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ON SCHWA*

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1 The idea: what is schwa?

Everybody knows what schwa is --- or do they? This venerable Hebraic equivocation, with its later avatars like "neutral vowel", *Murmelvokal*, etc. seems to be solidly established in our conceptual and transcriptional armories. Whether it should be is another matter. In its use as a transcriptional symbol, I suggest, it represents a somewhat unsavoury and dispensable collection of theoretical and empirical sloppinesses and ill-advised reifications. It also embodies a major category confusion. That is, [ə] is the only "phonetic symbol" that in accepted usage has only "phonological" or functional reference, not (precise) phonetic content. As we will see, there is a good deal to be said against [ə] as a symbol for unstressed vowels, though there is often at least a weak excuse for invoking it. But "stressed schwa", prominent in discussions of Afrikaans and English (among other languages) is probably just about inexcusable.

Schwa (shwa, shva, Šᵉwâ, etc.) began life as a device in Hebrew orthography. In "pointed" or "vocalized" script (i.e. where vowels rather than just consonantal skeletons are represented) the symbol "ˑ" under a consonant graph apparently represented some kind of "overshort" and/or "indeterminate" vowel: something perhaps of the order of a Slavic *jer*, but nonhigh and generally neither front nor back --- though see below. In (Weingreen 1959:9, note b) it is described as "a quick vowel-like sound", which is "pronounced like 'e' in 'because'". I will return to the problem with

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this description later. In a recent pedagogical introduction to Biblical Hebrew, Lambdin (1973:XVIII) says it is like "[ə] in 'above', and very brief in duration".[1)]

The situation is actually more complicated. The classic grammar of Gesenius (1910:§10.1a) describes the various schwas (there is more than one, as we will see) as "half-vowels" or *Murmelvokale* : "extremely slight sounds .... regarded as remains of fuller and more distinct vowels from an earlier period of the language". Thus the notion "reduction vowel" appears, which I will take up in §3. The usual schwa is "an extremely short, slight and .... indeterminate vowel sound, something like an obscure half e" according to Gesenius (1910:§10.1b).[2)] Functionally, this "vocal Šewâ"[3)] (Gesenius 1910:§10.1e) "stands under a consonant which is closely united, as a kind of grace-note, with the following syllable" as in qᵉṭōl "I kill", mᵉmallē "filling".

Gesenius further notes some interesting details that have a bearing on its pronunciation: the renderings of Hebrew items into Greek in the Septuagint. This is in a way peculiarly "authoritative", since it is early evidence (3rd century B.C.) for the values of Hebrew sounds seen through another orthographic system.[4)] Here the most usual rendering appears to be ε , as in Χερουβίμ < khᵉrubîm; η is also common, as in ἀλληλουια < halᵉluya. But we also get cases where schwa appears to be interpreted as harmonic to a following accented vowel, as in Σόδομ < sᵉdom, Σαβαώθ < ṣᵉbaôṯ. Gesenius (probably correctly) likens this to late Latin harmonization in reduplicated perfects, as in momordi < memordi.

And there is, to make things more complex, also a so-called "compound schwa" (Šᵉwâ correptum), which is indicated by the schwa sign preceding a (full) vowel sign, and is interpreted as an overshort or "fleeting" full vowel: ḥᵘmôr "ass", ḥᵒlî "sickness". So it appears that in its original Hebrew sense, Šᵉwâ indicates a vowel normally of "e" quality, but in some cases definitely open or rounded --- and always "overshort" and/or "obscure". We will see later how this

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ties in with our modern concept of [ə] , which is --- perhaps illegitimately --- much simpler and more equivocal.

Schwa in Biblical Hebrew has a morphophonemic role as well: it is a reduction vowel, i.e. an accent-controlled allophone of a vowel, or (with more than one vowel as rule-input) a neutralization under low prominence of a set of "full" vowels, presumably at least more peripheral in articulation. Thus we get neutralization of ā, ē under schwa in the plurals of final-accented nouns (the plural morpheme is accented): nāvî? "prophet", plural n^{e}vî?îm, lēvāv "heart", plural l^{e}vāvṓṭ, etc.

The picture would be nicely filled out if we had more evidence from later stages of Hebrew: e.g., what did schwa turn into? But unfortunately there is a radical discontinuity in the history of naturally spoken Hebrew. Aramaic succeeded it in Biblical times as a vernacular, and Aramaic itself was succeeded in the Diaspora by various Jewish vernaculars like Loez (Judaeo-Romance), Yavanic (Judaeo-Greek), Dzhudezmo, Yiddish, and so on. But these vernaculars are full of Hebrew loans, and since Hebrew was used continuously as a liturgical and scholarly ("Holy") language, something at least of interpretations of what classical Hebrew phonology was like can be gleaned from vernacular developments. In Yiddish, for instance, we have a very large Hebrew component. This does not of course give us direct attestation of Hebrew phonology, but rather of later pronunciation traditions or "readings": pronunciation canons for the sacred language, taught by scholars, incorporated into liturgical reading, and hence into loans in the secular vernacular language.

