Dutch Diminutives and the Question Mark

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Draft version; do not cite; comments welcome

1 Monostratalism and the null parse

There are several ways of treating the problem of ineffability, of which the 'null parse' solution — there is a winning candidate in the phonology, which does not have a phonetic interpretation — has the longest tradition within Optimality Theory. This chapter aims to defend a specific implementation of this solution. It will be argued that an important reason for choosing the null parse option over its competitors, is that this allows us to allow for the fact that 'bad' alternatives are still sometimes pronounced. We will show that this follows from normal constraint interaction as we know it from work on language variation in OT, in particular the work by Anttila (1997b, 2002).

We also argue for a specific version of the Null Parse, viz. one which is embedded in a revised version of what I call Consistency of Exponence (CoE) Theory, i.e. the version of faithfulness originally propsed by Prince & Smolensky (1993). The idea of the Null Parse was first brought up by these authors within the context of this theory of faithfulness, albeit not in a very formal way. Containment was soon replaced as a theory of input-output relations by Correspondence Theory (McCarthy & Prince, 1995), but if I am not mistaken, interest is currently reviving. One important advantage of CoE Theory over Correspondence is that it is theoretically more restrictive, and therefore makes more fine-grained empirical predictions.

Formally, the main difference between CoE Theory and Correspondence Theory is that the former offers a purely monostratal view of linguistic representations. All Containment based constraints, those checking faithfulness as well as those checking wellformedness, only consider one level of representation — the output. We may posit an input to the Gen function, but the constraints of Con are not aware of it, and hence the input representation does not exist for the Eval function. Within Correspondence Theory, on the other hand, there are typically two levels of representation — the input and

the output — and constraints refer to properties of one of these levels, if they are wellformedness constraints, or to the correspondence relations between them, if they are faithfulness constraints: both input and output exist both for Gen and for Eval.

If we have only one of level of representation, such as in CoE Theory, we still need to be able to see deleted material, otherwise there is no way to penalize it: we need constraints against deletion, otherwise all deletion will come for free. In classical CoE Theory of Prince & Smolensky (1993) this was accomplished by assuming (i) that all input material would be contained in the output (this was called the principle of Containment, hardwired into the Generator function), but that (ii) the material which is not pronounced is not parsed in the phonological structure: unpronounced features are left unassociated to segments, unpronounced segments are not incorporated into the syllable structure. The phonetics, coming after the phonology, only considers the phonologically parsed material and applies 'stray erasure' to the rest. The phonological derivation thus is monotonic whereas the phonetics is not necessarily.

At first sight, the null parse solution is more problematic for CoE Theory than for Correspondence Theory: if all the material is present in the output anyway, why would we ever choose to not to pronounce any part of that material? Next to the bigger popularity of Correspondence Theory, this difference may account for the fact that almost all of the studies on the issue of ineffability — for instance, all other chapters in this book — are couched in terms of Correspondence Theory. As a matter of fact, the only Containment solution of which I am aware is Prince & Smolensky (1993, p. 51–52)'s suggestion that the null parse is the form which does not get morphological structure assigned to it. The input of the phonological derivation for some form can be assumed to be { root, affix }, i.e., an unordered set. Gen can decide to assign morphological structure to this set, e.g. [[root] affix] (violating a constraint MPARSE), or it can decide to leave the whole structure as it is morphologically unparsed. { root, affix }, however, is something that will not fit into a syntactic structure, and this will cause the crash. See the introduction to this volume for a more detailed explanation.

The discussion of this issue is rather informal in Prince & Smolensky (1993), and it therefore leaves several questions open. For instance, it is not exactly clear where the crash takes place that leads the underlying material to be unpronounced. One way to interpret Prince & Smolensky (1993) suggestion is that the null parse is assigned in a morphological module, which is then input to the syntax; here, the word becomes 'uninterpretable' however. Yet, if syntax is also an OT system, which should be the default option, it should not crash on receiving an uninterpretable input, but rather do something else (such as making it interpretable). This is of course even more so if phonology, morphology and syntax work in parallel. It thus still is not completely clear how ineffability works under Prince & Smolensky (1993)'s

assumptions. More discussion of this issue will be provided in section 2.

This article aims to fill this gap in the theoretical literature for two reasons. In the first place, I consider CoE Theory a serious alternative to Correspondence, as I will explain in section 2; but as such it needs a worked-out approach of the null parse, among other things, which can compete with the best Correspondence Theory alternatives. In the second place, I believe that CoE Theory puts into a special light an important aspect of all cases of Null Parse seen in the literature: that the relation to morphology and to the input plays an important role in it. The results of this investigation may therefore also be of interest to students of ineffability within Correspondence Theory.

As a matter of fact, I will present my solution to the Null Parse problem within Containment in two steps. In section 4, I will develop a 'radical' solution which should be able to compete with Correspondence-based alternatives: one in which there is a real Null Parse, i.e. a form which will not be pronounced. However, I will show that often the 'ineffable' cases are actually not completely impossible, and may grow more acceptable to speakers when they hear them repeatedly. In section 5, I therefore set a few additional steps, first embedding my approach into an accepted theory of language variation to be able to describe this pronounceability of 'ineffable' material, and secondly, explaining why lexicalisation helps making a form more acceptable.

Next to these theoretical goals, this article also serves to add some new facts to the discussion about ineffability. These facts are from (Standard) Dutch: it is shown in section 3 that diminutives are difficult to form on the basis of certain proper names and nouns, depending on their phonological shape. The particular relevance of these facts is that diminutive formation seems 'difficult' rather than impossible: while most native speakers agree that these forms are funny, this does not mean that everybody rejects them outright. As a matter of fact, many informants seem to agree that one could use these forms if forced to, even if they sound a little funny, and a corpus search reveals that they are indeed used, albeit less frequently than forms with a similar meaning but a different phonological shape. In other words, these forms have a question mark rather than an asterisk.

The question mark poses of course a problem to OT which is of the same nature as ineffability. An OT grammar only knows absolute judgements: there is one candidate output which will win the competition — and therefore be grammatical —, and there are many candidate outputs which will be defeated (and therefore get a star), but there is nothing in between. We argue in section that the question mark indeed is an extragrammatical category, but one which can nevertheless be understood in terms of the Null Parse and a theory of language variation.

