have a high pitch we would postulate an accent, which is associated to a H tone. But there is also another option. We can simply analyze the contrast as accent *vs.* no accent (with accent giving rise to phonetic high pitch and low pitch as default). This means that we can analyze these alleged H/L systems as pitch accent (rather than tonal) systems as long as we “allow” that accentual languages have a class of unaccented words, which also implies that there is no notion of a ‘default accent’ for lexically unaccented words.

Second, even when a “H/L” system allows multiple (non-adjacent) “H tones,” this does still not necessarily enforce a tonal analysis. If neither criterion proposed by Hyman (2007) for stress applies to accent, there is no reason why a word could not have more than one accent, but this implies that such accents are not domain accents but rather *syllabic accents*. In §7, I will elaborate on the distinction between *syllabic accent* and *domain accent*.

Concluding, if we push the use of accents to its limits (at the expense of using tones), this implies allowing unaccented words (violating obligatoriness) and multiple accents (violating culminativity). In this liberal view on accent, only languages that have more than a binary pitch contrast are *necessarily* tonal. This “liberal” understanding of the notion accent does not exclude languages in which culminativity and obligatoriness of accent are required.

One could say that “H/L” systems are the real pivotal cases, where, as linguists (or as language learners), we have a choice between an accentual and a tonal analysis. There may be certain diagnostics that will tip the balance to either an accentual or a tonal analysis, and these need to be made explicit. More work is called for in this area.

An accentual approach is favored when the distribution of accent falls squarely within a theory of accent placement that is independently needed for stress accent languages. This, perhaps, makes an accentual analysis of those languages in which the alleged accents need to be assigned to moras undesirable (cf. the case of Somali; Biber 1981; Hyman 1981; Banti 1988), on the assumption that moras are not loci for accents



in stress-accent languages.²¹ I return to this issue in §7 where I discuss a distinction between moraic accents and syllabic accents. Another diagnostic that points to tones is the need to refer to *floating tones*, on the assumption that the notion “floating accent” is theoretically suspect. Third, it could be argued that tonal spreading processes suggest the presence of tone, but implementational mechanisms can also be held responsible for pitch events that extend over several syllables. A fourth potential way to discriminate between accent and /H/ tone would be to look at the details of phonetic implementation. One could conceivably argue that the phonetic pitch target of phonological categories like /H/ is more precisely defined than the pitch target of accents (see Keating 1988). Lastly, an accentual analysis could account for cases in which we need rules that delete apparent accents in *clash*, or other rules that refer to accents (perhaps sometimes displaying a rhythmic pattern (Goldsmith 1984, 1988), irrespective of their pitch or “tonal” correlates.

McCawley (1978) suggested that in some cases one might want to say that a system is accentual first, and then becomes tonal in the course of the derivation. The question is, however, whether the tonal end of the derivation is still part of the phonology or part of the phonetic implementation.

In this section, I have suggested that accentual systems should be “allowed” to have unaccented words or words with multiple accents, or even both. This seems to imply that obligatoriness and culminativity are not necessary properties of accent and that the case in which accents are both obligatory and culminative is just one of four possibilities; see §7.

6 The case of Tokyo Japanese

Tokyo Japanese is a language that is often mentioned as a prime example of a pitch accent system, but differs from both Nubi and Somali, while apparently sharing properties with each. Every “word” (or rather *accentual domain*) is said to have high pitch, but, at the same time, some words forming such domains are accented and others are non-accented. Let us first consider the basic facts; references to various types of analyses are offered below.

In Tokyo Japanese, nouns have a specific pitch contour, which in some but not all cases involves a LHL pattern. In those words that have the full LHL pattern, the L occurs on the initial mora. This mora is followed by a high plateau, which may drop to low at some point. After the drop, remaining syllables are low. In some accentual domains, the initial L is missing, and in other words the final L is missing. Thus, we find the following patterns, taking trisyllabic nouns to illustrate the possibilities:

- | | | | | | | | | |
|------|----|--------|----|---------|----|---------|----|-----------------------|
| (10) | a. | HLL | b. | LHL | c. | LHHL | d. | LHHH |
| | | σσσ | | σσσ | | σσσ(-σ) | | σσσ(-σ) ²² |
| | | inoti | | kokoro | | atama | | sakana |
| | | ‘life’ | | ‘heart’ | | ‘head’ | | ‘fish’ |

This system can be and has been analyzed in many different ways; here we will specifically focus on accounting for the difference between (10c) and (10d). For (10a)–(10c), we have three options; depending on which one is chosen, various approaches can be suggested for class (10d):



