

TOWARDS AN EXPLANATION OF THE FRANCONIAN TONE ACCENTS¹

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1. Introduction

1.1 Although the synchronic function and the diachronic distribution of the two distinctive tone accents which constitute the Rhineland Accentuation (RhA)² are fairly well known, it is still regarded as unknown when and how they arose. The main purpose of this paper is to get a clearer view of the possibilities for a solution. Two earlier attempts at an explanation, by Bach (1921) and van Wijk (1935, 1936, 1939) will play a prominent role.

Besides, the RhA has hitherto not received the attention it deserves within the field of comparative Germanic linguistics. This paper may serve to open the discussion on the form and function of the RhA among linguists not native from the area.

1.2 The most recent and excellent survey of the form and function of the RhA, accompanied by a history of research, is offered by Schmidt 1986. Especially his endeavour to establish a clear and simple use of terms is praiseworthy, and we may start the search for a historical explanation from his work.

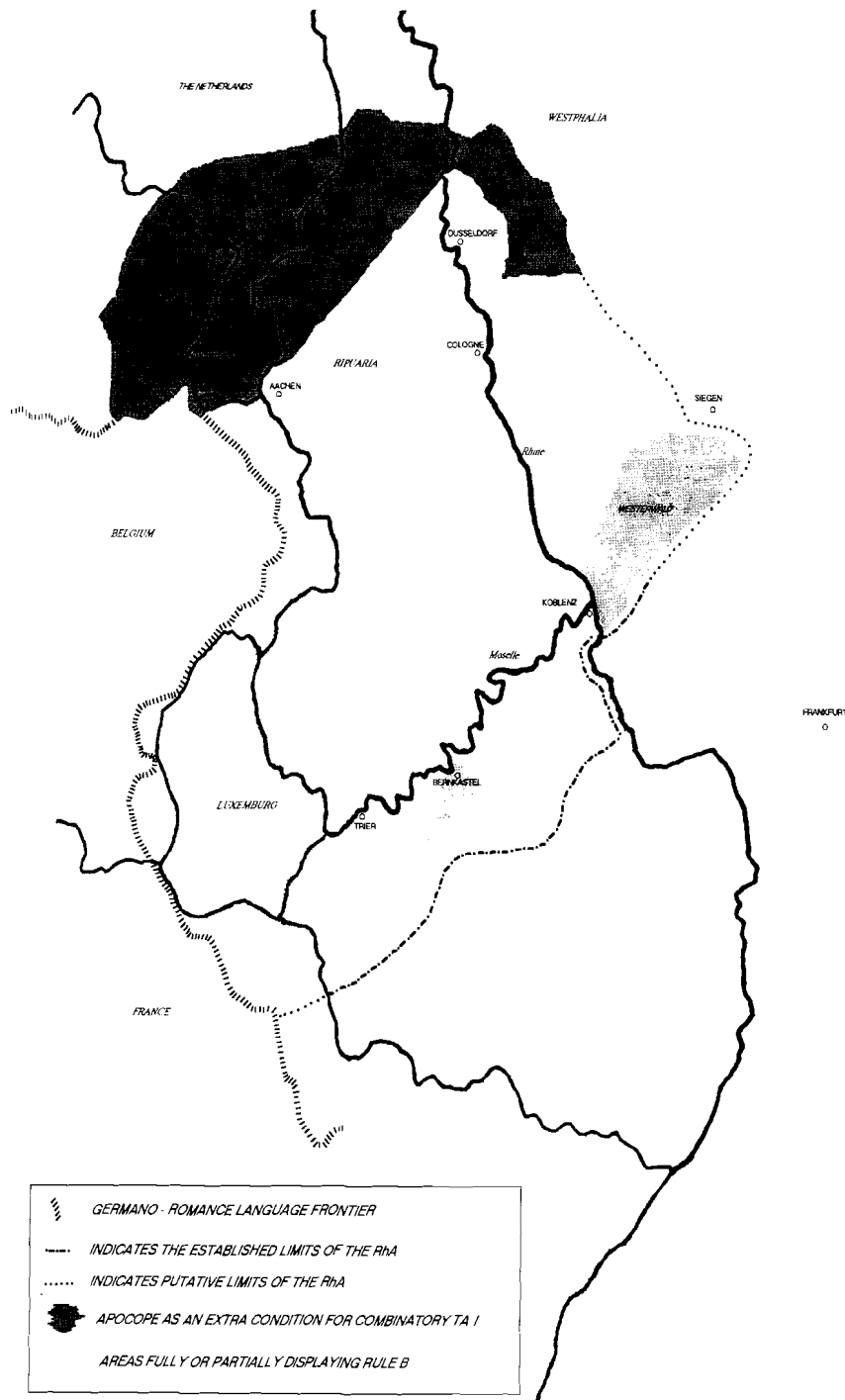
2. The tone accents

2.1 Following the practice of indicating the Scandinavian tone accents as accent 1 and accent 2, Schmidt proposes to call the Franconian accents³ tone accent 1 (TA 1) and tone accent 2 (TA 2). These arbitrary terms remove the confusion which the earlier descriptive names

¹ For comments on an earlier version of this paper I am grateful to Jan Goossens.

² In German, *Rheinische Akzentuierung*. Another frequent term for the phenomenon as a whole is *Rheinische Schärfung*. In Dutch, the word *polytonie* (polytonicity) is frequently applied.

³ Schmidt concludes with the proposal to refer to the accents as *mittelfränkische Tonakzente* (Central Franconian tone accents), but since South Low Franconian also shares this phenomenon, it is better to speak about Franconian accents. It seems that Schmidt is not aware of this problem; he probably includes Limburg in the Riparian dialects.



favoured⁴. It may be noted that as early as 1920, Schrijnen (41ff.) consistently referred to TA 1 and TA 2 as «accent 1» and «accent 2».