An important difference between the question mark and ineffability is that the latter is a problem mainly for OT and not for other models, such as classical, SPE-based phonology or Government Phonology: most of these alternatives assign absolute markings to all representations, which can result

in some combination of morphemes to be simply impossible. However, the question mark poses serious problems for virtually every (formal) theory of grammar, and maybe even especially so for the theories just mentioned, with their absolute markings. Given the fact that the study of variation (comparing different forms for one input) is relatively well-developed within OT, the existence of question marks will be argued to actually be an argument in favour of such a model of grammar.

2 Containment

2.1 Containment and Correspondence

In the OT literature, we find roughly two ways of evaluating the relationship between input and output. One is monostratal, and exemplified by CoE Theory: the constraints can see only one representation, the output.[1] The other one is multistratal — usually bistratal: the constraints can see and evaluate input and output and (correspondence) relations between them.[2]

As already pointed out above, within a Containment model we need to be able to see in the output representation which elements are inserted and which elements are deleted. If we would not be able to differentiate an inserted vowel from an underlying vowel at the surface level, there would be no way in which we could block massive epenthesis; and if deleted elements do not leave some trace in the surface structure, there would be no way of preventing massive deletion. The latter point means that input material should still be present in the output representation; hence the generator function is subject to a principle of Containment:

(1) *Containment.* Every element of the phonological input representation is contained in the output. (There is no deletion.)

Faithfulness constraints are formalized by Prince & Smolensky (1993) in the following way. They assume that 'deletion' means that elements are 'not parsed' into the phonological structure, as outlined above. 'Inserted' segments are supposed to remain empty — there is no insertion of features —, and this is how the phonology can recognize them.

[1] The fact that CoE Theory is techically monostratal does not imply that it would be incompatible, for instance with Stratal OT (Kiparsky, 2000). The 'monostratal' aspect of it involves the relation between input and output, but of course, we can still make the output of one level the input of the next level.

[2] In most versions of Correspondence Theory, there are no constraints evaluating the input structure, but the reason for this is that such constraints would not extend a lot of empirical power, since all candidates in a tableau have the same input, and thus will have the same violations for such constraints. There is no logical ban on constraints on inputs.

(2) a. PARSE: All elements should be 'parsed' in the phonological structure (no deletion.)

b. FILL: Do not allow empty elements. (No insertion.)

An advantage of a Containment approach to faithfulness is that it is theoretically parsimonious: it does not refer to any device which is not needed independently. For instance, the highly abstract correspondence relations are not necessary. Furthermore, the PARSE and FILL families of constraints supposedly are necessary outside the theory of faithfulness proper: we need to say that syllables should be parsed into feet, regardless of whether unparsed syllables are pronounced or not; we thus need PARSE constraints or some equivalent anyway. Similarly, we will want to prevent phonologically 'empty' segments, for instance because they do not seem to occur in all languages; we thus need FILL constraints or some equivalent anyway, even if we subscribe to Correspondence Theory.

This thus poses a problem for many of the proposed alternatives within other phonological frameworks of dealing with faithfulness: we may stipulate that we no longer use PARSE-C or FILL-V, but then we will still need to say something about consonants that are not attached to syllable nodes on the surface, or vowels that do not have any vocalic feature content. Occam's razor thus seems to run against introducing correspondence relations to accomplish something that can already be done. In that sense, Containment comes very close to the null hypothesis regarding faithfulness theory, given the other theoretical assumptions that were made in Prince & Smolensky (1993); McCarthy & Prince (1993).

However, CoE Theory also has a few problems. One of these is that it seems less well-equipped to deal with interrepresentational relations beyond input-output relations, such as output-output relations (Burzio, 1994, 1998, 2000, 2003; Benua, 1997; Kager, 1999), relations between candidates in a tableau (Sympathy Theory McCarthy, 1999) and, most uncontroversially, for the relations between bases and reduplicants (McCarthy & Prince, 1995). However, alternatives for each of these presumed extensions of Correspondence Theory exist, which do not use Correspondence relations. For instance, instead of output-output relations we can use Stratal OT (Kiparsky, 2000) or Derivational OT (Rubach, 2003); for Sympathy Theory there is a spade of alternatives, and as a matter of fact, CoE Theory seems particularly suitable to deal with at least certain types of opacity (van Oostendorp, to appear); and instead of Base-Reduplicant Correspondence, we can assume that copying in reduplication is governed by the morphology rather than the phonology (Inkelas & Zoll, 2005).

Other problems have to do with the specific implementation of the idea of Containment with PARSE and FILL rather than with that idea itself. In particular the theory of epenthesis implied by the FILL constraints is very problematic. It should be the case, for instance, not just that features cannot

be inserted, but features should also not be allowed to ever spread to an epenthetic vowel. If ever a vowel which is inserted by Gen would be able acquire phonological features in whatever way, the epenthetic vowel would no longer be empty, hence it would no longer violate FILL, and the doors would be open to massive unpenalized epenthesis, at least in languages that allow some minimal form of vowel harmony.[3]

For this reason, van Oostendorp (2005b, to appear) developed an alternative implementation of CoE Theory, which evades these problems. This alternative is based on the notion of *Consistency of Exponence*, another classic principle of Optimality Theory which has not been taken sufficiently seriously in my view:

(3) *Consistency of Exponence*
"No changes in the exponence of a phonologically-specified morpheme are permitted." (McCarthy & Prince, 1993, 1994)

This principle, assumed to restrict Gen, was explained by McCarthy & Prince (1993, 1994) in the following way:

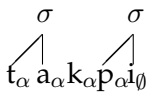
> "[Consistency of Exponence] means that the lexical specifications of a morpheme (segments, prosody, or whatever) can never be affected by Gen. In particular, epenthetic elements posited by Gen will have no morphological affiliation, even when they lie within or between strings with morphemic identity. Similarly, underparsing of segments — failure to endow them with syllable structure — will not change the make-up of a morpheme, though it will surely change how that morpheme is realized phonetically. Thus, any given morpheme's phonological exponents must be identical in underlying and surface form."

An important consequence of this principle is that the morphological identity of segments will be visible at the surface structure; in this way our phonological constraints can refer to them even within a monostratal model.

van Oostendorp (2005b) proposes a notation which allows us to see the effects of Consistency of Exponence, and which is based on the metaphor of colouring. It is assumed that every morpheme has its own 'colour' which has been provided by the lexicon and which is distributed over all segments and other material — features, mora's, etc. — which is lexically present in that morpheme. Assume for instance that we have an input morheme /takp/,

[3] As a matter of fact, the existence of vowel harmony and other types of feature spreading poses problems for the PARSE and FILL model. If spreading can occur, how do we prevent it from happening everywhere in every language? The only reasonable answer to this is: by way of faithfulness constraints against insertion of association lines. But how can we formalize that if constraints against insertion are FILL constraints — what does it mean to say that an association line is empty?

and an output candidate which would be pronounced ad [tapi]. This candidate would look as follows in the phonological surface (for the sake of reproductional convenience, the colours are reproduced here as subscripts):

(4) 

In this simple example, there is only one morpheme with the 'colour' α. The epenthetic segment does not have any morphological colour, which denoted here by giving $\emptyset$ as its subscript. In terms of colours, Consistency of Exponence states that Gen cannot give colour to epenthetic material, and it cannot alter the colours of underlying material.