Among the Ashkenazic Jews (the Yiddish-speaking community), Hebrew was generally read with what is called *milel* accentuation which favoured non-final accent; in effect therefore coinciding in many cases with normal Germanic stress.[5] We can see this for instance in the Yiddish name for Moses, Móyshe,[6] which in the non-Ashkenazic reading (as in modern

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Israeli Hebrew) is Mošé; Yiddish oy /ɔi/ is the reflex of early long /o:/ as in hoykh /hɔix/ "high" < MHG hōch, or /o/ lengthened in stressed open syllables, as in voynen "dwell" < MHG wonen.

Which brings us back to schwa. In the Ashkenazic reading, accent could often fall on an initial schwa, and this accented schwa was apparently identified with /e/. Thus under conditions for open-syllable lengthening it falls in with MHG /e/, and comes down as /ɛi/: H pᵉrí "fruit" > Yi péyre, kᵉlí "vessel" > kéyle, parallel to eydl "noble" < MHG edel, etc.[7] This of course suggests more than merely a "continuation" of a Hebrew value: it suggests something about the quality of early Yiddish "[ə]", viz. its identification as a low-stress variant of /e/. This point will be taken up again in §3 below.

2 Neutrality and indeterminateness

The modern concept of schwa is so familiar to all of us that we'd be hard put to think of explicit descriptions (or justifications) in the literature. One of the most explicit I know of, which is in fact the one I was brought up on, is to be found in (Heffner 1950:§4.13). Heffner's description is particularly interesting for my purposes here, as it encapsulates most of what is wrong with [ə] as a phonetic concept:

> "The central unrounded unstressed schwa vowel [ə] is the sound of the unstressed vowel of English tuba, sofa, about, of standard German alle, beliebt, findet, or of French 'e' in besoin, debout, leçon. The vowel is articulated as a lax [ɜ] .... and, like that sound, it may vary considerably in position without losing its essential character. In English almost all unstressed vowels tend to become [ə] , though certainly not all of them arrive at that end as yet."

We note first that in a sense [ə] is [ɜ] with a diacritic:

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for Heffner it is simply "unstressed [ɜ]". And [ɜ] itself is described earlier in the same section as simply a "central unrounded vowel". While in earlier sections Heffner carefully discriminates [e ɛ] and [o ɔ] --- even if, incorrectly, as "tense" vs. "lax" --- he does not apparently consider it worth making the same kind of discriminations (for general phonetic purposes) for central vowels. [ɜ] is a moveable feast, apparently, not a "value". Presumably the remark about the variability of [ɜ] allows just about anything central to "count as" an instance of [ɜ] or [ə] , depending on accent. This of course incorporates an implicit claim that the possibilities for contrast at the centre are different from those at the periphery. If his account is correct, it would be most unlikely that a language could contrast, say, half-open and half-close unrounded central vowels. The most we could expect is a pair of floating value spaces, one stressed and the other not. We will see later that this is untenable, even for English or German.

In Catford's (1977:178) summary we find the following:

> "[ə] is a mid-central unrounded vowel; the symbol [ə] and the general type of obscure central vowel it represents are often known as *schwa* (the German form of the name of the 'obscure' [ə]-like Hebrew vowel). The symbol is often used for a fairly wide range of reduced or 'obscure' central vowels, such as the English unaccented vowel in the first syllables of <u>again</u>, <u>potato</u>."

This is much more sophisticated, though a bit ambiguous. "Mid-central", in a framework in which half-close and half-open positions are primes[8] is clearly a conflation of two primitive height categories. Apparently his intention (as borne out by the expression "often used for") is that [ə] is not a central *value* (like [ɨ] or [ɜ]), but a representational device: a cover symbol for a value set, as was the case in Hebrew if "šᵉwâ correptum" is included under the general heading. And his scare quotes on "obscure" in two

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out of three instances suggest a mild scepticism or dissatisfaction with the general concept. Certainly, at least, the confusion or equivocation in Heffner's account does not occur in Catford's.

A treatment of unstressed (and central) vowels like Heffner's is certainly in agreement with the consensus of many present-day phoneticians and (especially) phonologists --- if perhaps less discriminating in the area of accented central vowels. But it does represent a definite regression in descriptive finesse from an earlier sort of practice, even if it seems, on the face of it, to be more "sophisticated" in purging extraneous detail from descriptions. Seventy-three years before Heffner and exactly a century before Catford, whose general approach marks a return to the earlier tradition, we find a much more sophisticated and empirically responsible approach to these issues in Sweet's (1877) Handbook of phonetics.

In his description of "mixed" (i.e. central) vowels, Sweet makes a careful distinction between actually characterizeable central vowels with "real" heights, and what he calls "voice-glides" --- see below. Using the diacritic (h) more or less like IPA [-] or [¨] to indicate centrality, he (1877:§71) distinguishes at least the unaccented vowel qualities shown in (1). Following Sweet's notation, phonetic transcriptions are in ( )).

(1) (a) (eh) as in "G. Du. Dan. etc. unaccented e". This quality, he says, is "quite un-English". He adds that it is "uncertain whether the Fr 'que' etc. has this sound or (ə)". His (ə) is "mid-front-narrow-round", i.e. [ø], and occurs in accented (or at least not unaccented) form in Fr jeudi, G schön.

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(b) (*eh*): "E unaccented vowels in 'bigger, ... attack', seem to resemble this vowel, or rather to fluctuate between it and the low mixed (æh) and (*æh*), but it is best to regard them as 'voice glides'".