2.2 The geographical distribution of the RhA is indicated on the map. The southern border is based on the conclusions of Schmidt (1986: 228), whereas the northern and eastern limits have been drawn according to the summary in Wiesinger (1970 1: 64f.), where the various sources are referred to. In Dutch and Belgian Limburg, the limits of the RhA have been determined by Schrijnen (1920: 415) and Stevens (1952: 15f.) respectively. The western border is set by the Germano-Romance language frontier (Schmidt p. 128-9). In general, nearly all of the Central Franconian area, which consists of Ripuarian to the North and Moselle Franconian to the South of the Eifel, has the RhA. In addition, the RhA is found in the majority of the Dutch and Belgian Limburg dialects, which are South Low Franconian.

2.3 All dialects in question have a phonological opposition between short and long vowels. TA 1 and TA 2 can form a distinctive feature of long vowels, diphthongs and of short vowels followed by one or more sonorants (*r, l, m, n, ŋ*) or a sonorant plus an obstruent. It is Schmidt's merit to have shown that the tone accents are not only pronounced in isolation, but are used with the same articulatory, acoustic and auditive properties in sentence contexts (Schmidt 1986: 143-208).

The realization of the tone accents is largely the same in most of the dialects, TA 1 being the shorter one of the two, with an initial high pitch which suddenly and continuously decreases, giving the general impression of a falling tone. TA 2 is in many cases characterized by a second frequency peak, and the fall in pitch is much less than with TA 1. Especially the Dutch terms *stoottoon* 'thrusting tone' for TA 1 and *sleeptoon* 'slurring tone' for TA 2 are very apt in this respect.

2.4 Different notations⁶ for TA 1 and TA 2 have been used. Since the

⁴ A whole spectrum of terms has been applied to TA 1 and TA 2 in the past. The most important of them are (after Schmidt 1986: 1-2) in German *Korreption, Akutus, rheinischer Akzent, Brechung, Zirkumflex, zweigipfliger Akzent, Stosston, Schärfung, Kürzungsakzent* for TA 1, in Dutch *valtoon* or *stoottoon*; for TA 2 we find German *Schwebelaut, Gravis, Dehnung, nicht zirkumflektierte Betonung, Eingipfligkeit, Zirkumflexion, Zweigipfligkeit, Nichtschärfung, Trägheitsakzent, Dehnungsakzent*, in Dutch *sleeptoon*. The English survey of Newton (1990) refers to TA 1 as *Correption*.

⁵ The true value of this isogloss was recognized by Leenen 1952: 396f.

⁶ The following cover symbols are used here: *V* = any vowel, *R* = any resonant (*r, l, m, n, ŋ*), *C* = any consonant, *T* = any voiceless obstruent, *D* = any voiced

1920's, the system of using /V:/ for a vowel with TA 1 and /V./ or /V/ for a vowel with TA 2 has been the most used. TA 1 on a diphthong was indicated with /V'R./ . This has the decided disadvantage that the symbol [V:] is the IPA symbol for a long vowel. Schmidt (1986: XIII) introduces the use of superposed 1 and 2 for the indication of TA 1 and TA 2 respectively, e.g. Ripuarian /zɛi¹/ 'sieve' versus /zɛi²/ 'she'. The latter system will be applied here.

3. Distribution

3.1 The diachronic distribution of TA 1 and TA 2 obeys the same rules in most of the central dialects. TA 1 is regularly found on the reflexes of MHG *ā*, *uo*, *ō* (Wgm. **au*) and their umlaut products, of MHG *ie* (Wgm. **ē2* and **eo*) and *ē* (Wgm. **ai*). Examples from in and around the city of Aachen are *ʃɔ:1f* '(a) sheep', *ki.ə1s* 'cheese', *ʃto:1l* 'chair', *mø.y1* 'tired', *jru.ə1s* 'big', *hy.ə1rə* 'to hear', *bre:1f* 'letter' and *mi.ə1* 'more' (Welter 1938: 67ff.). We shall term TA 1 on these vowels spontaneous TA 1.

TA 1 is found conditioned by a following originally voiced word-internal consonant on the correspondences of MHG *ū*, *ou* and their umlaut products, of MHG *ī* and *ei*, as well as on long vowels from Open Syllable Lengthening (OSL) of short vowels, and on short vowels in a closed syllable before a liquid or a nasal. Examples with these sequences from the Aachen region are *du:1zənt* 'thousand', *o:1x* 'eye', *my:1s* 'mice', *bli:1və* 'to stay', *de:1lə* 'to share', *bo.ə1x* 'bow', *logl* 'lung'. TA 1 on these vocalic sequences shall be referred to as combinatory TA 1.

In all other sequences that can receive a tone accent, TA 2 is found, e.g. in the Aachen region *mu:2s* 'mouse', *bo:2m* 'tree', *jri:2s* 'grey', *zu:2pə* 'to booze', *do:2f* 'baptism', *pi:2f* 'pipe', *be:2səl* 'chisel', *ma:2xə* 'to make', *tsɔ:2t* 'sort'.

This distribution is termed Rule A by Schmidt 1986. The opposite is found in an eastern corner of the RhA area, where Rule B applies (see the map; for details of the geographical distribution, cf. Wiesinger 1970 I: 66, 127).

The most detailed publication about Rule B tone accents is Bach 1921. The old long vowels and diphthongs that have TA 1 in Rule A have TA 2 in Arzbach and vice versa, but the short vowels show a deviant behaviour. When lengthened in open syllable they receive TA 1 as in Rule A (*gä:1bl* 'fork', *so:1ma* 'summer', even *ɛ:1sə* 'to eat'), but

obstruent, *D* = any voiced fricative.

where apocope took place or loss of an intervocalic *h* or *g*, TA 2 is found (*fɔ:2n* 'flag', *ɔm da:2* 'am Tage', *wɔ:2n* 'wagon'). As expected for Rule B, the sequence **VRT* yields TA 1 (*wol1əg* 'cloud') and **VRD* gives TA 2 (*fol2jə* 'to follow'), but lengthening always results in TA 1 (*ʃda:1l* 'stable', *wu.ar1əm* 'worm'). Short vowels in front of an obstruent or a single resonant display TA 2 (*ka2ds* 'cat', *fa2da* 'father', *hu2ga* 'hunger', *em ʃdan2* 'im Stande' = 'able').