(5) *Consistency of Exponence* (Colour-based version). Gen cannot change the morphological colour of any phonological element.

But given this notational assumption, it becomes easy to determine the status of epenthetic material by checking only the phonological output: epenthetic material is exactly the material which does not have a morphological colour. Epenthetic segments thus do not have to be marked as featurally empty, since they are already empty from a morphological perspective by definition. It now becomes possible to do away with FILL and to define constraints against epenthesis and deletion in a parallel fashion. Deletion means — like in the PARSE&FILL model — that a segment is not incorporated into the phonological structure; epenthesis means that a segment is not incorporated into the morphological structure.

(6) a. PARSE-$\phi(\alpha)$: The morphological element α must be incorporated into the phonological structure. (No deletion.)
b. PARSE-$\mu(\alpha)$: The phonological element α must be incorporated into the morphological structure. (No insertion.)

Consistency of Exponence has recently come under attack (Walker & Feng, 2004; Łubowicz, 2005), but van Oostendorp (to appear) argues that these attacks are not very convincing, and as a matter of fact that a large literature has to assume Consistency of Exponence, for instance in order to implement morphologically-based positional faithfulness. If that is true, the constraints in (6) come for free, as it were.

The principle of Containment can be seen as a lemma of Consistency of Exponence under the original definition of that constraint in (3): deletion of underlying segments of a morpheme m would mean changing the exponence

of m.[4] However, the equation no longer holds under the colour-based definition of Consistency of Exponence given in (5). Consistency of Exponence just states that *if* segments are preserved, they will keep their original morphological colour. This no longer implies that they have to be preserved, just like the principle of Containment does not say anything anymore about the colouring of phonological material. The two principles thus have become logically independent, something which we will use later on.

2.2 The Null Parse in classical CoE Theory

It thus seems useful to take the theoretically parsimonious alternative that CoE poses to Correspondence Theory seriously. This means, however, that we have to provide alternative analyses for theories which have been proposed within Correspondence Theory, such as the analyses of ineffability that are developed in the other chapters of this book.

In order to do this, it is useful to briefly consider Prince & Smolensky (1993)'s discussion of these issues. As a matter of fact, these authors entertain two slightly distinct possibilities. In the first place, we might assume that in some cases it is better to not assign e.g. a foot or a phonological word label at all. E.g., if Latin does not have monomoraic words, this effect may be due to the interaction between FTBIN and the constraint LX≈PR, requiring every lexical word to correspond to a phonological word (this fulfilled a function in the theory of the time which roughly corresponds to that of ALIGN(ω,X_0)).

If FTBIN≫LX≈PR, it may be better not to assign any phonological structure at all in order to prevent monomoraic forms from surfacing:[5]

(7)

/rĕ/	FTBIN	LX≈PR	…	PARSE
a. rĕ		*	…	*
b. [(rĕ)$_F$]$_{PrWd}$	*!		…	

Candidate (7b) represents an attempt to parse the structure into phonological constituency, but this results in a non-binary foot. It is then better to not parse the whole structure at all. The result of this is that FTBIN is satisfied vacuously, since there is no foot at all. Candidate (7a) will thus win, and handed

[4] There are a few marginal cases where the two principles diverge even under PARSE-FILL. We find a concrete example if we consider 'epenthetic' material underlyingly, viz. material that does not belong to any morpheme. This material can be deleted for Consistency of Exponence, but not for Containment. I am not sure that the concept of underlying epenthetic material is a very important one to incorporate into the theory, but they are indeed predicted to exist by the theory developed here.

[5] A very straightforward, and probably more correct, account for this fact is later on also provided by Prince & Smolensky (1993): an underlying form /rĕ/ would be subjected to vocalic lengthening to [rē]. But if this vowel always surfaces as lengthening, Lexicon Optimisation will cause the long vowel to also be underlying.

over to the phonetics. But since the phonetics will only pronounce the material affiliated to a phonological word, the pronunciation of this winning item will be zero.

While this solution works well to describe certain Morpheme Structure Constraints for short words ('stems cannot consist of only a short vowel'), viz. precisely in those circumstances in which the relevant markedness constraint, FTBIN in this case, dominates all faithfulness constraints. However, it does not work in most more complicated cases, where it is not so clear why we could not parse at least a part of the relevant structure. Consider the comparative form of the English adjective *violet*. It is well known that the comparative suffix *-er* can only be attached to Minimal Words of the size of one foot. Now suppose that we input { violet, er } to the grammar: what is the output of that particular set of underlying morphemes? From the point of view of phonology, there can be nothing against an output $[_{\omega}\ (\text{vio})_F\ (\text{let})_F]$, since this is a well-formed structure elsewhere in the language, viz. in the simple form of the adjective; so it is not clear why the Null Parse would ever win.

In order to be able to deal with such facts, then, Prince & Smolensky (1993, p. 53) introduce another type of parsing constraint, MPARSE. The idea is that in the input words do not have any morphological structure:

> On this view, then, the underlying form of an item will consist of a very incompletely structured set of specifications which constrain but do not themselves fully determine even the morphological character of the output form. These specifications must be put in relation, parsed into structure, in order to be interpretable.

The constraint MPARSE (M for morphology) requires that in the output all the relevant structure has been assigned. Furthermore,

> Failure to achieve morphological parsing is fatal. An unparsed item has no morphological category, and cannot be interpreted, either semantically or in terms of higher morphological structure.

I have already pointed out in section 1 above that it is not clear how this remark can be implemented exactly. If semantics or higher-order morphosyntactic structure also work as an OT system, they still cannot crash. If we assume a serial model — we apply lower-level morphology and phonology first, and feed the results of this to 'higher morphological structure' or semantics, these modules will still try to get a result out of this. The same is true if all modules work in parallel. The only realistic answer therefore should be that it is eventually interpretative modules *outside of (OT) grammar* such as phonetics or pragmatics which will cause the crash. This conclusion — that ineffability eventually is due to something outside the grammar — is an unfortunate one, and I will try to improve on it in what follows.