(In Sweet's notation, italicization denotes a "wide", and normal Roman a "narrow" vowel: without going into detail, it is clear that (e) = [e], and (*e*) = [ɛ].)

It is worth noting that Heffner's equation of unstressed vowels in English, French and German does not occur to Sweet. He can even describe an unstressed vowel in another language as "quite un-English", a claim which would be unintelligible in Heffner's scheme. For Sweet, at least one of the English unstressed vowels would apparently be in the range of what we would now represent as [ɜ ~ ɐ], and the German and Dutch ones around [ë]: i.e. the English definitely opener. And while [ø] seems to me an excessively peripheral value for French non-tonic e, the rounding is correctly observed. In this description, the (apparent) functional equivalence of the vowels (at least in the Germanic languages cited) does not override the phonetic description. Sweet then discriminates both height and rounding as potentially idiosyncratic and language-defining features in unaccented and/or central vowels.[9] What is apparent from these two short passages is that no properly trained student of Sweet would have transcribed the unstressed vowels in standard Danish gade and RP gather the same way.

Sweet's "voice-glide" is an articulation type quite distinct from these "full" unaccented central vowels: much more in principle like what H schwa was apparently supposed to be. He (1877:§200) describes it as follows:

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> "Undiphthongic glide-vowels occur however also, the commonest of which is the 'voice-glide' [ʌ], produced by emitting voice during the passage to or from a consonant. It has no definite relation to any one vowel, although it approaches most nearly to the neutral vowel (eh) or (æh)."

This voice-glide is

> "an essential element of many combinations, and often occurs as an unessential element in such words as 'against' ([ʌ]gænst), 'bigger' (big[ʌ]) .... It may be rounded, and this [ʌw] may be heard in a rapid pronunciation of .... 'follow'".

So there seems to be a systematic distinction between unaccented central vowels, which have definite heights, and are as "real" as any other vowels, and "voice-glides", which are so short that they are apparently virtually uncharacterizable in terms of tongue position. The only parameter on which they vary perceptibly is lip attitude (unsurprisingly, since it is in principle independent of tongue configuration). One would imagine that if Sweet were using contemporary transcriptional conventions, he would reserve [ə] for these alone, and otherwise follow the same practice for unaccented vowels as for accented ones: write what you hear. I will suggest below that this is good practice, salutary even for such relatively unexotic languages as English and German.

A word about "neutral" vowels, since this concept seems to be tied up with notions like "obscurity". I am here using the term "neutral" as Sweet does, not in the sense of (Chomsky & Halle 1968), where it is a device for defining the features [±high, ±low, ±back], and is supposed to be around [ɛ]. For Sweet (1877:§35), much less counter-intuitively, the term "neutral" refers to the natural position "when the organs are at rest", and is defined this way:

> "If we visualize the breath as emitted in ordinary quiet breathing, without shifting the tongue in any way, we obtain an indistinct nasal murmur,

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> which, if de-nasalized .... resolves itself into the mid-mixed .... we see, then, that the two 'natural' or 'neutral' vowels are (eh) and (əh), both of which are widely distributed in actual language." 10)

This would suggest that some kind of mid-central vowel is the "natural" goal for reduction processes, with the "voice-glide" as perhaps the last station on the road to transfer of syllabicity to an adjacent consonant, and then zero. For example, the various tempo alternants of <u>against</u>, in my dialect, would fall out quite naturally from Sweet's scheme. Narrowly transcribed, they would be, starting from citation form,

(2)	Citation Form:	əˈgɛnst[11]
	Reduction of unstressed V to "voice-glide"	ᵊˈgɛnst
	Transfer of syllabicity	gˈɛnst
	Zero	ˈgɛnst

(For more on [ᵊ], which I use for a "voice-glide", see §3 below.)

It would seem that even under low prominence Sweet identified two quite distinct phone classes that we now tend to group together as [ə]: (a) central vowels of particular specifiable heights, and (b) periods of voicing so short that even with his hyperacute ear and conscientiousness about discrimination they seemed not worthy of being "placed". Type (b), it will be noted, appears only under low prominence: in very weak anacrusis as in some versions of <u>against</u>, or in weak position within the foot. It is not clear exactly how Sweet saw the distinction within the foot with respect to degrees of "unstress" on unaccented vowels. But, judging from his charac-

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terization of the final vowel in bigger as either (æh) = [æ̯] or a voice-glide, there are two possibilities. Presumably the voice-glide type (like Gesenius' "grace-note") would occur in faster and/or more casual performances. So my [ᵊ] will then be equivalent to Sweet's [ʌ], and I will avoid [ə] at this precise level of description. However, as I will suggest in the next section, even the very weak anacruses of the [ᵊ] type often show a detectable and distinct quality. Whether one wants or needs to notate it, though, is another question. I think there might be circumstances under which one does.

3 Unstressed schwa(s)

In a reasonably "broad" transcription, we might want to write [ə] for the unstressed vowels in about, attack, achieve, accuse, effect, character, basilisk, wounded, ceded, horses, pieces. From a phonological point of view, there is probably nothing wrong with this if the phonology is uninterested in "low-level" regularities and, even more important, if the user is aware of the kinds of phenomena he is relegating to a "don't observe" limbo.[12)]

The forms cited above, in my own New York dialect, display at least five distinct qualities:

(3)
- (i) half-close central [ɵ] in about, effect, wounded;
- (ii) advanced [ɨ̈] in attack, -ac- in character, ceded, -isk in basilisk;
- (iii) raised [i̝] in achieve, accuse;
- (iv) retracted [ɤ̈] in -il- in basilisk;
- (v) retracted and lowered [ä̝] in -er in character.