Bach's transcription thus hints at a correlation between short quantity and TA 2, which casts doubts on the validity of his evidence to prove a historical distribution opposite to that of Rule A. In a Rule A area, the shorter duration is associated with TA 1; finding old long **ā*, **ō* and **ē* to have TA 2 in Arzbach according to Bach opens the possibility that he has merely mixed up the terms for TA 1 and TA 2, the dialect belonging to Rule A. Note also the uncertainty which Bach expresses (1921: 269, 274) about his ability to distinguish TA 1 and TA 2. In other places, the results of the diphthongization of **i* and **ū* seem indeed to point to a Rule B distribution of tone accents (cf. Wiesinger 1970 I: 127), but a more accurate analysis of the Westerwald situation can not be given for lack of relevant information.

Further to the west, Schmidt 1986: 239ff. has established a partial Rule B distribution of the RhA in a central Hunsrück area stretching roughly from Bernkastel-Kues on the Moselle to the SW⁸. He takes his evidence from the Mittelrheinischer Sprachatlas (MRhSA), to which he had access before it was published. His map of the opposition 'brews' ~ 'bride' (**brūwət* ~ **brüt*) shows expected *brau1t* ~ *Brau2t* in most of the places but reversed *brau2t* ~ *Brau1t* in the central Hunsrück, as in Rule B. Schmidt claims that words with spontaneous TA 1 follow Rule A in this area, while combinatory TA 1 is assigned according to Rule B; his sources are two unpublished dialect descriptions of the villages Morbach and Horath.

In his review of the first two volumes of the MRhSA, Goossens 1997: 170ff. (apparently unaware of Schmidt 1986: 239ff.) also suggests that the area near Bernkastel has Rule B. Although the MRhSA provides enough evidence for the combinatory TA⁹, the old

⁷ Similar doubts about Bach's data were expressed by Kunøe 1967: 97.

⁸ Peter Wiesinger kindly informs me that Peetz 1989 has been able to establish Rule B 'inselhaft' for the central Hunsrück area. I was unable to consult her study.

⁹ The MRhSA provides the TA evidence for the following forms: vol. I: map 27 *Knie*, 69 *Kleider*, 70 *Kleid*, 78 *Bäume*, 79 *läuft*, 87 *Auge*, 88 *taub*; vol. II 102 *Seide*, 103 *Eis*, 116 *Läuse*, 117 *feucht*, 130 *Haus* (Dat.sg.), 131 *Haus* (Nom.sg.),

long vowels * *ā*, * *ō*, * *ē* are represented only by 'knee' and 'woe', so that Goossens did not distinguish the full pattern visible to Schmidt. Indeed, both *Knie* and *weh* appear with TA 1 around Bernkastel, so that the partial rule inversion claimed by Schmidt may be accepted.

Other areas with more than one deviation from Rule A occur¹⁰ (just west of the Rhine, between Boppard and St. Goar; around Bitburg), but nowhere is the pattern as clear as in the Hunsrück area SW of Bernkastel.

3.2 Towards the periphery of the RhA area, in the areas indicated on the map, combinatory TA 1 is restricted to apocopated words. Discussions of this additional condition can be found e.g. in Kern 1909 for Maastricht and in Dols 1953: 26ff., who wrote about the Sittard dialect. An example from his town is *ba:1n* 'road' versus *ba:2nə* 'roads', with regular TA 1 in the singular from **ba:nə* < **banə*. The opposition of monosyllabic forms with TA 1 versus disyllabic TA 2 forms has spread to other paradigms where originally both forms had TA 1, e.g. Sittard *mɔ:1n* - *mɔ:2nə* 'moon' for **mɔ:1n* - **mɔ:1nə*.

Analogical leveling (termed 'syllable principle' by Dols), different from dialect to dialect, is attested in the entire area where combinatory TA 1 is linked with apocope. Grootaers 1908-09 for Tongeren, Goossens 1959: 147f. for Genk and Verbeek 1994: 52 for Kinrooi (NE Belgian Limburg) note that TA 2 is often found when the second syllable was preserved. Since these dialects lie further to the west- and therefore further removed from the central RhA area - than the dialects of Dutch Limburg with a stricter distribution according to apocope, we can assume analogical spread of TA 1 in Belgian Limburg to disyllabic forms. As appears from Goossens' evidence, TA 1 on disyllables is mainly found in infinitives (e.g. Genk *jɔ:1γə* 'to hunt') and in the masc.sg. form of adjectives (e.g. *lɔ:1mə* 'lame' masc.sg.), where it can easily have been adopted from the 123sg. verb forms (e.g. *e1x jɔ:1x* 'I hunt') and the fem.sg. and the pl. adj. forms (e.g. *lɔ:1m* 'lame' fem.sg. and pl.) respectively¹¹.

138 *weh*; vol. III 225 *Hunde*, 226 *Hund*, 276 *Herde*, 277 *Herd*.

¹⁰ Some of these deviations will be due to paradigmatic leveling, as in the Nom.sg. and Dat.sg. of *Haus*. For *Herde* 'herd', which has TA 2 in many places SE of the Moselle, the vowel quality may have played a role: the area shows TA 1 when the vowel is [ɛ:], but TA 2 for [e:], i.e. *hɛ:1rdə* but *he:2rdə*.

¹¹ Goossens (by letter) points out to me that one may also take the opposite position, viz. that Limburg too originally had TA 1 in disyllables, but replaced it by TA 2 through analogy. This would enhance the coherence between the centre of

The isogloss between the western, Limburg area with this extra condition for TA 1 and the eastern area without it lies somewhere between Maastricht and Aachen, but the distribution differs from lexeme to lexeme. Its course in the south of Limburg has been discussed by Goossens (1965b: 31ff. and 1975: 48ff.). Further to the east, apocope after a voiced consonant as an extra condition for TA 1 has been established for the area around Krefeld (Ramisch 1908: 9ff.), for Dormagen (Nörrenberg 1884) and for Mühlheim an der Ruhr (Maurmann 1898). In the Bergian Land, the working of Rule A diminishes towards the northeast through intermediate stages as described by Wiesinger 1975: 75 on a map of that area. The inner string of dialects demands ə-apocope after OSL for TA 1 on old short vowels, the second string on all sequences with combinatory TA 1, while the outmost corner has ə-apocope as a necessary condition for TA 1 on any vowel.