Furthermore, notice that the OT system has to be set up in a way which is not fully compatible with the assumption of Richness of the Base, in order for the analysis to work. It is crucial that the input is morphologically and phonologically underspecified. If we would allow inputs which are already parsed underlyingly, these inputs could presumably not be bested by a Null Parse, especially under an architecture of the grammar in which Containment plays a role, i.e. in which no underlying material can be thrown away. It seems therefore necessary to provide a more precise theory of the Null Parse within CoE Theory. This will be attempted in the sections 4 and 5 below, using the concepts of Coloured Containment. But before doing that, I will first provide some data which shed new light on this issue.

3 Dutch diminutives

3.1 The crucial data

The formation of diminutives has been the object of intensive study within Dutch linguistics for a long period of time (see Trommelen, 1982; Kooij, 1982; van der Hulst, 1984; Booij, 1995; Gussenhoven & Jacobs, 1998; van Oostendorp, 2000; Botma & van der Torre, 2000; van de Weijer, 2002, for some more recent contributions). The process is very productive and can affect all nouns and personal names in principle:

(8)

base form	*diminutive form*	*gloss*
man	man-ətjə	man
maan	maan-tjə	moon
raam	raam-pjə	window
dak	dak-jə	roof
Orhan	Orhan-ətjə	(name)
Geraldine	Geraldiːn-tjə	(name)
Ralf	Ralf-jə	(name)

The diminutive displays a substantial amount of allomorphy, and this is the focus of most phonological work, since this allomorphy is largely determined by prosodic factors. For instance, if a noun ends in a lax vowel plus a sonorant (*man*), the diminutive takes the shape -ətjə, whereas if the noun ends in a tense vowel plus a sonorant (*maan*), the suffix takes the shape -ətjə.

Yet a footnote in a recent study in terms of Optimality Theory is particularly interesting. van de Weijer (2002) notes — as far as I can tell for the first time in the literature — that certain nouns cannot take a diminutive suffix. After having consulted the intuitions of a number of native speakers of Stan-

dard Dutch, I conclude that this concerns in particular those ending in -/Tə/, where T is a coronal plosive (/t/ or /d/):[6]

(9)

base form	*diminutive form*	*gloss*
lente	??*lente-tjə	spring
	*lent-jə	
schade	??*schade-tjə	damage
	*schaad-jə	
boete	??boete-tjə	fee
	??boet-jə	
Hilde	??*Hilde-tjə	(name)
	?Hilde-kə	

Note that in the case of names, there is the option of also adding the alternative diminutive suffix *-ke*, which seems to give a more acceptable result for most speakers. This applies only to names, since nouns never get this suffix — they sound dialectal if this is attempted.

If C in -/Cə/ is a different segment, judgments vary, reflecting possibly subtle differences in individual grammars, or the fact that words of this type are almost all proper names and therefore display a slightly different behaviour:

(10)

base form	*diminutive form*	*gloss*
base	??*base-tjə	base
	*baas-jə	
Susanne	?/*ok*Susanne-tjə	(name)
	*Susan-jə	
	*ok*Susanne-kə	
Okke	?/*ok*Okke-tjə	(name)
Douwe	??Douwe-tjə	(name)
gave	??gave-tjə	gift
	?*gaaf-jə	
hetze	??hetze-tjə	innuendo
	*hets-jə	

This is the ineffability fact that will be at the focus of our attention in this paper. In order to properly understand it, we first need some background on the morphophonological status of the diminutive suffix.

[6] The German diminutive sometimes also leads to ineffability, albeit of a completely different kind, having to do with umlaut. Cf. Féry (1994); Féry & Fanselow (2003) and section 6.

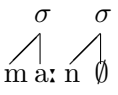
3.2 A sketch of the analysis of diminutives

Although this has been phrased in different ways in the literature, the prosodic sensitivity of the diminutive suffix is usually taken to mean that the diminutive needs to be added to a minimal word of a certain shape. In other words, the following constraint applies to the diminutive suffix:[7]

(11) SUFF-TO-PRWD: The base of suffixation is a bisyllabic word.

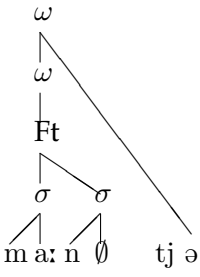
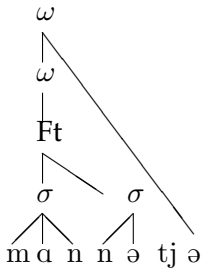
Some scholars (e.g. van Oostendorp, 2000) assume that tense (long) vowels in Dutch always head an open syllable. The consequence of this is that the final consonant of *maan* appears in a separate position, e.g. the onset of an empty-headed syllable. We thus have the following structures for *maan* and *man* respectively:

(12)

a. *maan* 'moon' [maːn]	b. *man* 'man' [mɑn]
	

According to SUFF-TO-PRWD, we can affix the diminutive suffix to (13a) without any problems, but, assuming that monosyllabic units do not form minimal words, something needs to be added to the structure in (13b): this can be a schwa, providing the proper prosodic basis for the form in question:

(13)

a. *maantje* 'moon' [maːntjə]	b. *man* 'man' [mɑnətjə]
	

Given this analysis, we can now wonder about the morphological affiliation of the schwa: it does not make sense to say that it is part of an allomorph of the stem, because that would involve positing lexical allomorphy for a (large) natural class of forms; all words ending in a short vowel and a sonorant would have an allomorph with a schwa. There are therefore three options:

1. The schwa has its own morphological status as a separate (binding) morpheme. Such an analysis is possible, because there is independent evidence that Dutch uses schwa as such. In compounds of a certain

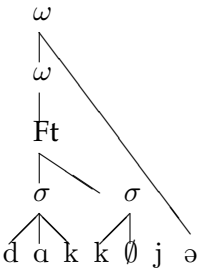
[7] This analysis loosely follows van de Weijer (2002).

shape, we find schwas inserted which are probably not epenthetic: e.g. *vrouw-ə-lichaam* 'female body' from *vrouw* 'woman' and *lichaam* 'body'. As far as I can see, it would however be a novelty in the literature to assume that this binding schwa also shows up in the diminutive, and since nothing seems to bear on the issue for the present discussion, I have decided to assume the standard analysis. See Kooij (1982) for further discussion.