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That is, there are at least five "[ə]"-qualities, showing distinct patterning.[13] Thus we get expected high values before velars and other "supra-neutral" articulations as in (3)(iii);[14] harmonization to preceding vowels, e.g. backer [ɘ] in wounded vs, fronter [ï] in ceded; assimilation to a [ɤ]-coloured dark /l/ in basilisk; lowering and retraction before pharyngealized palato-velar /r/ in -er.[15]

So, instead of Heffner's "floating" mid-central mush, we have a quite precisely specifiable set of values covering the range [ï - ɘ - ɨ̹ - ɤ̈ - ʌ̣̈]. Why then such a non-specific symbol, even phonologically, as [ə] for this set? Perhaps [ɘ] (or /ɘ/) would be more indicative. That is, three of the five values [ï ɘ ɤ̈] are half-close, while one is between half-close and close ([ɨ̹]), and the other half-open verging on half-close ([ʌ̣̈]). Phonetically we ought to distinguish them; phonologically we have to decide if they all represent one phonological unit. In the latter case, if we decide they do represent one phonological unit, then we ought to choose a symbol that represents something like an "average" or "geometric centre" of an exponence set.[16] In this case we should then select a half-close symbol, i.e. /ɘ/.

Interestingly, even in very rapid speech, the "voice-glide" that seems to be the stage "before" consonant-syllabification shows distinct qualities in different environments. In effect it has [ɘ]-quality, but in against close to [ɯ] as a result of prevoicing during movement to a velar closure.

Decisions about the phonology of "schwa" (as I suppose I now ought to call it) are complicated. Monosystemic and polysystemic analyses will make different decisions, and criteria for the extent to which phonetic similarity overrides functional non-identity will also have their role to play. Thus, in my speech, it is clear that at least two of the qualities mentioned above occur in stressed syllables: [ï] in finish (which is distinct from Finnish with [ɪ],[17] and [ɤ̈] in book, foot. So, a hard-line biunique analysis might go for using

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the phonemic symbols / ɪ̈ ɔ̈ / in attack, basilisk respectively. A more permissive analysis allowing overlapping would take the phonetic conditioning as primary, and probably allow one phoneme. But even a monophonemic decision should still be notationally more precise, and for this dialect would use /ə/, though for others other symbols might be more appropriate, as we will see below.

To round out this section on the qualities of unstressed schwa, I want to look briefly at the general norms for unstressed vowels in a group of Germanic dialects. This mini-survey will be impressionistic and non-detailed. It is intended only to state a preliminary version of an important point. Let us assume that we find good analytical reasons for suggesting that a language has an unstressed vowel category that in conventional terms we would call /ə/. And that, factoring out fine coarticulatory effects like those described above, a general norm emerges, particularly at word margins: anacruses before the strong syllable of the foot, and foot-final vowels. Sweet's observation of "un-English" qualities suggests that these norms may vary from language to language (despite the putative "naturalness" of some "neutral" position) and, since he describes only one variety of English, why not from dialect to dialect within a language?

Following are brief notes on some languages and dialects of English that I have observed in reasonable detail.

(i) *Standard German.* Both anacruses, as in prefixal be-, ge-, and final open syllables have a centralized (but not central) half-open to half-close quality: [gɛ̈'ge:bn̩] gegeben, [fɪʃ ɛ̈] (ich) fische. Final syllables containing orthographic r show an opener and more retracted (often uvularized) [ɐ̯]. Thus we find [-ɛ̈] versus [-ɐ̯] in the minimal pair fische: Fischer.[18)]

(ii) *Standard Afrikaans.* In unstressed prefixes, e.g. ge-, be-, the quality is solidly central and half-

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close [ɘ] : [χɘ'dun] gedoen "done", [bɘ'fïnt] bevind "find". This is the same quality as the stressed nucleus in dink "think", sing "sing", as opposed to the [ï] in the stressed syllable of bevind above. More will be said on the latter in §4 below. In final open syllables the quality is more front, verging on [ï] as in boeke "books". Before /r/, e.g. in visser "fisher", it is somewhat opener, in accordance with the general openness of mid vowels before /r/, as exemplified in [e] in vet "fat" versus [ɛ̝] in kerk "church".

(iii) *Scottish English (standard, Edinburgh).* In varieties without marked "Anglicization", the unstressed vowels in above, China, mother have [ʌ] or [ɐ̈] quality, a bit closer in anacrusis. There seems, as far as I have observed, to be some harmonization to preceding stressed vowels, hence a fronter and closer quality in letter ['letïr] than in mother.

(iv) *Newcastle upon Tyne.* In broad Geordie, there is a notably open quality [ɐ̞ ~ ä] in final unstressed syllables, as exemplified in letter ['lɛt̂ʔä], mother ['mʊðä].

(v) *West Yorkshire (e.g. Bradford).* Final unstressed vowels are distinctly half-close, as in [lɛʔt̂ɘ], ['mʊðɘ].