Similarly in parts of the southwestern RhA area, TA 1 is often restricted to monosyllables. The evidence to this effect has been put together by Wiesinger 1970 I: 126, 255, 331f. and 1970 II: 48, 178, but it is difficult to decide whether Luxemburg and the Saarland point to an original phonetic restriction of TA 1 to apocopated words or to a more recent analogical spread of TA 2 in disyllables. The different, sometimes even contradictory dialect monographs of this area cast doubts on their reliability when it comes to distinguishing TA 1 and TA 2, cf. for a criticism Schmidt 1986: 94ff.

As for Germany, the MRhSA does not show clear signs of restrictions on TA 1, but note that this atlas does not contain any evidence on the TA of disyllables with old long vowels.

For Vianden in Luxemburg, Engelmann 1910 reports a general agreement with the distributional rules of the central RhA area, but also a widespread replacement of TA 1 by TA 2 in disyllables, especially those with * *i*, * *ū* and old diphthongs. Monosyllables with TA 1 in Vianden are always realized with a glottal stop (e.g. *jɔ:2r* 'year', *dei2f* 'deep'), which is absent from disyllables. The reason for TA 2 in e.g.

the RhA area and the periphery, since TA 1 would have arisen in all sequences with intervocalic voiced consonant(s), to be replaced by TA 2 in disyllables in certain peripheric areas. - Two objections may be made. Firstly, this scenario would imply many similar but independent analogical replacements in peripheric dialects, which runs counter to an economical interpretation of the geographical distribution. Secondly, a linguistic motivation for the partial replacement of TA 1 by TA 2 in disyllables would be lacking if the dialects originally had side by side words with TA 1 in all forms and words with TA 2 in all forms.

lau²dən 'to ring', *dai²vəl* 'devil', etc. may thus lie in the absence of the glottal stop, which was perceived as a typical TA 1 feature. Both Echternach (Palgen 1931) and Esch sur Alzette (Palgen 1948) have TA 1 only on monosyllables; disyllables with TA 1 simply do not occur, which points to a comprehensive analogical replacement of TA 1 by TA 2¹². The vowel quality often betrays earlier TA 1, for instance, **ū*¹ in Esch yields *au* (*dau¹f* 'pigeon'), **ū*² yields *ou* (*hou²s* 'house'); the different vowels in e.g. *dauzənt* '1000' and *bousən* 'outside' allow us to reconstruct **dū¹zənt* and **bū²sən* in accordance with the general rule.

A clear picture of the situation in the eastern regions (Siegerland, Westerwald) is lacking for want of useful monographs.

3.3 Goossens (1959: 149) claims that the dialect of Genk distinguishes between the OSL products of the short vowels Wgm. **a* (and its secondary umlaut) and **e* on the one hand, which have combinatory TA 1, and **ä*, **i*, **o*/**u* on the other hand, with spontaneous TA 2. He quotes (p. 208) remarks by Frings (1916: 28f.), that a similar restriction to low vowels occurs in southwestern Moselle Franconian.

In principle, such a situation is quite possible, but Goossens' evidence (apocopated words with original voiced syllable boundary) for TA 2 on **ä*, **i*, **o*/**u* is rather flimsy. For TA 2 on **ä* and **i* only singular verb forms are adduced which stand beside plural and infinitive forms with TA 2, and synchronically deverbative nouns (e.g. *spi:²əl* 'game' to *spi:²ələ* 'to play'). His three exceptions for **ä*, viz. *e:¹k* 'vinager' (Wgm. **adik-*), *e:¹lx* 'harrow' and *me:¹r* 'mare' are lexically isolated and must have phonetic TA 1, just like *we:¹f* 'widow', *wi:¹r* 'again' (**i*), *sto:¹f* 'stove' and *vo:¹r* 'furrow'¹³.

3.4 The distribution of reflexes of the old long vowels **uo* and **ie* is congruent with the range of the RhA. On the whole, these vowels show mid high reflexes [*e:*] and [*o:*] in Central Franconian while the adjacent

¹² Probably a productive rule: Palgen notes TA 2 for recent disyllables with a falling diphthong such as Echternach *jouo* 'year', *swouo* 'brother-in-law' (**swār* < **swayər*), *io* 'honour' (German *Ehre*); cf. Wiesinger 1970 I: 255.

¹³ The only embarrassing forms in Goossens' evidence are *zu:²əg* 'sow', *zu:²ən* 'son' and *di:²ər* 'door'. These words are reported with TA 2 in other Limburg dialects too. A comparison of the entries 'son' and 'door' in the 1962 volume of the RND (only tone accent notations of Stevens are reliable, cf. Goossens 1965b: 35) shows that 'son' has TA 2 on its long vowel in all of southernmost SLFranconian from west to east, while 'door' is realized with TA 2 from the western intonation frontier to Millen and Rijkhoven in the southeast of Belgian Limburg, but from there eastward with TA 1. Maybe these words underwent apocope earlier than the other words.

dialects have [*i:*] and [*u:*] (or had **i* and **ū*, as in Central Hessen), cf. Wiesinger 1970 map 12 and 13. The simplest assumption would be that Central Franconian has preserved the Wgm. sounds **ē* and **ō* as such.

Against the latter possibility, Wiesinger 1970 II: 41f. objects that the Central Franconian dialects have kept the reflexes of **au* (MHG *ō*) and **ō* separated, viz. as [*u:*] or [*uə*] and [*o:*] respectively. He argues that **au* would have merged with **ō* if **ō* had not changed to **uo*, because **au* would have passed [*o:*] on its way to [*u:*].

This line of reasoning is not compelling, since *[*au*] can easily have developed to [*ɔ:*] and then to [*uə*] straight away, just like the Proto-Romance opposition *o* : *ɔ* (from Latin **ō* : *o*) changed to *o* : *ue* in Spanish and to *o* : *uo* (in open syllable) in Italian. We can imagine that **ai* and **au* developed into **ε* and **ɔ* first in Central Franconian, and then diphthongized into [*iə*] and [*uə*]. Independent confirmation seems to come from the reflexes of **ā*, the *i*-mutation of **ā*. Especially in Riparian, these have often merged with the reflexes of **ai*, viz. as [*iə*] (cf. Wiesinger 1970 map 7 and 11).