2. The schwa is phonologically epenthetic, and stays without morphological affiliation. Something similar applies to this: Dutch has phonological epenthesis of schwa (van Oostendorp, 2000), but this does not normally occur between two consonants with the same place of articulation, such as the two coronals in *mannətjə*.
3. The schwa is part of an allomorph of the diminutive suffix. This seems then the most reasonable solution. A solution for the Dutch diminutive in terms of allomorphy is also suggested in Booij (2002): the suffix can also take the shapes *-kjə*, *-pjə* or *-jə*, and although each of these forms is phonologically conditioned, it is hard to relate them to productive processes of Dutch phonology — for instance, voiceless stops do not otherwise assimilate to neighbouring segments.

It has often been observed that the schwa suffix does not show up after a short vowel followed by an obstruent: the diminutive of *dak* 'roof' is *dakje*, not **dak-ə-tje*. Botma & van der Torre (2000) argue that the reason for this is that obstruents get a different prosodification from sonorants in Dutch: obstruents are always in a separate syllable, even if they are preceded by a short vowel.

(14)



This solution raises the question why the constraint SUFF-TO-PRWD forces the selection of a special allomorph in the case of sonorants rather than using the option of an empty segment. A possible answer is that this is a cyclicity effect — in terms of Correspondence Theory, it would be an effect of Output-Output correspondence. If we assume that *maan* and *dak* are bisyllabic already before attachment of the suffix, we do not have to change anything to adjust to. Yet *bal* needs to be changed, in order to form a minimal word, and for this reason we choose to insert a schwa.

3.3 Why the ungrammatical forms are wrong

Given the rough structure of the diminutive forms, we will now try to find the reasons why diminutives are considered to be ungrammatical if the stem ends in an obstruent. One obvious correlate is the observation that two schwas in a row are dispreferred in Dutch. We will informally call this constraint *əə (van Oostendorp, 2000):

(15) *əə: Two consecutive syllables should not contain schwa.

This constraint is responsible for other forms of allomorphy as well. For instance, the agentive suffix *-er* takes an allomorph *-aar* if the stem ends in a syllable headed by schwa (16a). Also, the allomorphy between the productive plural suffixes -*ən* and -*s* seems to be governed by it at least partly (16b):

(16) a. i. *denk-ər* 'thinker', *lop-ər* 'walker', ...
ii. *piekər-aːr* 'thinker', *wandəl-aːr* 'walker', ...
b. i. *berg-ən* 'mountains', *filosof–ən* 'philosophers', ...
ii. *heuvel-s* 'hills', *denker-s* 'thinkers', ...

The constraint is not absolutely surface true for Dutch, however. Certain suffixes, such as the comparative, verbal inflection, or one allomorph of the nominal plural do not seem to be subject to it. We can even combine certain affixes to create longer sequences of schwas as in (17d):

(17) a. *groot-ər* 'bigger', *edəl-ər* 'nobler', ...
b. *lop-ən* 'walk (PL)', *wandəl-ən* 'walk (PL)', ...
c. *kind-ərən* 'children'
d. *kind-ər-lək-ər-ə* 'more childish' (child+binding morpheme+adjectivizing morpheme+comarative+agreement)

What is more, even the diminutive suffix itself does not always obey the constraint, viz. in those cases in which a special allomorph is chosen after a stem ending in a lax vowel plus a sonorant consonant:

(18) *bal-ətjə* 'little ball'

Notice also that the effect only holds if the schwa is the last segment in the word, not if it is followed by a consonant: words such as *vadərtjə* 'little father', *tegəltjə* 'little tile' or *bezəmpjə* 'little broom' are unobjectionable.[8]

[8] A possible reason for this, suggested by van Oostendorp (2000), is that syllables which are phonetically headed by a schwa and closed by a sonorant, phonologically behave as if they have a syllabic sonorant in Dutch.

The constraint *əə in (15) should therefore be highly sensitive to morphological information: it clearly is part of lexical rather than of postlexical phonology. Furthermore, it seems that we are dealing with a type of derived environment effect. I will assume, therefore, that the relevant constraint is formulated as follows:

(19) *$ə_i ə_j$: Two consecutive syllables with a different morphological colour should not contain schwa.

The constraint should probably more precise to be able to deal with the facts mentioned above, but for our purposes, the present format will be sufficient.

Furthermore, another factor plays a role, viz. the quality of the preceding consonant. The fact that the judgements are more equivocal in case the last consonant of the stem is a coronal stop must have something to do with the fact that the diminutive suffix itself also starts with a coronal stop. Now there is some evidence that a constraint of the following type also holds an effect on the Dutch lexicon (van Oostendorp, 2000):

(20) *$C_i ə C_i$: A schwa should not be surrounded by two identical consonants.

Again, it does not seem possible to create structures violating this constraint by morphological derivation or inflection.[9] For instance, the comparative suffix and the agentive suffix both are -*ər*. They can both be attached to stem ending in an /r/, but in this case, they take the allomorph -*dər*:

(21) *zwaar-dər* 'heavier' (**zwaar-ər*), *boor-dər* 'driller' (**boor-ər*)

An apparent exception is that the suffix -*ən* — which serves many inflectional functions, like marking plurality on nouns and on verbs, and marking infinitival tense — can be added freely to any word ending in /n/: *baan*+*ən* 'jobs', *wen*+*ən* '(we/to) adjust'. This may be related, however to the fact that /n/ after schwa is often deleted.[10]

The constraint in (20) may be reduced to the OCP: if we assume that schwa is a literally unmarked vowel without any features, the two vowels which are adjacent to it on the lefthand and on the righthand side are adjacent in a very obvious way.

Of course, the constraints just introduced run against the forms which might otherwise be coming out as the optimal form. They do not explain yet why those candidates are blocked from occurring — in other words, why the

[9] Or, to be more precise, by prefixation. There are forms which

[10] The deletion takes place in large regions of the Dutch-speaking area, including most of the economically and culturally dominant ones. In the areas in which it does not take place, the suffix is usually realized as a syllabic n̩.

Null Parse shows up instead. It will be our task in the next section to provide that piece of the puzzle.

4 The Null Parse within Coloured Containment

We may conclude from the data in the previous two sections that diminutives in Standard Dutch pose yet another instance of the ineffability puzzle which forms the topic of this book. In the remainder of this chapter, I will consider two solutions to this problem: one which is radical and able to throw out the forms as unwanted, and one which is less radical, and tries to describe the question marks that these forms get for some speakers.

The radical solution depends on the conceptual split between the principles Consistency of Exponence and Containment which I argued for at the end of section 2.1. This makes it possible to change the status of one of these two principles, and for instance demote it from a principle restricting Gen to a violable constraint.