(vi) *Merseyside.* In Broad Scouse, final unstressed vowels tend to be rather more fronted than in W Yorkshire, often of [ï] quality, with marked lip spreading, as in ['lɛʂï], ['mʊðï].

(vii) *New York.* Anacruses were discussed in (3) above. In final syllables, the norm is opener than half-close, i.e. around [ɜ̝] as in China [tʃäɪnɜ̝]. Before /r/ it is opener and more retracted, as noted above.

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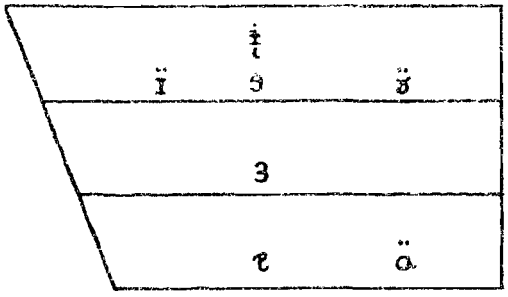
Looked at in terms of the conventional vowel quadrilateral, the phenomena traditionally grouped as "[ə]" seem to cover at least the following range:

(4)



A rather large territory for one symbol. It is important to note that the qualitative differences I have been discussing are not only audible, but indexically distinctive. As a simple example, both Newcastle and Bradford speakers would have the same vowel in the first syllable of leader, but they would be areally identified by the unstressed syllable, which is thus the indexically salient one: ['li:dä] vs. ['li:də].

It ought by now to be clear that whatever [ə] or /ə/ is, it is not a segment type, but a name for a very wide range of disparate and clearly discriminable phenomena, often with linguistic import. The members of the set seem to share only non-peripherality and a propensity for low-prominence positions. Avoiding the use of [ə] as a phonetic symbol would allow us to uncover and represent a large domain of fine phonetic differentia, which we can then make decisions about. It is always possible to discard what turn out to be hyper-subtle observations, but impossible to recover them if the metalanguage does not recognize their existence. From the point of view of the transcriber's craft, [ə] is a crutch even for short unstressed vowels, and should be allowed only as the product of a post-transcription analysis. It is not a field-work symbol.

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The moral of this section would seem to be that there are no vowels "without quality". Every vocalic occurrence, stressed or unstressed, has a vocal-tract configuration, and every configuration produces some formant structure. The careful phonetician can hear these distinctions without much trouble if his training does not short-circuit his ear. Whether he chooses to lump things together under [ə] at a later stage is another matter, and such lumping may well be justified in many cases. All I am saying is that the decision ought not to be preempted by a convention.

4 Stressed schwa(s)

Historically speaking, of course, "stressed schwa" is a contradiction. The original notion is of a vowel whose "schwa-ness" is due precisely to its occurrence in weak positions, both historically and synchronically. But, with the passing of time, the sense of the term has loosened. I suspect the history can be reconstructed as follows:

(5) (i) Schwa = [ᵊ] ("voice-glide").

(ii) Schwa = all nonhigh (and nonlow?) central vowels, so that [ᵊ] = [ə], and [ə] = [ɘ ~ ɜ].

(iii) By extension the stressed qualities [ɘ ~ ɜ] = [ə].

In commonest usage now, regardless of prominence, [ə] tends to cover anything but the poles of the unrounded central column. At least [ɨ] is normally distinct, though [ɐ] often seems to be "a kind of [a]", or "a kind of [ɑ]" in stressed positions, and "a kind of [ə]" in unstressed ones. No less an authority than the IPA Principles (1949:§18), with its pragmatic British emphasis on orthographic convenience rather than denotative precision, recommends precisely this kind of

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equivocation: the symbol [ə] should "be employed to denote any unrounded vowel situated in the interior triangle". If however a language has more than one vowel of this kind, "it is recommended" that we use [ə] for the closer and [ɐ] for the opener. The symbol [ɜ] may be used "occasionally .... to represent another variety [sic] of central vowel".[19)]

Later on (IPA 1949:§24), [ə] itself is described as representing "a in Engl. about ('neutral vowel' or 'schwa'); other varieties are Fr. 'e mute', Ger. e in bitte". This is about as uninformative as Heffner's description. It is much less forgiveable, however. After all, for English phoneticians --- and, despite the "International" the IPA Principles are very English --- to be at this stage less discriminating than Sweet, clearly the "onlie begetter" of their tradition in a strong sense, is both ungrateful and retrogressive.

Once again we see "varieties of [ə]", and a general looseness about the contents of the "interior triangle". It seems almost a matter of principle that less rigor and discrimination are needed here, whether the vowels in question are stressed or unstressed.[20)]

I argued above that there is at least a case for being dubious about [ə] as a conceptual/transcriptional category for unstressed vowels. All those arguments ought to hold *a fortiori* for stressed vowels. We do not normally allow ourselves the latitude of, say, writing anything in the [e-ɛ] range, or anything in the [o-ɔ] range with one letter. Why should we then lump half-open and half-close central vowels together? Do we really believe that even if a language has, e.g. /e/ vs. /ɛ/, it cannot have the same kind of opposition in the centre?