It is of course possible that Central Franconian preserved **ē* and **ō* exactly because they had TA 1. This means that they do not serve to explain the rise of the tone accents, but can have some consequence for their dating. Since diphthongization of **o* to *uo* took place around the 9th century, the distinctive intonation on that vowel would have been present in the Rhineland before that time.

4. The explanations of Bach and van Wijk

4.1 From the diachronic explanations proposed for the RhA so far (see Schmidt 1986: 39-133), Bach's appears to be the best one. It is supplemented by van Wijk's, which escaped Schmidt's attention.

4.2 Bach (1921: 280ff.) starts from the phonetic observation that open vowels have a longer duration than closed vowels (a fact acknowledged as a phonetic universal, see e.g. Lehiste 1970: 18f.). He concludes that the peculiar difference between spontaneous TA 1 on **ā*, **ē* and **ō* against combinatory TA 1 or 2 on **i*, **ū* and **ū* and on the diphthongs **ei*, **ou* and **ōu*, which end in a closed vowel, may reflect a length opposition.

Secondly, Bach notes that the combination VR has a longer duration in front of *D* or in hiatus than in front of *T*. Again, this difference is relevant for the distribution of combinatory TA 1 in the RhA.

The vocalic sequences carrying TA 1 can thus be contrasted to those with TA 2 by means of their relative length. Following Frings 1916: 89ff., Bach assumes a rhythmic law to have operated, which aimed at

«giving the vocalic parts of isosyllabic words which fill a 'speech measure' a normal amount of duration and therefore of energy needed for them» (Bach 1921: 282). Assuming the sequences with TA 1 to have been longer than was normal, the rhythmic law served to equate the amount of energy used by a speaker to pronounce a sequence at the origin of TA 1 with the energy needed for TA 2.

Instead of simply shortening the longer vowels and lengthening the shorter ones, the RhA area has in Bach's view changed the pitch of each class of sounds. The area with Rule B has raised the pitch of the shorter sequences (*ī, *ū, *VRT), whereas Rule A dialects shifted the energy used for the longer sequences (*ā-ē-ō, *VRD) towards their beginning. In both areas, TA 1 was the result.

4.3 Schmidt (1986: 138) rejects Bach's theory on two grounds. In the first place he remarks that Bach «supposes length differences to be the 'essential' or 'primary characteristic' of tone accents, for which there are no empirical clues.» In the second place, he claims that «it remains open, why phonetic phenomena, which can currently be observed anywhere (intrinsic and co-articulatory duration differences) would have created tone accent differences only in a certain linguistic era and dialect connection.»

This criticism misses the point. Bach does not claim length differences to be the essential element of the tone accents, he merely assumes length differences to lie at the basis of a tonal opposition. Schmidt's second question is rhetoric, since there are many linguistic phenomena which are present in one language but absent from another without a visible cause. We must simply accept that languages develop differently, and it is the presence, not the absence of tone accents that we can try to explain.

4.4 Had he been acquainted with the work of van Wijk (1935, 1936 and 1939), Schmidt would have found the linguistic parallels which Bach did not provide. In order to explain how the RhA came about, van Wijk too builds on the opposition between voiced and voiceless consonants. Since his solution has passed almost completely unnoticed in the German literature on the subject (it is not mentioned in Schmidt 1986), I will resume its essence below¹⁴.

In his article of 1935, van Wijk regards combinatory TA 1 as a kind of compensatory lengthening of the stressed vowel when the following syllable was lost. Just as in Old Polish¹⁵ and in Latvian dialects, this

¹⁴ Cf. also Goossens 1988: 54-56.

¹⁵ Van Wijk had already hinted at the parallellism between Old Polish vowel

vowel lengthening occurs only in front of a voiced consonant, arguably because voiceless consonants have a longer duration than voiced ones. The lengthened vowel would have arrived at the same level as *ā, *ē, and *ō, the vowels with an intrinsic longer duration than *ī and *ū, and this would explain why we find the same intonation on both classes.

His parallel is flawed by the restriction he makes regarding apocope. Apocope as a necessary condition for TA 1 on *ī, *ū etc. applies to the Limburg dialects on which van Wijk based his theory, but not to the main body of the RhA area (see above). Van Wijk's omission was pointed out by Dols (1936), who objects to the view that TA 1 is the result of lengthening; after all, TA 1 is the shorter variant of both accents. He restricts the agreement between Old Polish and the RhA to a «principle of voicing, according to which voicing causes a vowel change in the syllable, but voicelessness does not.»

In his reply of 1936 van Wijk admits his error, but sticks to the opinion that the merger of spontaneous and combinatory TA 1 was prompted by their relative length in comparison with the sequences that received TA 2. A later shortening of long sequences is no problem to him, and again he adduces parallels from the Slavic languages to support this. In Serbo-Croatian, a rising tone has been shortened, whereas in the pre-history of Czech and High Sorbian it was a falling tone that was shortened. Van Wijk's view implies that TA 1 might be regarded as the result of a shortening of a specific intonation.

Shortly afterwards, van Wijk (1939) found a rather precise parallel for such a development in the North Kashubian dialects. Here, the original (post-Slavic) length opposition on vowels was replaced by an intonational opposition when stressed short vowels were lengthened. The old long vowels received a 'sharp' tone, the newly lengthened ones a 'stretching' tone. Compared with the RhA, Central Franconian seems to have developed one stage further, shortening the 'sharp' tone from old long vowels. Such a shortening can be taken as the shifting of the energy formerly used for the length of the vowel to the intensity, giving it an intense but abruptly diminishing voice. We must note that the parallel between Kashubian and the RhA is imperfect in that new long vowels from OSL split into TA 1 and TA 2 in Central Franconian, and were not opposed as a group to the old long vowels¹⁶.

4.5 Although van Wijk refers to Bach 1921 only in passing (1935:

lengthening after apocope and the RhA in his inaugural address of 1913 (p. 9-10).

¹⁶Vowel intonation as a distinctive feature of the now extinct Kashubian dialects is currently being called into question (Lehiste 1978: 238).