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- | | | | | |
|------|--------------------|----------------|----------------------|----------------|
| (11) | (10a)–(10c) | (10d) | | |
| | | (i) | (ii) | (iii) |
| a. | Accent → /H/ → [H] | default accent | /H/ to last σ | implementation |
| b. | /H/ | | /H/ to last σ | implementation |
| c. | Accent → [H] | | | implementation |

In (11a), the accent-cum-tone analysis, the (10d) case would be lexically unaccented. Since such words surface with an apparent H tone throughout (except for the initial mora), one could consider assigning a default final accent (11.i), which then triggers an H tone. This analysis encounters a problem, however. Words that have no lexical accent must be identifiable as such in the phonetic interpretation because there is a phonetic difference between (10c) and (10d). Roughly speaking, (10c) is LHH and (10d) is LHM, with the stem-final “H” in the latter not quite as high as the stem-final H in (10c). The two types of words also have different effects on following morphemes (or “accentual phrases”) inside the Intermediate Phrase: (10c) causes downstep, (10d) does not; cf. Haraguchi (1988), Pierrehumbert and Beckman (1988) and Gussenhoven (2004). Alternative (ii), which would use the H tone assignment rule in (12), resolves this issue, because it can be argued that a H tone on an accented syllable and a H tone on an unaccented syllable are interpreted differently (cf. (5a)):

- (12) Assign /H/ to the first accent or, if there is no accent, to the final syllable.²³

The difference between (10c) and (10d) could also be described if the pitch properties of the latter class are entirely accounted for in terms of phonetic implementation (11.iii), since this system could respond to the presence *vs.* absence of an accent. In any event, the unaccented domains should *not* be analyzed as receiving a default accent. This begs the question how the final location is identified. One answer is that the identification is simply based on referring to the edge of the accentual domain. However, in §7, I will suggest that default locations could be seen as heads of a ‘metrical’, dependency structure that (all) domains are provided with.

In the second (tone-only) approach, (11d), (10d) should be accounted for by method (iii) (phonetic implementation), since method (ii), available in principle, would wrongly conflate (10c) and (10d). Finally, in the third method, (11c) (accent only), (10c) and (10d) *must* be differentiated in the phonetic implementation: accent (10c) is interpreted as high pitch, while lack of accent is interpreted differently, although also in terms of elevated pitch, which sounds more like a mid ‘tone’.

I have briefly discussed three different approaches to a system such as that of Tokyo Japanese nouns, namely those mentioned in (11). All three approaches have been defended in the literature in one form or another. The tone accent approach (although often called “pitch accent approach”), (11a), comes closest to the analysis offered in McCawley (1968). Lexically, the language is accentual, but in the course of the derivation (presumably at the word level) tone is added, and from that point on the language is tonal. This approach was adopted as part of the autosegmental analysis of languages like Japanese and other monomelodic systems (cf. Goldsmith 1976b; Haraguchi 1977, 1988). The tone-only approach, (11b), has been advocated by Meeussen (1972), Poser (1984), Pulleyblank (1986), Clark (1987) and Pierrehumbert and Beckman (1988). Lockwood (1983) is a representative of (11c), the pitch accent analysis.

To what extent do these linguists recognize the possibilities in (11), other than the one that they propose for Japanese, as valid for other languages? Clark (1988) rejects



(11a) as a theoretical option, but claims that (11c) represents an independent possibility, alongside (11b). She makes a distinction between restricted tonal systems, that is, (11b), and metrical pitch accent systems, that is, (11c). The difference between the two types is claimed to be that only metrical pitch accent systems have the characteristics that we also find in non-tonal accent languages with respect to accent location (e.g. influence of syllable weight, as well as culminativity and obligatoriness). In her restricted tonal languages, (11b), the alleged accent is simply a tone at every level of representation (Clark 1988, 52). An argument for analyzing Tokyo Japanese as tonal would be the fact that we have words like (10d), distinct from (10c). In a tonal analysis, this difference is expected, since words do not have to have a tone. But in an accentual analysis, the class of unaccented languages has been seen as unexpected (see also Duanmu 2004). I have shown, however, that unaccented words are not an embarrassment if accents need not be obligatory, but this, as we will see in §7, necessitates a distinction between the notions *syllabic accent* and *domain accent*.