For workers in the field of English the issue is perhaps especially complicated, because of the long tradition of phonological and quasi-phonological transcription --- sometimes even slopping over into "phonetic" transcription --- that identifies symbol shapes with particular lexical categories rather than auditory experiences. We are so used to /ʌ/ in

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but, /ɜ(:)/ in hurt, /ə/ in the unstressed syllables of mother, etc. that we tend to use these symbols as abstract counters, rather than with a sense of phonetic value and finer differentiation. Even excellent departures from this tradition, like Trager & Smith's (1951) /ə/ for U.S. English but, have not really caught on.[21)]

The tendency is for students and linguists to be guided by an unconscious traditional conviction that, except of course in the North of England and perhaps in Ireland, everybody's but has "a variety of [ʌ]". The actual range of unrounded nuclei in this class, as far as I know, is at least [ɤ̈-ʌ-ɐ̈-ɜ-ɐ̞-ä-s̈-ɪ̈]. The range usually assigned to [ə] in more careful transcriptions, such as that of Wells (1982), is normally [ɘ-ɜ], i.e. the two middle heights in the centre.

I want now to look at two examples of what we might call "schwa-think", and compare them to more "pretheoretical" sorts of analysis. In both cases I will be contrasting accounts in the literature with my own experience of the languages in question. My transcriptions and claims therefore have no particular "scholarly" authority, but only what I consider the authority of a trained ear supported by the agreement of at least one other similarly trained listener.

The first example of problems in the transcription of central or centralish stressed vowels comes from Afrikaans. This language is commonly said to have "/ə/" as a reflex of WGmc */i/. Thus De Villiers (1976:§12.8) writes:

> "Die vokaal [ə] van bv. beginsel, te, sit en van die eerste lettergreep van betaal, die laaste van lede en die middelste van president is *neutraal* t.o.v. orgaanstande, d.w.s. die tong is ongeveer in russtand, die mond effens oop en ongespanne, en die artikulasiestand kan effens wissel sonder dat dit opval." [22)]

One might ask how "neutral" is *ongeveer*? How far from the *russtand* can the vowel go before the difference becomes striking,

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"foreign"-sounding, etc.? And is the variation that occurs "free"? De Villiers continues:

> "In Ndl. kom dit in onbeklemtoonde lettergrepe voor bv. de, te, ... in Engels somtyds in onbeklemtoonde posisie soos in die begin van above, in Duits soms in bv. gelaufen, Manne, maar die uitspraak in die tale is nie altyd eenders nie." 23)

The last point is in fact well-taken --- which makes one wonder what the rest of the paragraph is really trying to say.[24] As we will see, the obfuscation here has its source in the reification of "[ə]", which accounts for the rather peculiar way of talking about variation.[25]

As an "outside" observer (i.e. non-Afrikaans-speaking, and with a phonetic training in another tradition) I find this description --- assuming that it is meant to reflect some variety of standard Afrikaans --- rather puzzling, and unnecessarily uninformative. My observation of quite a wide range of speakers suggests (a) that there is nothing whatever "neutral" about this vowel, and (b) that there is no need for this kind of equivocation in describing it.

De Villiers (1976:§11.3) represents "/ə/" in the vowel-space more or less in accord with his description. He locates it as dead centre on the front/back axis, slightly higher than C[ɛ], but not even midway between C[ɛ] and C[e]. A value like this is opener than the (conservative) RP nucleus in hurt, as given in (Jones 1966:§53), and just below the middle of the pan-English range (for non-rhotic dialects) given in (Gimson 1962:§7.19). The vowel that I have heard in Afrikaans is never this open, and is this central only under special conditions. The height and centrality values De Villiers gives do correspond of course with some kind of notional *russtand* --- see §2 above --- but seem to me in fact much more like the auditory impression of the stressed vowel in Afr. put, lug, except of course that it is not rounded.[26]

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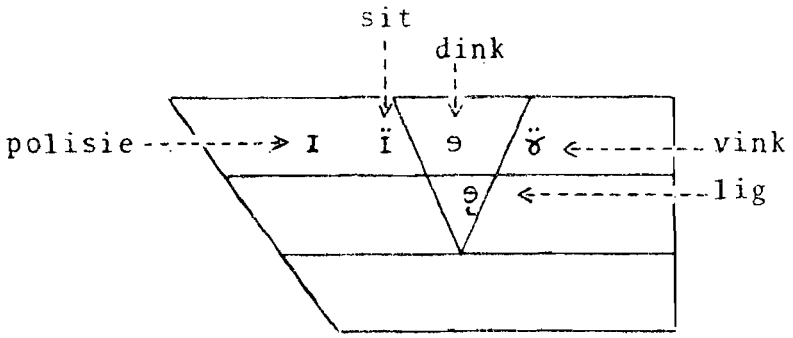
I think an [ə]-free approach to this vowel, and to the similar one in SA English bit (see below), allows us not only to pinpoint its norms more effectively, but to describe its allophony. The nucleus in vis, sit has an auditory quality that could impressionistically be described as more retracted than RP /ɪ/, but the same height (i.e. half-close), with a distinct "[ɪ]-colour", but never merging with the often [ɪ]-like /i/ as in Piet, or the stressed nucleus of posisie, polisie. Thus the best representation would probably be [ɪ̈].