When we decide to experiment with this, there are various reasons to apply the demotion to Containment rather than to Consistency of Exponence. One such reason is that Consistency of Exponence is the more powerful of the two; as we have outlined above, it is almost possible to derive Containment as a lemma from it. If we want to keep our theory as restrictive as possible, it seems better to make the weaker of the two constraints violable. Another reason is that earlier attempts to make Consistency of Exponence have so far not led into acceptable results, as we have seen. A third reason, finally, is of a more practical nature: we are interested in deriving the Null Parse, i.e. a form without phonetic content, and making Containment into a violable constraint may allow us to derive exactly this result.

Let us therefore proceed to consider the consequences of this move, and suppose that instead of (1), we have a violable constraint. The problem is that we cannot formulate this constraint in the following way:

(22) CONTAIN: Every element of the phonological input representation is contained in the output.

CONTAIN is basically equivalent to MAX in the Correspondence model. We want to be conservative, and stick to a parsimonious monostratal theory, in which we cannot compare input to output directly, but this means that the Gen function needs to leave some marking in the representation whenever it deletes something. Suppose that Gen is always forced to leave a marking ✘ in a representation whenever it deletes something — we will return in a moment to the actual phonological status of this diacritic ✘.

For instance, if the input representation is /takpi/, Gen may decide to delete /k/. The output representation would then be [tapi✘].

CONTAIN can then be reformulated as:

(23) CONTAIN: No deletion marker ✘ in the output representation.

We may further assume, with McCarthy (to appear), that OT constraints are categorical, so that CONTAIN is indifferent to the number of ✘ markings in the representation. Now consider the following candidates for our hypothetical input:

(24)

/takpi/	NOCODA	PARSE-ϕ/μ	CONTAIN	*STRUC
tak.pi	*!			*****
ta<k>.pi		k!		****
ta.kə.pi		ə!		******
ta.pi✘			*	****!
a.pi✘✘			*	***!
pi✘✘✘			*	**!
i✘✘✘✘			*	*!
☞✘✘✘✘✘			*	

This tableau is simplified has to be read in the following way. The column with PARSE-ϕ/μ takes together for the sake of exposition all the relevant faithfulness constraints against insertion and deletion, as formalized in Coloured Containment. /ta<k>.pi/ gets a violation mark here because it contains a segment which is phonologically unparsed; /ta.kə.pi/ gets one because it contains a schwa without a morphological affiliation. It is assumed here for the sake of the argument that Gen puts a ✘ for every deleted segment. Other implementations are possible, for instance — and more restrictively — where Gen puts a ✘ in the representation for every feature, mora, etc. which it deletes. In any case, no matter how many of these ✘s Gen places, categorical CONTAIN will only get one violation. The column with *STRUC again conflates many well-formedness constraints in order not to make the table too large.[11]

What this tableau illustrates, then, is that CONTAIN can take the function of MPARSE. If it is ranked sufficiently low in a given language, i.e. if it is placed below at least one markedness constraint — in this example, NOCODA — and a set of relevant faithfulness constraints, it will become advisable to delete segments. But interaction with the well-formedness constraints — it does not really matter in this tableau where we rank the constraints gathered in *STRUC — will then ensure that the best solution is one of deleting all segments.

In this way, *STRUC becomes a monostratal version of MPARSE as it is defined in terms of Correspondence Theory by McCarthy & Wolf (2005). Within

[11] It is essential that the more structure we have, the more violations we gather for the well-formedness constraints gathered in *STRUC; but this is an essential property of any OT analysis (structure always has to be penalised).

their view of (string-based) correspondence, every segment in the input representation always has a correspondent in the output, just like in our view every segment in the input is contained in the output. String-based correspondence thus implements certain properties of Containment models into Correspondence theory. As soon as Gen violates this constraint — as soon as there is any segment in the input which has no correspondent in the output — it becomes better to delete everything and satisfy *STRUC.

Notice that we have extended the set of candidates in the tableau in (24), but this extension is minimal: for every input segment that is deleted we get a candidate with a ✘ marking. Since the number of input segments is finite, the number of candidates with this marking will also be finite.[12]

Here is an example from Swedish (Iverson, 1981; Raffelsiefen, 2002; Féry & Fanselow, 2003; Rice, 2005) in order to turn to something more realistic. Adjectives get an ending -/t/ in the neuter in attributive position:

(25) a. *en rysk (*MASC*) pojke* 'a Russian boy'
b. *et rysk-t (*NEUTER*) barn* 'a Russian child'

However, if the adjectival stem ends in /d:/, the neuter form simply becomes impossible:

(26) a. *en rädd (*MASC*) pojke* 'a scared boy'
b. **et rädd-t (*NEUTER*) barn* 'a scared child'

In cases like this, we thus have a gap in the paradigm. Both the string-based and the CONTAIN analysis now run as follows. We assume that the gap is due to an OCP effect on the feature coronal. Furthermore, other ('phonological') options of resolving the OCP, for instance mapping the stem /d:/ and suffix /t/ into one segment, are not available because of high-ranking faithfulness constraints. We then have the following tableau (we will from now on represent only one ✘ in Null Parse candidates, since the number of ✘s does not really matter anyway):

(27)

/räd:/+/t/	OCP(cor)	UNIFORMITY	CONTAIN
☞✘			*
räd:t	*!		
rät:		*!	

[12] To be precise, if the number of segments is n and the number of candidates with inviolable Containment is x, the number of candidates with violable Containment has an upper bound of $2^n \times x$. This is an upper bound, since all of the extra candidates will have less material than the original ones, hence the number of possible syllable structures etc. assigned to them will also be smaller, but how much smaller is dependent on one's assumptions about structure.

Like all models based on some formalisation of MPARSE, we will have to assume that CONTAIN will have a fairly high ranking in all languages. Following a suggestion originally due to Prince & Smolensky (1993), we assume that the reason for this is functional: a language with low-ranking will become virtually unusable, since is would contain many gaps. If to many concepts are pronounced by complete emptyness, most of the imagineable functions of natural language cannot be fulfilled.

I believe that this approach, although empirically equivalent to McCarthy & Wolf (2005), enjoys a few conceptual advantages over its Correspondence sister. In the first place, it is conceptually simpler. McCarthy & Wolf (2005) need to introduce a special mechanism — string-based correspondence — which does not seem to serve many functions beyond enabling us to describe the Null Parse but which seems incompatible with many theories of phonology such as autosegmentalism. We only needed to set one step, however, which was demoting Containment to the status of a violable constraint. Furthermore, we have managed to stay within the realms of a monostratal model. This allows us to reduce the number of candidates.[13]

However, we still have a few problems to solve. For one thing, we use a diacritic mark ✘ which does not play any other role in the theory so far but only serves as a marker that we are dealing with a violation of CONTAIN.[14] We thus need to establish a phonological identity for this element.