Concluding the discussion of Tokyo Japanese, I will briefly review the “intonational” approach of Pierrehumbert and Beckman (1988) and Gussenhoven (2004). In this type of analysis, it is assumed that there are accented and unaccented morphemes. Lexical accents are then associated with an H*L “pitch accent.” Up to this point, this essentially follows the accent-cum-tone approach (i.e. (11a)). The high pitch pattern of unaccented words (e.g. 10d) is due the fact that left edge of “words” is predictably assigned a LH boundary tone sequence. The L part of this boundary sequence is responsible for the low initial mora of words that do not have initial accent, and the H part is responsible for the high plateau pattern of unaccented words. The H tone associates to the second mora and pitch lowers from there towards the end of the word, explaining why a word with a final accent, (13a–11c)), and an unaccented word (13b = 11d) have a different high plateau profile. In *accented* words, the accented syllable is associated to the H*L pitch accent, while an unaccented word’s final syllable does not have a H target, but merely reflects the interpolation of the LH left edge boundary tone toward the end of the word (where we find the boundary L of the next word, or, if the word is utterance-final, an utterance L boundary tone):

- (13) a. $\begin{array}{cccc} & & & x \\ \{ (& ta & ta & ta & ta &) \} \\ | & | & | & | \\ L & H & \text{---} & HL & L \end{array}$ (11c)
- b. $\begin{array}{cccc} \{ (& ta & ta & ta & ta &) \} \\ | & | & | & | \\ L & H & \text{---} & L \end{array}$ (11d)

Clearly, this analysis does not require a default accent rule for unaccented words (11.i) nor does it appeal to a default H tone (11.ii). In that sense it resembles the analysis in (11c).

7 Types of accents

A discussion of pitch accent systems forms part of the broader discussion of word prosodic systems. We have seen that Hyman (2006) recognizes tone and stress as two



prototypical prosodic types. In this endeavor, that aims to maximize the use of tone, systems sometimes ‘look’ accentual, that is, those involving high pitch, are pulled into the tone type, leaving stress for cases in which words have a cumulative and obligatory prominence peak that does not have pitch as a significant exponent; see van der Hulst (in press a) for a discussion of phonetic exponents of ‘stress’. In contrast, the present author has gone in the other direction by analyzing some alleged tone systems (if restricted in having only a binary H/L contrast) as accentual, thus maximizing accent.

In this section, I will elaborate on the notion accent as it has been used in this chapter, referring to a more extensive discussion in van der Hulst (2012, 2025). The following notions will be distinguished: *syllabic accent* (either based on phonological weight or diacritics), *moraic accent*, *domain accent* and *head of the word*.

A syllabic accent is a local, paradigmatic property of syllables and as such a word can have zero or multiple syllabic accents. Syllabic accents are potential domain accents. This can be most easily demonstrated by considering a so-called unbounded stress-accent system in which, for example, ‘stress’ is said to be realized on the leftmost (first) heavy, or else the leftmost (first) light syllable (e.g. the language Amele). In this case, a weight-driven syllabic accent is assigned on every heavy syllable. When more than one such syllabic accent occurs in the word, the left most such accent becomes the domain accent which is realized as stress (where the domain can be the entire word or a morphological part of it, like a stem). We have seen in our discussion that default situations should not be analyzed in terms of assigning a default syllabic accent.²⁴ Rather, in that case, stress is assigned to a syllable which can be identified as being at the edge of the word. This allows the phonetic realization of stress to be different for domain accents (which correspond to a syllabic accent) and for the default location (where there is no syllabic accent). Apart from being weight-driven, syllabic accents can also be lexical, in which case we can speak of ‘diacritic weight’. However, the role of both types of syllabic accents (based on phonological weight or diacritic weight) is assumed to be identical. In the pitch accent Tokyo Japanese language, syllabic accents are lexical, as they are in a stress-accent language like Russian.

In Tokyo Japanese, Russian and most other unbounded systems, when multiple accents occur within the accentual domain, a ‘winner’ must be selected and the procedure in both cases is *linear* (first/last). However, resolution of competition between syllabic accents can also be *hierarchical*, that is, based on the morphological structure of words. For motivation of hierarchical resolution, I must refer to Revithiadou (1999), Bogomolets (2020, 2022), van der Hulst (2022) and Bogomolets and van der Hulst (2022).