If we take [ɪ̈] as the "phonemic norm" in the sense of (Lass 1984:§3), then the most notable variants, the really "schwa-like" ones, can be seen as entirely natural environmental responses. A quality just about dead on half-close fully central [ɘ], occurs before [ŋ] (sing, dink), and occasionally before other velars, as in dik; a slightly opener version occurs before the uvular fricative [χ] as in lig, and a backer [ɤ̈] at times in positions between grave consonants, as in vink. Thus we get the picture in (6):

(6)



Since the more central, backer and opener qualities are predictable as assimilatory responses, and [ɪ̈] occurs where there is the least articulatory or acoustic "interference", we ought to describe the Afrikaans vowel system as containing an opposition /i/: /ɪ̈/, as in Piet: pit, not /i/: /ə/ as is conventional. As far as I can tell, given these facts and the facts referred to in §3 above, there is no point in a description of Afrikaans invoking an "uninformative" symbol like [ɔ], or the

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notions "neutral vowel" or "rest position". The multiplicity of phonetic values can be easily discriminated, and the variation can be seen as rule-governed.

A similar phenomenon occurs in most varieties of (clearly local) South African English. The well-known rather central quality in bit, etc. is often described as [ə], and even called "schwa" or, more precisely, "low schwa" (which is something of an improvement) in standard works such as (Lanham 1978) and (Lanham & Macdonald 1979). Thus Lanham (1978:152) has transcriptions like [pən] "pin" and [invələd] "invalid". He equates the stressed vowel of pin with the unstressed ones of Rosa's, roses, candid. A more subtle account is given by Wells (1982:§8.3.2), who describes two main qualities for the reflexes of ME /i/: a centralized half-close [ɪ̈] and a central [ə].

A recent detailed investigation by Lass & Wright (1985) suggests that neither of these pictures is really accurate, and that, in Afrikaans, the notion of a "neutral" central quality [ə] does not have to be invoked. On the basis of a list of over 200 items, we found patterns of quality distribution for a Middle Class "Respectable SAE" speaker of the following kind:

(7) (i) Centralized half-close front [ɪ] occurs regularly in disyllables in /-ŋgl/ (single, mingle), and is lexically conditioned in personal names (Lynn, Tim, Tish).

(ii) Further centralized [ɪ̈] occurs after velars (kiss), after /h/ (hit, him), and initially (ink).

(iii) Lowered half-close central [ɘ̝] occurs in most other environments (sit, hymn, mid, sin, lip).

(iv) Advanced centralized half-close back [ɤ̈] occurs variably before velars (pick, sting:~[ɘ̝]), and categorically before syllable-final uvularized

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> /l/ (milk, sill). It also occurs after /w/ (which, witch), and --- inconsistently --- after /r l/ (rip, lip).[27]

In later work with the same informant, I found the unstressed vowel in roses, Rosa's, mother to be [ə~ɐ̯], with opener values usual in absolute finality.

Precise observation of the qualities in this lexical set is particularly important for the sociolinguistic description of SA English. Aside from the quite front and raised variant [i] that occurs in some varieties ("Extreme SAE") initially, after /h/ and before high segments (it, hit, sing), the degree of backness before grave consonants is another significant marker. Thus ['fɤ̈fti:] "fifty" is a clear index of the lower end of the socioeconomic scale.

These rather fragmentary remarks on Afrikaans and one variety of English are of course not intended as "linguistic descriptions" in any full sense. They serve merly as pointers to the necessity for observational and transcriptional standards in the "interior triangle" and its vicinity that are as high as those we normally employ for the periphery of the vowel space. The general inutility, and even deleterious effect, of invoking [ə] as a vowel symbol in unstressed positions is compounded in stressed positions where, on the grounds of salience and ease of perception, there is even less excuse for "hearing" [ə].

The foregoing remarks may best be summarized as follows: there is no real evidence that "schwa" or [ə] represents any genuine "pretheoretical" or "empirical" reality. It rather represents a degree of idealization appropriate to a "finished" phonological analysis, i.e. it is only a cover symbol. To use it as a phonetic concept or symbol is to commit a category error that leads to the obscuration of data. In my judgement the best place for [ə] is in the same oubliette that ought to contain "lax" and "tense" vowels[28] and similar pseudodoxies.

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FOOTNOTES

* This is a very preliminary and polemical outline of something that might or might not be worth pursuing. I would appreciate comments from any readers who take it seriously. I am grateful to Susan Wright for encouraging noises during gestation, and to Vivienne Rubin for putting me on to Gesenius' Hebrew Grammar and some helpful discussion of matters Hebraistic. My mistakes, poor things, are of course mine own.

1. I wonder how many dialects of English, by the way, have the same vowel quality in the first syllables of because and above. See §3 below.

2. Gesenius' "e" probably means [e], since he distinguishes it from "ä", by which he means an "open-e", i.e. [ɛ]. this is quite reasonable and expectable practice for a 19th-century German-speaking scholar. On "neutral" vowels see §2.

3. There is another orthographic schwa that is apparently not pronounced, and is distinct from "vocal schwa".

4. The Septuagint was made by Hellenized Jews conversant with both spoken Greek and Classical Hebrew. Cf. Weinreich 1980:§2.6.1.

5. This reading, as opposed to *mílra* (final accent) was the one generally adopted by the Ashkenazic Jews. The Sephardim adopted *milra*, which has also become the modern Israeli Hebrew norm. For discussion of the sources of the Hebrew reading traditions and their effects on the Hebrew/Aramaic determinants of the Jewish vernaculars, see (Weinreich 1980:§§7.3 - 17). The material discussed here is largely based on §7.14.1.