406f.), it is clear that his view is complementary to Bach's. The latter offers the more economical solution, which can do without an additional shortening of falling tones, and it claims to explain both Rule A and Rule B from the same principle. Bach must therefore be credited with the hitherto best theoretical framework for the rise of the RhA, while van Wijk has furnished the linguistic parallels which confirm the possibility of Bach's solution.

5. A sketch of the diachronic developments

We can now try to give a comprehensive view of the developments that lead to the RhA as we find it. Bach's theory will be used as a general framework, but some adjustments are necessary. We still need to explain why apocope is a necessary condition for combinatory TA 1 in the peripheral areas. Furthermore, we would like to know which feature was primary, length or intonation.

5.1 The marginal position of the dialects with TA 1 conditioned by apocope is a strong indication that they have preserved a more archaic situation than the central RhA area. Since voicing of the intervocalic consonant is the prerequisite for combinatory TA 1 on both sides of the isogloss, both the center and the periphery must have shared the intonational difference between vowels in front of voiced and voiceless consonants.

The present difference in the treatment of non-apocoped words suggests an innovation from the central area, which failed to reach all the dialects with the intonational opposition¹⁷. This innovation must have occurred in the stage after the phonemicization of the tone accents (i.e. after apocope took place), for otherwise it would be impossible to imagine how original disyllables could end up with different TA in Limburg, e.g. **va:rət* > *va:lrt* 'he goes' but **va:rən* > *va:2rə* 'to go'.

5.2 The difference between the old long vowels **ā*, **ē*, **ē*, **ō*, **ō* on the one hand against **i*, **ū*, **ei*, **ou* on the other suggests an original opposition of longer versus shorter absolute length, as Bach has proposed.

Strikingly, TA 1 surfaces as the shorter variant of both accents in the whole RhA area. We have seen that van Wijk seeks to explain this

¹⁷ This scenario implies that TA 2 is phonetically the older variant, which changed into TA 1 in some environments after which TA 1 could be introduced into other environments as well. The movement from the Central RhA area towards the periphery recalls the spread of TA 1 on certain morphological categories from Central Scandinavia to the periphery where TA 2 ruled, cf. Oftedal 1952: 214.

situation by assuming that the originally longer vowels were shortened because they had a falling pitch, but this conflicts with the principle that we should opt for the most economical solution available.

We are compelled to assume an original length distinction which was accompanied by an intonational difference, in the form of a falling pitch on the first class of long vowels but a rising pitch on the second class. When OSL occurred, vowels in open syllable before a voiced consonant received a falling pitch too, both the second class of long vowels (**i* etc.) and the old short vowels¹⁸. In front of a voiceless consonant, the intonation remained the rising one it had been. Apocope saw to it that the pitches acquired phonemic value, dragging along the old falling vowels in waves from the central area.

5.3 Internal reconstruction suggests the following scheme of developments:

1. Pre-OSL: the vowels **ā*, **ē*, **ē*, **ō*, **ō* had in all positions a falling pitch that was phonetically opposed to a rising pitch on **ei*, **ou*, **i*, and **ū*, and probably on short vowels.

2. OSL: In disyllables, the sequences **eiD*, **ouD*, **iD*, **ūD*, **VRD* and **VD* in open syllable also developed a falling pitch, contrary to **eiT*, **ouT*, **iT*, **ūT*, **VRT*, **VT*. Of course, this difference may already have been present before OSL took place, but at least we cannot place it later than OSL.

3. Apocope: The tonal opposition of falling pitch versus rising pitch reached phonemic status through apocope and the devoicing of the resulting word-final voiced obstruents.

4. In non-apocoped words, the tone accent of the sequences **eiD* etc. changed from TA 2 to TA 1, in a development that started from the center (Cologne?) and never reached the northern and western fringes of the RhA area.

5.4 Apart from internal reconstruction, one may wonder whether there is also comparative evidence to support our claims. Did **ā* etc. have a distinctive intonation from **i* etc. elsewhere too?

We shall look for answers in the Old High German texts (par. 6) and in Low German and Scandinavian tonal phenomena (par. 7).

6. Notker's accentuation system

6.1 Some scholars have claimed that OHG displayed an intonational

¹⁸This accords well with the general principle of tone languages that a following voiced consonant often results in a low or falling pitch on the preceding vowel, while voiceless consonants have a raising effect.

difference between long vowels on the one hand and short vowels on the other. As far as I am aware, nobody has linked the data for this hypothesis to the conditions for TA 1 and TA 2 in the RhA, although they are very similar. The theory concerning OHG intonation is at least worth a discussion.

The first comprehensive study of the accentuation marks in the OHG manuscripts was made by P. Sievers (1909). Two signs were in use, viz. acute (´) and circumflex (ˆ), but in different systems, indicating now ictus, then length, sometimes both. The system which will concern us here is the one with the most refined and most consequently followed distinction between acute and circumflex, the system of the Alemannic author Notker Teutonicus¹⁹.

Notker (±950 - 1022 AD) provided stressed syllables and those with a secondary stress with an accentuation mark. The short vowels and the diphthongs *ei*, *ou* and *iu* receive the acute, while the long vowels and *uo*, *ie* and *io* get a circumflex, e.g. *máhtigôren* 'mightier', *frâgêndo* 'asking', *óuh* 'also', *sâlighêit* 'bliss', *hêrtûom* 'empire'. Sievers interpreted this distinction as a length distinction.

In 1920, Eduard Sievers published an article on the accentuation marks in OHG manuscripts, in which he assumed them to have a bearing on the intonation of the words in the sentence, the "sentence melody". Sievers argues that words could have a high pitch or a low pitch, depending on their function in the sentence, and that it was this pitch which the scribes indicated in order to facilitate the reciting of the texts.

His theory was too radical to be accepted, but in passing he made a remark about Notker's system which can be summarized as follows: if Notker treated the diphthongs *éi* and *óu* differently from *îe* and *ûo*, we are hard pressed to assume a length opposition. Could not Notker have intended to show a melodic opposition between the vowels, which automatically looks to us like a length opposition (1920: 153f.)?