This means that we need need to find a representational means which can be added by Gen, which plays an independent role in the phonology and still can serve as a signal that CONTAIN is violated. One solution might be to assume that although feature values can be deleted, features cannot. If we delete a feature value, we are thus going to leave behind a feature without a value, this is an uninterpretable structure, as is also assumed in Minimalist syntax (Chomsky, 1995). In order to make this a bit more explicit, we can assume that Containment is not completely moved out of Gen, but instead of that we have the following version:

(28) *Weak Containment*. Features cannot be deleted, although values can.

Every feature of which we will delete a value, will leave an ininterpretable trace, which will function as the ✘ in the tableaux above.

[13] One might argue that the number of candidates is infinite in any case, and indeed introduction of string-based correspondence keeps infinity well within the realms of $\aleph_0$. But in my view, it should be our goal to reduce the infinity of the candidate sets to smaller proportions, if only for computational purposes. Coloured Containment may allow us to do so, since the only source of infinity in this model is segmental epenthesis. Since epenthetic material is marked in a special way, we may instruct Gen to e.g. never epenthesize an epenthetic segment between two other epenthetic segments. This will immediately make the candidate set finite, albeit still very large, within Containment, but string-based correspondence would still be as large as $\aleph_0$.

[14] See Scheer (2004) for extensive criticism of the use of diacritics in phonological theory.

This assumption makes more explicit an issue with Richness of the Base: what happens if we assume an underlying empty feature (or an empty ✘) in an underlying representation? Such an element will necessarily give a violation of CONTAIN, but it also cannot be deleted because of *Weak Containment*. This means that any input with this structure would always surface as the Null Parse, which makes it hard to survive Lexicon Optimisation.

Given this discussion, let us now turn to the Dutch facts. At first sight, it looks as if they can get an analysis which is very close to what we have seen for the Swedish facts in (25) and (26) above, especially if we concentrate on the facts with a coronal stop in (9):

(29)

/lentə/+/tjə/	OCP(cor)	FAITHFUL	CONTAIN
☞✘			*
lentətjə	*!		
lentjə			

If we take into consideration the larger class of cases of words ending in schwa in (10), we only need to replace the relevant markedness constraint:

(30)

/ɣavə/+/tjə/	*$ə_i ə_j$	FAITHFUL	CONTAIN
☞✘			*
ɣavətjə	*!		
ɣa:fjə		*!	

However, this solution is not very satisfactory, since it throws away completely forms which speakers indeed consider to be strange or marked, but which nevertheless occur, and are also not necessarily considered to be totally ungrammatical. In other words, we need an analysis of the question mark, and a theory based on the Null Parse does not provide us with one itself.

5 The question mark and language variation

There is some literature on the question mark within the Optimality Theoretic framework, in works such as Anttila (1997b, 2002); Boersma (1998, 2001); Boersma & Hayes (2001); Coetzee (2004). It is important to note that this literature is embedded in work on language variation: the grammar can generate more than one output, of which there are certain less preferred ones.

In the work of Anttila, which we will follow here, the grammar allows for some internal variation. In particular, constraints can be partially ordered. For instance, within the grammar of a language we might find three constraints A, B and C which are not ordered. This means that every ordering of

these constraints (A≫B≫C, A≫C≫B) is equally likely. In the case of three constraints there are 3!=6 possible orderings. Now suppose that four of these rankings give output α for some input a, while two give output β. This will then mean that β is in some sense more 'marked' than α as a pronunciation of a; β might get a question mark. With some modifications, irrelevant for our present discussion, similar considerations hold for the view on language variation defended in Boersma (1998, 2001); Boersma & Hayes (2001) and related works. Similarily, in Coetzee (2004), the output of the Evaluation is not a single candidate, but an ordered list, with the preferred candidate in the first position. The phonetics will usually pronounce the first element of the list, but in some cases, it may also pronounce an element with a lower position. These would then be perceived as having one or more question marks.

Combining one of these ideas with the Null Parse may give us something similar to the effect we have observed for Dutch: the forms we find are question marked, since they are competing with the Null Parse. In the following, I choose Anttila's approach for the sake of concreteness, but I suspect that the general idea outlined below could also be applied to the other frameworks. For instance, let us divide the constraint FAITHFUL in (30) into its relevant constituent parts — a constraint against deletion of schwa, PARSE-ə, and a constraint against final devoicing, PARSE-[+voice], and let us assume that these two constraints are unranked with respect to each other and with respect to CONTAIN in the sense of Anttila. We then have the following six rankings (assuming that /gavə/+/tjə/ is ranked still on top, and that we therefore do not have to consider gavətjə):

(31)

/ɣavə/+/tjə/	PARSE-ə	PARSE-[+voice]	CONTAIN
☞✘			*
ɣa:fjə	*!	*	
	PARSE-ə	CONTAIN	PARSE-[+voice]
☞✘		*	
ɣa:fjə	*!		*
	PARSE-[+voice]	PARSE-ə	CONTAIN
☞✘			*
ɣa:fjə	*!	*	
	PARSE-[+voice]	CONTAIN	PARSE-ə
☞✘		*	
ɣa:fjə	*!		*
	PARSE-[+voice]	PARSE-ə	CONTAIN
☞✘			*
ɣa:fjə	*!	*	
	CONTAIN	PARSE-[+voice]	PARSE-ə
✘	*!		
☞ɣa:fjə		*	*
	CONTAIN	PARSE-ə	PARSE-[+voice]
✘	*!		
☞ɣa:fjə		*	*

The form pronounced form thus sometimes wins, but most of the time it is bested by the Null Parse. This may describe the ungrammatical feel that this form has.

An interesting aspect of Anttila (1997b, 2002)'s work is that it relates the assignment of intuitive question marks by a native speaker to distribution of forms over a corpus. In this case, such a distribution can also be detected, for instance if we compare the diminutive forms of the names of the four seasons in the Google corpus.[15]

(32)

normal form		*diminutive*		*plural of diminutive*	
lente 'spring'	6,130,000	*lentetje*	22	*lentetjes*	32
zomer 'summer'	4,580,000	*zomertje*	779	*zomertjes*	236
herfst 'autumn'	2,770,000	*herfstje*	108	*herfstjes*	89
winter 'winter'	8,880,000	*wintertje*	894	*wintertjes*	696

[15]The Google-corpus is the corpus of Dutch texts as it is defined by the internet search engine Google.com. According to a fairly recent estimate (van Oostendorp, 2005a), the corpus contains 3,000,000,000 Dutch words. This means that the relative percentage of all the diminutives is fairly small. These searches were done on 28.III.2006. The results here have been gathered and normalized in the way described in van Oostendorp (2005a).