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6. Yiddish transliterations follow the standard YIVO conventions, as used in, e.g., (Weinreich 1980).

7. In the Lithuanian Yeshivas, the name schwa itself was apparently pronounced /ʃéivə/. Cf. Weinreich 1980:380.

8. Catford is here discussing the Cardinal Vowels.

9. Whether or not they are potentially phonemically distinctive is not at issue in the Handbook, and Sweet --- though in general acutely aware of phonological issues --- does not commit himself on this.

10. Note that Chomsky & Halle's "neutral position" is distinct from Sweet's, in that it is supposed to be a sort of "linguistic readiness setting", not the setting for "quiet breathing". (They (1968:300) use this phrase in fact.) Whether such a "universal" neutral position exists, independent of language-specific articulatory settings, is of course dubious. Cf. Laver 1980.

11. From here on I discriminate [ɵ] (specifically half-close central) from generalized [ə].

12. Of course, I am not advocating that a phonetician should be a spectrograph. I am merely suggesting --- perhaps on some reasonable evidence, as will appear below --- that some conventional idealizations should not be made at the "field-work" level. If you get into the habit of writing a certain (as we'll see rather large) class of different things as [ə], which is what the idea that you ought to write them that way leads you to do, you can end up "hearing" them all as [ə], and losing some generalizations irretrievably.

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13. Cf. Jones' (1964 : §§355 - 67) four schwas plus [ɚ] in RP.

14. Cf. Lass 1976:ch. 7.

15. /r/ in this dialect (as perhaps in most U.S. ones) is an advanced velar-pharyngeal approximant, not postalveolar [ɹ].

16. Cf. Lass 1984:53.

17. [ɨ] is one way of writing the quality designated as [ɪ̈] in (Trager & Smith 1951:19), the famous or infamous "barred-i". For details of its deployment in one dialect of English cf. Lass 1981.

18. Since standard German is non-rhotic, there is some doubt as to whether -er can be said to have a quality conditioned by "underlying" /r/. The /r/ typically does not show up in "linking" position as it would in RP.

19. But even quintessentially IPA-oriented phoneticians like the field-workers of Orton & Halliday's (1962) Survey of English Dialects (SED) often do not follow this advice, and use [ə ɜ], the latter (apparently) for the opener quality. Thus the following transcriptions of turnips (Questionnaire Item II.4.1) appear in the SED Basic Materials for Yorkshire and Lancashire (areas 6.1, 6.14, Man 1-2): [tə:nɪps], [tə:nəps], [tɜ:nəps]. (I substitute [ɪ] for their alternative symbol for this quality). Apparently at least [ɪ ə] are distinguished in unstressed syllables, and [ə ɜ] in stressed.

20. This imprecision has not affected recent work in vowel-system typology. Both Crothers (1978) and Maddieson (1984), for instance, use extremely fine-grained alphabets,

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where central vowels are treated just like any others. Cf. also Lass 1984 ; §7 for a typological perspective on central-vowel distinctions.

21. What is good about this is not the symbol itself, but the fact that it suggests a *range* of central vowels in keeping with the usual non-openness and non-peripherality of this category in the U.S.

22. Translated, this passage reads as follows:

> The vowel [ə] in, e.g., beginsel, te, sit, and in the first syllable of betaal, the last syllable of lede and the middle syllable of president, is *neutral* with respect to the settings of the speech organs, i.e. the tongue is approximately in the rest position, the mouth is partially open and lax, and slight variations may occur in the articulatory setting without these being strikingly apparent.

23. Translated, this passage reads as follows:

> In Dutch it occurs in unstressed syllables, e.g. de, te, ...; in English [it] sometimes [occurs] in unstressed position, as in the first syllable of above; in German [it] sometimes [occurs] in, e.g., gelaufen, Manne; but the pronunciation in these languages is not always the same.

24. Apparently [ə] for this vowel is well-established. It occurs even in pedagogical works, such as Burgers' (1957) Teach yourself Afrikaans. Thus, according to Burgers (1957:6), "the short sound i, phonetic sign ə .... is pronounced like the second vowel sound in Engl. 'better'." If Burgers' "more or less" and De Villiers' *ongeveer* are given enough latitude, I suppose this is acceptable. But

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I wonder what a native speaker would make of an RP-speaking learner's pronunciation of vis with [ʒ] or [ɾ]. Cf. the remarks on "English /ə/" in §3 above.

25. Cf. the Heffner passage cited in §2.

26. Or the first mora of the diphthong in sluit. De Villiers (1976 : §12.10) represents this as [œ], and describes it as having "die tongstand van 'n lae [ə] of baie hoë [a]" , i.e. the tongue setting of a low [ə] or very high [a] . His [a] (as in kas --- cf. De Villiers 1976:§12.4) = more or less IPA [ɾ], with allophonic variants, e.g. [ɑ̈] before nasals. If [œ] is the appropriate symbol for say Std G Götter, and perhaps Std F beurre, then lug, and the first mora of sluit should be written with a symbol marked for centralization, e.g. [œ̈], or more finely [œ̣̈] or [ɵ̣] .

27. For more details cf. Lass & Wright 1985:§5.

28. Cf. Lass 1976 : ch. 1, Appendix.

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