Given that accents are abstract, substance-free marks of phonological units that play an essential role in locating word prominence, we expect to also find a usage for so-called *moraic accents*, which can occur on units within the syllable rhyme. In moraic systems, monomoraic syllables can have a moraic accent. In case of bimoraic syllables (i.e. syllables with a branching rhyme), the first or second mora can have an accent, although in some moraic systems, accent location may be restricted to the head mora. Resolution at the moraic level could play a role if there is an empirical need for bimoraic syllables having two moraic accents, a situation that is unlikely to ever occur or needed. Other than that, moraic accents across different syllables within a word cannot compete like syllabic accents do, assuming that moraic accents in different syllables ‘cannot see each other’. Following an early suggestion in Trubetzkoy (1939



[1960]), I will assume that moraic accents are typically correlated with a (high) pitch cue and not with stress cues, whereas syllabic accents correlate with stress cues. Why that would be so calls for an explanation that needs to be found. That said, having a moraic accent may make a syllable heavy for the purpose of selecting a domain accent; Lihuanian can have a moraic accent on the first or second mora (producing a falling or raising pitch contour), which causes such syllables to be heavy and thus selected as the leftmost heavy syllable for ‘stress’ in case more than one syllable contains a moraic accent. This means that moraic accents can play an *indirect* role in determining the domain accent, their primary function being ‘tone-bearing units’.

By distinguishing moraic and syllabic accents, we predict that these two types of accent can co-occur in a single language. In van der Hulst (2012, 2025), I analyze the language Uspanteka in this manner (based on an analysis in Bennett and Henderson 2013). Another example is the language Arapaho, mentioned as such in van der Hulst (2022), based on Bogomolets (2020, 2022).

In languages that have syllabic accents (phonologically driven or diacritic), there would normally not be a requirement that a word can have only one such accent nor that there must be at most one accent. Culminativity arises from selecting (linearly or hierarchically) one out of several syllabic accents. If such resolution is not required, one would expect the accents to be moraic, as in a language that permits a high ‘tone’ on multiple syllable in a word domain.

Three issues then remain to be addressed. First, while it is typical for diacritic syllabic accents to be lexically specified (i.e. being unpredictable in terms of which syllable in a morpheme carries the diacritic accent), we cannot exclude that such diacritic accents occur in predictable locations. This can be illustrated by taking a closer look at the accentual system of Tokyo Japanese. See Japanese Pitch Accent, where it is shown that there is a Tokyo Japanese accent rule which is very similar to the Latin-style English accent rule. In the view proposed here, these predictable accents are syllabic accents and not domain accents, although with only one such accent in the accentual domain, these predictable syllabic accents would of course be selected as the domain accent.

The second issue is the alleged obligatoriness of domain accents. We have discussed several cases in which reference was made to a default location for what could be construed as a domain accent, namely, when the relevant domain does not contain a syllabic accent. In Russian, the default location is the first syllable. In Tokyo Japanese, the default location has been said to be the final syllable, but as noted, the elevated pitch level of such default locations is weaker/lower than that of final syllables that are lexically accented. I took this to mean that to identify the default location, we should *not* assign a default syllabic accent because that would neutralize the distinction between unaccented words and words with final accent. How then is the default location identified? With reference to the analyses in Haraguchi (1977), I noted that one approach is to identify the location simply with reference to the edge of the domain. An alternative possibility, suggested in van der Hulst (2012, 2025, in prep), is to assume that all domains are organized in terms of a ‘metrical’, dependency structure, which automatically designates one syllable as the head of that domain. This head could then qualify as the domain accent, allowing for different phonetic realizations between syllabically accented and syllabically non-accented domain accents. However, rather than referring to this syllable as the ‘domain accent’, it may be preferable to describe it simply as the ‘head of the domain’. The idea that phonological domains are *universally*



organized in a dependency structure could have a cognitive basis in terms of a structured storage of string of syllables.

Third, as already anticipated, the reason we should speak of domain accents (or heads of domains) rather than using the term ‘word’ is that, within a morphological word, more than one accentual domain can occur, each with their own domain accent. This is true even in a language like English in which two domains should be distinguished which van der Hulst (2022), following Inkelas (1990), refers to the α - and β -domain (which are phonological counterparts to the morphological level distinctions, originally proposed by Siegel 1974 and playing a pivotal role in the lexical phonology/morphology model developed in Kiparsky 1982). The smaller α -domain is the domain of the ‘Main Stress Rule’, while the regular occurrence of a secondary initial ‘stress’ can be analyzed as resulting from an accentual rule that refers to the β -domain. van der Hulst (2022, in prep.) shows that a need for two accentual domains occurs in many other languages as well, which in turn necessitates an account, not discussed here, of how the strongest prominence peak is determined.