This suggestion of Sievers' was taken up by Gabriel (1964: 321f., 1969: 64f.), who reports that he has adopted the idea from the teachings of Kranzmayer in Vienna. He does not work with sentence melody but assumes the accentuation signs in Notker to reflect two different intonations, a rising tone where the acute is written and a falling tone in the case of a circumflex. Gabriel is led to believe that such an intonational difference must be assumed for the vowel system of all OHG, or at least Alemannic, on the basis of the conservative

¹⁹ Notker Teutonicus = Notker Labeo = Notker III of St. Gallen.

dialects of present-day Alemannic. He observes a similar difference between a rising and a falling tone in several dialects, and remnants of it in the vowel developments in other Alemannic dialects.

Gabriel's theory is adopted without comment by Wiesinger (1983: 1095ff.), who simply states that OHG probably had an intonational difference between long and short vowels.

6.2 The case for this theory is not so strong, however. Firstly, it is based for one part on the different accentuation *éi-óu* against *ûo-îe* in Notker, and the assumption that all four diphthongal sequences should be long. It is well possible that Notker analyzed *éi* as *short e plus short i*, and *óu* as *short o plus short u*, while hearing *ûo* as *long u plus o* or maybe already as *long u plus schwa*, and *îe* as *long i plus e* or *schwa*. A similar position on Notker's diphthongs is taken by Penzl (1970: 100). Secondly, the intonation of modern Alemannic dialects, archaic as they may be, is no guarantee for their OHG ancestors.

Notker's accentuation system does not prove an intonational difference, since *ī*, *ū*, *ō*, *ē* and *ā* are treated alike, contrary to what we find in the RhA, and because all of the circumflex vowels of Notker's can be interpreted as long vowels which are opposed in length to the short vowels.

6.3 If Notker's vowels have no explanatory power for the RhA, the different treatment of *éi-óu* versus *ûo-îe* does provide us with a linguistic parallel for the difference between TA 1 on **uo-ie* versus combinatory TA 1 on **ei-ou*. Adopting the prudent position of Penzl's (l.c.), who regards *éi-óu* as two short vowels of equal weight, their syllabic value would have been identical to that of the sequence *VR*, which in the RhA is subject to combinatory TA 1.

This helps us to understand why **ei* and **ou* did not receive spontaneous TA 1 in the Rhineland: not because of the vowel height of the second element *i* or *u* (thus Bach 1921: 282), but because they belonged to the prosodic class of short vowels plus a resonant.

The vowels **ī* and **ū*, which Notker clearly perceived as long vowels, remain exceptional. In the RhA, these rather behave like short vowels, receiving TA 1 only when originally before a heterosyllabic voiced consonant.

7. Modern Germanic accentuation

The conditions for the 'overlength' of Low German, the Central Scandinavian tone accents and the *stød* of West Jutland Danish can be precisely described and differ from those in the Rhineland. A genetic link between those phenomena and the RhA can therefore not be

established. The partially parallel developments do serve to clarify some of the details of the RhA, however.

7.1 In various Low German dialects, a length distinction on old and new long vowels arose in disyllables, depending on the phonation of the intervocalic consonant²⁰. In the case of a voiced consonant, the vowel acquired a greater length, which became phonemic after apocope and the devoicing of final consonants. An example of this is the minimal pair *ik riet /rit/* 'I tear' versus *ik ried /ri:t/* 'I ride'. The new long vowels are often termed 'overlong', thus suggesting a three-way length distinction of short ~ long ~ overlong in these dialects (cf. Wiesinger 1983: 1089-90). It is furthermore assumed that this length distinction is sometimes realized as an intonational opposition.

Kohler (1986: 10ff.) has shown that for the high vowels, the length opposition in Low German can be regarded as binary, since in most cases the old short vowel (**i, *u, *ū*) is of a different, viz. more open quality than the reflexes of the old long vowel. In the case of **ī* and **i*, the words */rit/* and */ri:t/* stand beside */rīt/* 'ride'. With mid vowels, the lowering of **i, u* to *[e, o]* has in some dialects resulted in a three-way length distinction of e.g. */el/ ~ /e:/ ~ /e:./*, but the functional load of this triad is negligible. Furthermore, Kohler has not observed any intonational differentiation of vowels in the dialects investigated.

Yet the condition for the length distinction on old long vowels in these Low German dialects is similar to that of combinatory TA 1 in the RhA. The vowel had a longer duration in front of a voiced obstruent (Kohler speaks about lenis obstruent as opposed to fortis), and this quantity became phonemic through apocope. Kohler emphasizes (1986: 15) that this lengthening is only present in those words where the former voiced consonant came to stand in auslaut and was devoiced.

Important is furthermore Kohler's conclusion (p.15), that, apparently, **ī* and **ū* were shortened in front of a voiceless consonant at an early stage, while **ē* and **ō* were not. Kohler ascribes this to the intrinsic shorter duration of high vowels; it is exactly parallel to the RhA situation.

7.2 The Scandinavian tone accents which are termed TA 1 and TA 2 are found in most of the Norwegian, Swedish and Danish dialects but not in Icelandic, Faroese and peripheral dialects such as the Danish of Bornholm, southern Jutland and southern Fyn and in West Norse of

²⁰ Compare Lehiste 1970: 19ff. with cross-linguistic evidence for the influence of voicing of a postvocalic consonant on the preceding vowel.

the Bergen area. In general, TA 1 has the shorter duration and tonally a high or a falling pitch, while TA 2 is the longer variant, which may often seem to have a second peak of intensity (Haugen 1984: 354 ff.). Historically, the opposition arose on disyllabic sequences when old monosyllables acquired a second syllable either by univerbation with the enclitic article (Norw. **hest-inn* 'horse' *hes^lten* 'the horse') or by syllabification of a final resonant (**akr* 'field' *a^lker*). Those words developed TA 1, while the old disyllables got TA 2, e.g. *hes²tar* 'horses'. In Danish, TA 1 is expressed by a glottal stop after the vowel of the first syllable, the so-called *stød*.

The origin of the Scandinavian tone accents lies in an earlier different intonation of monosyllables versus polysyllables. With the univerbation of nouns with their article (between 900 and 1100 AD acc, to Oftedal 1952: 221), when new polysyllabic words arose from monosyllables, the two intonations were phonemicized as tone accents. Oftedal 1952: 223 suspects that TA 2 words originally had «a fairly strong stress or an extra high pitch» on the second syllable, but admits that the causes of the distinction between mono- and polysyllables may lie anywhere between Proto-Indo-European and 900 AD.