There clearly is a difference between the word for 'spring' and the words for the other seasons. There is no obvious reason in lexical semantics why this could be the case, although a few remarks are in order. In the first place, there are big differences between the occurrences of names of different seasons, for which I have no explanation; notice however that, given the fact *lente* is a season name which occurs more often than *zomer*, for instance, we should expect there to be more instances of its diminutive rather than less, but this is not the case.

In the second place, the fact that the plural form of the diminutive of *winter* is that *(De) Winter* is a farily frequent family name, and that the structure family name+diminutive+plural is a productive way of referring to members of a family:

(33) Dat de De Wintertjes niks uitvoeren in Amerika, baseer je op een mailtje van een zekere Emma Rose (wie is dat?).[16]
You base the assumption that the family De Winter is not working at all in America, on an e-mail by a certain E.R. (who is that?)

Similar examples are harder to find for the other words, because they occur less frequently as family names. The following data are based on a database of Dutch familynames in 1993; the numbers indicate (roughly) the number of times the name was found in a Dutch register of family names on the internet:[17]

(34)

name	*frequency*
lente	19
zomer	700
herfst	127
winter	1053

The very low frequency of *lentetjes* may thus be partially ascribed to the infrequency of the family name *Lente*, but this is not true for singular *lentetje*, which has no such direct connection to a name.

Notice that this result can be extended to all other theories which describe ineffability effects as the result of a constraint, which can interact with other constraints. A theory which is based on a Lexical Control component outside of Eval, such as the one by Orgun & Sprouse (1999); Féry & Fanselow (2003) is too absolute; it does not allow for forms to become question marks, or if it does, it does not relate this to existing theories of language variation.

Finally, we have to turn to the observation that the forms can become better if they are repeated over time. I propose that the reason for this is that

[16] http://vetvetvet.web-log.nl/log/3858282

[17] The database has been built by Ann Marynissen of the University of Cologne and can be consulted at http://www.familienaam.be/.

the forms become lexicalised; which means that the words become analysed as a whole. Suppose, for instance that the word *gavetje* becomes lexicalised. We then obtain the following tableau:

(35)

/ɣavətjə/	*$ə_i ə_j$	FAITHFUL	CONTAIN
✘			*
☞ɣavətjə			
ɣaːfjə		*!	

There is no issue of violating *$ə_i ə_j$ anymore, since as we have seen, this constraint only applies to schwas of different morphological colour (belonging to different morphemes). But if a word is lexicalised, this means that all segments are in the same lexical item together, so they will all have the same morphological colour.

Remember from the discussion on page 11 that the archaic suffix *ke* is more acceptable on names: most informants seem to think that *Hildəkə* is more acceptable than *Hildətjə*. I suppose that this is also due to this process of lexicalisation. The fact that it is archaic means that it is not considered to be productive. I therefore suppose that it can only be interpreted as being input to the grammar as a whole.

(36)

/hɪldəkə/	*$ə_i ə_j$	FAITHFUL	CONTAIN
✘			*
☞hɪldəkə			

One could wonder whether this does not conflict with the principle of Richness of the Base. I do not think it does so in an essential way. Of course, it is possible in principle to posit two underlying morphemes /hɪldə/ and /kə/; the result of the evaluation of such a form would be ineffable, hence not pronounced, or question marked.

6 Conclusion

Representing ineffability seems to come at some cost within any branch of Optimality Theory; as far as I can see, no solution has been proposed which does not invoke some special mechanism that is somehow outside of the core of the OT system. This may be seen to imply that ineffability remains to be one of the real problems for the theory, maybe on a par with the issue of opacity: if only additional patches can be used to describe a phenomenon which is as real as the unpronounceability of certain logically possible forms, the theory may be seen as incomplete at best.

I believe that the proposals put forward here, form a step forward in a few ways. First, they do not extend the computational power of the theory in

any significant way. Second, it reduces the extra mechanism to a minimum — and even that minimum may be reduced to representational mechanisms which are independently necessary. But more importantly, we have shown how interaction with theories of language variation give us the possibility for describing the question mark. I have argued that this is an important advantage of MPARSE analyses over

The question arises to what extent other examples of ineffability discussed in the literature can also be argued to be question marks rather than asterisks. For instance, Féry & Fanselow (2003) argue that the German diminutive suffix gives an ineffable result when it is combined with a stem which ends in an unstressed full vowel:

(37)

normal form	*diminutive*
a. *Jahr* 'year'	*Jährchen*
b. *Brudər* 'brother'	*Brüdərchen*
c. *Monat* 'month'	?*Monatchen*, ?*Monätchen*, **Mönatchen*, **Mönätchen*

Féry & Fanselow (2003) observe that the reason for this ineffability probably is the umlaut associated to the diminutive suffix in German: this wants to be linked to the stressed vowel in the stem, but apparently it gives a bad result if on its way to this stressed vowel it needs to either skip or pass through an unstressed full vowel.

Crucial here are the question marks. A Google search (on 28.III.2006) on the four forms for the diminutive gives the following:[18]

(38)

diminutive	#
?*Monatchen*	1,140
?*Monätchen*	154
**Mönatchen*	217
**Mönätchen*	34

The judgements do not seem to correspond exactly to the Google findings; the reason for this may be that different dialects solve the problem in different ways.[19] Importantly, however, we are obviously dealing also in this case also

[18]Some of the findings in Google involve articles on the ineffability of the diminutive of *Monat* in German; but these are only 2 or 3, and do not differentiate between the different forms.

[19]In some Dutch dialects, at least, umlaut to the stressed vowel is possible in words of this type, provided the unstressed vowel is reduced to schwa: *foto* 'picture' → *fötətjə* (Gaston Dorren p.c.). Notice, by the way that this form has the properties of both German and Dutch ineffability but seems perfectly possible in the dialects in question, which are mostly spoken on the border between Germany and the Netherlands. More dialectological work into these dialects is clearly needed. In any case, the German orthographic form **Mönatchen* might represent a form which is pronounced with a reduced ə as well.

with question marked forms rather than with forms which are completely ungrammatical.

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