The approach outlined here (see van der Hulst 2012, and fully developed in van der Hulst, in prep.²⁵) allows for non-accentual languages in which a prominence peak is identified solely in terms of the dependency structure, as long as the language has no words with exceptional prominence location because that would require diacritic syllabic accents for such words.²⁶

8 Conclusions

In this chapter, we have considered the phenomenon of pitch accent, which has necessarily entailed a detailed discussion of the notion “accent.” I have focused on analytical issues, that is, on how definitions of basic notions such as tone, accent and stress allow or disallow certain types of analysis. Alongside the idea that lexical relevance or salience of pitch is a sufficient condition for tone, we have considered a more conservative view, which insists on distinctivity. Whereas the former view can essentially do away with pitch accent as a prosodic type (seeing such systems as tonal), the latter view is compelled to adopt an accentual analysis when pitch is not distinctive. I then showed that even systems in which pitch appears to function distinctively *can* be analyzed in terms of accents, if accents are neither required to be obligatory nor culminative. There is thus a class of systems that is ambiguous between a tonal and an accentual analysis which may form diachronic pathways to go from a tonal language to an accentual language; see Salmons (1992).

In summary, the two opposing views in this debate are one that maximizes the use of tone (giving up distinctiveness as a necessary criterion) and another that maximizes the use of accents (which are neither necessarily obligatory nor culminative).

I have proposed to distinguish between different types of accent (such as syllabic accents, either based on phonological weight or representing ‘diacritic weight’) and domain accents (formally represented as the head of a domain).

Let us finally observe that the status of word-level pitch properties is not entirely unique. All the distinctions that we can establish for relationships between accent and pitch can also be established for accent and properties such as duration and vowel quality. Note that in these domains, we do not encounter the claim that any word-level occurrence of duration or vowel quality automatically entails the phonological



categories “length” and “tense.” This, then, presents an asymmetry in the assessment of what is considered to be phonological: why speak of tone (instead of accent) if pitch is not used distinctively (and is thus a predictable cue of accent) if, at the same time, cases in which accent is cued by nondistinctive duration or vowel quality are *not* analyzed as involving lexical specification of length or of nondistinctive vowel features?

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SEE ALSO: Stress: Phonotactic and Phonetic Evidence; The Representation of Tone; Japanese Pitch Accent; Lexical Stress; The Representation of Intonation; Root-Affix Asymmetries; Speech Perception and Phonology; Mergers and Neutralization; The Phoneme; Bantu Tone; The Foot; Contrast; Japanese Pitch Accent; Conspiracies; Tonogenesis; Lexical Stress.

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Notes

1. For a general review of the notion word stress, see Gordon and van der Hulst (2020). For other overviews, also see van der Hulst (2025, in press a, in press b).
2. Typological studies of word prosodic systems are numerous: e.g. Trubetzkoy (1939), Hockett (1955), Garde (1968), Meeussen (1972), Goldsmith (1976a, 1988), Greenberg and Kaschube (1976), Hyman (1977, 1978, 1981, 2006, 2009), Lockwood (1982), Clements and Goldsmith (1984), Beckman (1986), Clark (1987, 1988), Haraguchi (1988), Hollenbach (1988), van der Hulst and Smith (1988), Mock (1988), Wright (1988), Hayes (1995), van der Hulst (1999a, to appear), de Lacy (2002) Duanmu (2004); and Weidert (1981).
3. Here Hyman avoids the term “stress accent,” presumably because he no longer (cf. Hyman 1977) recognizes the label “pitch accent” as a useful one and thus essentially wants to eliminate the notion accent altogether.
4. Suárez (1983, 52) observes that in Huichol and Mazahua, there is no tone contrast on the last two syllables or the last syllable, respectively. In these languages, inherent lexical tones are “removed” to free up space for intonational tones.
5. Strictly speaking this excludes cases in which a language has tonal affixes without having affixes or other morphemes that combine tone and segmental properties.
6. Here I abstract away from underspecification or potential cases in which tones are only introduced as morphological suprafixes.
7. Another formal notation (also proposed in Liberman and Prince 1977) is the metrical grid, which does not imply culminativity. See *Lexical Stress* for extensive discussion.
8. This relates to the notion of positional faithfulness; cf. Beckman (1998).
9. This is, in fact, how he uses the term in Hyman (1977).
10. It may be the case that languages that have been described or listed as word-level pitch accent systems may be phrasal pitch accent systems. Since the patterns listed for words are often based on elicitation of citation forms, we cannot be sure that the observed word prosodic properties are word level or phrase level. See van Zanten et al. (2010) and Gordon (2024).
11. Cf. Clements (2001, 2009), who defends a justification for recognizing phonological features that is broader than merely distinctivity. If a phonetic property is in some sense “salient,” this would, in his view, justify postulating a phonological feature. There is in fact a broader view that nondistinctive phonetic properties can acquire phonological status. When a property that is technically allophonic is very *salient* or can function in the environment of

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another phonological rule, some would say that this property is a feature that must be specified ‘in the phonology’, although it is not contrastive; see Hyman (2008). Kiparsky (2015) calls such a non-contrastive but perceptually salient specifications *distinctive*, but others recognizing non-contrastive feature specifications ‘in the phonology’ use the term ‘quasi phoneme’.