7.3 The western and northern parts of Jutland present a different phenomenon, usually called West Jutland *stød*. Descriptively, this consists of a glottal stop after a short vowel which was followed by intervocalic **pp, *tt, *kk* or by an intervocalic cluster of a resonant plus **p, *t, *k*.

By the 12th century (Ringgaard 1960: 195), the Old Danish postvocalic stops **p, *t, *k* had developed into the voiced fricatives *β, ð, γ*²¹. Long vowels in front of *pp/tt/kk* were shortened, resulting in a structural opposition of intervocalic *VTT* and *VRT* on the one hand against *VĐ* on the other hand. A glottal stop developed in front of the voiceless consonants, and this glottal stop became phonemic after the apocope of final syllables (between 1250 and 1350 AD), generating minimal pairs such as *kjæp* 'stick' ~ *kjæ^b* 'sticks' from pre-apocope **kæp ~ *kæppe* or *hwalp* 'puppy' ~ *hwal^b* 'puppies' from **hwalp ~ *hwalpe*. Ringgaard (1960: 199) explains the rise of the *stød* from «an attempt to pronounce pure and unaspirated fortis plosives when medial», but more explanatory power lies in Jespersen's view (1913: 23) that the glottal stop was caused by a regressive shift of the vocal

²¹ Comparative evidence suggests that this lenition of PGmc. tenuis had started long before the 12th century, when it appears in the spelling of Old Danish, cf. Marstrander 1932: 286ff.

cord occlusion after the vowel²².

The discussion of the West Jutland *stød* can not be disconnected from the question of the preaspirated voiceless stops of West Norse, Icelandic, Faroese and Scottish Gaelic. Marstrander's proposal (1932: 298) to ascribe the preaspiration of medial voiceless stops in Gaelic to a Norse substratum seems reasonable. He also pointed out (p. 286ff.) that several West Norse dialects, Icelandic and Faroese share the weakening of the PGm. medial tenues, which he attributes to a common Danish origin from before the colonization of southwestern Norway. Since the West Norse, Icelandic and Faroese preaspirations have the same distribution as the West Jutland *stød*, which we have explained from a voicing opposition on medial obstruents, they may have arisen by the same process Jespersen assumed for the Jutland *stød*²³.

7.4 In conclusion, Low German offers a parallel for the distinction between high and lower vowels which is crucial for the explanation of the RhA. Of course, the Central Franconian vowels **ī* and **ū* with TA 2 remained long, e.g. *hu:2s* 'house', and are as such opposed to short */u/*, so that an early shortening as Kohler assumes for Low German cannot have applied in Central Franconian. Nonetheless, relative shortness of **ī* and **ū* may have been a common cause of the short reflexes in Low German and TA 2 on these vowels in the Rhineland.

We have also taken the difference between intervocalic voiced and voiceless consonants to be the cause of the West Jutland *stød*, but the latter must be analyzed as a feature of the consonant rather than of the vowel.

²² Ringgaard actually quotes Jespersen in full on p. 108, but in the English summary on p. 199, the main argument is left out. Jespersen writes (in my translation) that "we had *p, t, k* with simultaneous glottal and oral closure, with other words a 'sharp' ('pure') tenuis as in de Romance languages and so on, and that subsequently a shift took place with regard to the time, so that the glottal closure (but not the opening) now sets in before the oral closure."

²³ Different views on the origin of the Jutland *stød* and the preaspirations may be held. Kortlandt 1987 offers a discussion of earlier proposals and proceeds to give his own solution, which regards the phenomena mentioned as reflexes of PIE glottalized obstruents. The scope of this paper does not allow for a discussion of alternative theories; relevant for our purpose is the fact that all authors analyze the *stød* and preaspirations as consonant features.

8. Conclusion

8.1 The scheme of par. 5.3 need not be modified. The different behaviour of **ei* and **ou* has been compared with similar data from Notker, which suggest that these diphthongs could have counted as sequences of short vowel plus resonant, rather than as long vowels. Low German dialects offer a parallel for the different treatment of **ī* and **ū*, which were shortened there at an early stage. Some Low German dialects also historically oppose vowels in front of a voiced consonant and those in front of a voiceless consonant in length, viz. as longer versus shorter variants.

Structurally, the RhA is nothing more than a specific way in which a group of Germanic dialects has phonemicized the opposition between sequences of vowel plus voiced consonant versus vowel plus voiceless consonant. Intonation was perceived as the distinctive expression of this opposition. As a phonetic phenomenon, intonational vowel differences depending on the phonation of the following consonant are trivial. In a form like **[ri:dən]*, the vocal cords vibrate uninterrupted during vowel and consonant; in **[ri:tən]*, the voicing of the *[i:]* is broken off before the *[t]*.

8.2 The RhA area is for a large part identical to the linguistic complex of Central Franconian and South Low Franconian. The southern border is formed by the so-called Hunsrück Barrier, a thick bundle of isoglosses separating Central Franconian from Rhine Franconian, the most characteristic one being the isogloss between the pronoun *dat* 'that' to the northwest and *das* to the southeast. The northern limit lies close to the Ürdinger Line, which separates the *ik* 'I' area to the north from the *ich* area to the south of it. To the northeast, the presence versus absence of the RhA is one of the many isoglosses separating the Franconian dialects from Westphalic (cf. Hellberg 1936: 4f. and 57ff.).

Basically, Riparian and Moselle Franconian coincide with the Germanic territories under the influence of Cologne and Trier respectively from the Middle Ages onward. The RhA serves as one of the main characteristics of Central Franconian, and it is not improbable that the seeds of the tone accents (the intonation of **ā* etc. against **ī* etc.) go back to pre-Carolingian times just like the other important isoglosses separating Central Franconian from Rhine Franconian (the Hunsrück Barrier) and Westphalic (the Westphalic Line). We have seen internal (preservation of **ē* and **ō*) and external (shortening of **ī* and **ū* in Low German) linguistic evidence in support of such an early date.

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