12. Another case which is similar to these two languages is Korean, which, in its many dialects, displays a rich variety that is reminiscent of the Japanese situation in particular; see Fukui (2003) and for a summary Schiering and van der Hulst (2010).
13. For the moment, we could assume that this default case involves signing a default accent to which the HL sequence associated, but in §7, I will question whether it is correct to say that the default case involves the assignment of an accent.
14. In §7, I will suggest that the informal term word accent should indeed be replaced by the notion domain accent and also that there can be different accentual domains, even within the same language.
15. In §6, we will discuss the way accents are distributed in Tokyo Japanese, which is partly lexical and partly rule-based.
16. This can be glossed as: “Associate a tone with the first accented syllable, or, if no accent is present, with the first syllable.”
17. Adopting the model of Optimality Theory, De Lacy (2002) proposes a system of constraints and accounts for the different relations in terms of different rankings.
18. In his chapter on central Franconian tones, Gussenhoven (2004, Chapter 12) discusses the emergence and representation of a tonal distinction that is very similar to the Scandinavian distinction; see also Gussenhoven and Bruce (1999) and Hermans (1994). We also find a similar contrast (due again to different historical factors) in Scottish Gaelic; see MacAulay (1992, 234–236).
19. A recent volume with chapters on tonal accent systems is Iosad and Köhnlein (2024). See also Köhnlein (2016) for a defense of the role of foot structure in systems that combine “stress” and “tone.”
20. This might suggest a “compromise” position in which “accents” are regarded as unspecified tonal “root nodes.” I refer to Dubina (2012) and Spahr (2016) for proposals of this kind which are discussed in van der Hulst (2025).
21. This is of course not to deny that the location of accents in stress-accent languages can be weight-sensitive which, according to moraic theories, requires reference to moras.
22. ‘(-σ)’ indicates the addition of a suffix, enclitic or word in the accentual domain.
23. Here I have added “first” to the rule because, if a word ends up having more than one accent, it is always the leftmost accent that attracts the H tone.
24. For reasons of expressive power, I will assume that there is no such procedure that could assign a default domain accent.
25. The approach advocated in these works separates the treatment of maximal prominence peaks (primary stress/accents) from the treatment of rhythm which is delegated to a ‘post-grammatical’ component, possibly the phonetic implementation module. For an account of rhythm, see van der Hulst (2014).
26. A case in point of a purely non-accentual language would be Indonesian stress; cf. van Zanten and van Heuven (2004), but other languages with fully predictable, automatic ‘stress’ (such as Hungarian and Finnish) would also qualify.

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ABSTRACT

This chapter deals with the typology of word prosodic systems, specifically discussing the notion of "pitch accent system," asking whether there is a class of pitch accent languages distinct from "stress languages" and "tone languages." First, there is the issue of recognizing (or not) a notion of accent which could be said to underlie both pitch accent and "stress" (or indeed stress accent), and perhaps other phenomena which are not frequently referred to as accentual (such as phonotactic asymmetries). Second, there is the question as to whether we wish to distinguish between pitch as a nondistinctive and thus perhaps strictly phonetic property (assigned in phonetic implementation) and pitch as the exponent of a phonological category (namely, tone). Third, there is the possibility of having tone, stress and accent (in various combinations) "side by side" within the same language, which raises the questions of whether, and if so, how these notions interact in any given language. This chapter will introduce the basic notions and definitions and then focuses on the different ways in which alleged pitch accent languages have been analyzed, with or without using the notion "accent." The chapter ends with fine-tuning the notion accent by differentiating between syllabic accent, moraic accents and word (or rather domain) accents. I also suggest that stress languages may or may not be accentual.

KEYWORDS

accent; contrastivity; culminativity; distinctivity; functional load; intonation; moraic accent; obligatoriness; stress; stress accent; syllabic accent; syllable; tonal density; tone language