The theory of radical underspecification claims that if a particular vowel in a language behaves asymmetrically with respect to the other vowels, acting consistently as the unmarked vowel for processes such as epenthesis, this vowel will lack all features in underlying representation (Archangeli (1988), Abaglo and Archangeli (1989), Pulleyblank (1988)). In fact, the identification established between unmarked vowels and unspecified vowels is seen as an advantage of radical underspecification over other models. According to this view, when the prosodic requirements of the language force the insertion of a vowel, the rule inserts only an empty V slot, which is necessarily identified with the vowel that underlyingly lacks all features (Abaglo and Archangeli (1989)).

Here I show that, contrary to the predictions of radical underspecification, there are languages where a distinction must be made between vowels with no features (empty V slots) and the unmarked vowel. In the language examined here, the Basque dialect of Arbizu, spoken in Navarra, Spain, there are suffixes that contain empty V slots. There is also one vowel, the vowel /e/, that consistently behaves as the unmarked vowel, being inserted in all instances of epenthesis. Crucially, it can be shown that a distinction must be made between suffixes that start with empty V's and suffixes that start with /e/ (or any other vowel, for that matter). If we chose to represent all instances of /e/ as empty V's, as radical underspecification would force us to do, we could not capture this distinction.

This squib is organized as follows. First, I will show that Arbizu Basque has certain suffixes that trigger a rule of Total Vowel Assimilation, for which the most adequate representation...

For the Basque data, I want to thank Xabier Arbizu of the town of Arbizu.

1 A treatment of vowel length in this Basque dialect, from both a historical and a synchronic point of view, can be found in Hualde (to appear). Other aspects of the phonology of this dialect are treated in Hualde (1988).
2. Unmarked Vowels versus Empty V

Notice that in (2) the suffix appears with a vowel [e] after consonant-final bases. This would follow without further stipulation from the postulates of radical underspecification if [e] is represented precisely as a completely unspecified vowel. In those cases where a more specific rule such as (3) cannot apply, an empty V would receive the feature values of [e]. In this analysis, the facts in (2) would be taken as evidence for the asymmetrical behavior of one of the vowels, the vowel /e/ , with respect to the other vowels.

However, there is solid evidence that all instances of [e] cannot be represented as empty Vs. Crucially, there are /e/-initial affixes that behave exactly like affixes that start with any other vowel. In particular, the genitive plural suffix, which cannot be anything but /-en/ , triggers the same rules as the examples in (1) that start with other vowels:

\[
\begin{array}{ccc}
\text{Base} & \text{Gen. pl.} & \text{Erg. indef.} \\
\text{alaʃa} & \text{alaʃen} & \text{alaʃak} \\
\text{paate} & \text{paatien} & \text{paatek} \\
\text{aʃto} & \text{aʃtuen} & \text{aʃtokie} \\
\text{menʃi} & \text{menʃien} & \text{menʃok} \\
\text{eʃku} & \text{eʃkuben} & \text{eʃkute} \\
\text{čaʃu} & \text{čaʃuren} & \text{čaʃuke} \\
\text{gison} & \text{gisonen} & \text{gisonok} \\
\end{array}
\]

Since there is a clear contrast between the genitive plural /-en/ and the genitive indefinite /-Vn/ , /e/ cannot be simply V.

This is, however, compatible with the fact that /e/ is the unmarked vowel in the language. As shown in (2), in the case of consonant-final bases, where the rule of Total Vowel Assimilation cannot apply to provide V with features, the features of [e] are inserted.

The vowel /e/ is in fact singled out in all productive processes of epenthesis. In the ergative indefinite, whose suffix is /-k/ , there is epenthesis of [e] with consonant-final bases:

\[
\begin{array}{ccc}
\text{Base} & \text{Erg. indef.} \\
\text{alaʃa} & \text{alaʃak} & \text{‘daughter’} \\
\text{paate} & \text{paatek} & \text{‘wall’} \\
\text{aʃto} & \text{aʃtokie} & \text{‘donkey’} \\
\text{menʃi} & \text{menʃok} & \text{‘mountain’} \\
\text{eʃku} & \text{eʃkute} & \text{‘hand’} \\
\text{čaʃu} & \text{čaʃuke} & \text{‘dog’} \\
\text{gison} & \text{gisonok} & \text{‘man’} \\
\end{array}
\]

[e] is also the vowel that is productively epenthized in all Basque dialects in borrowings from Spanish with initial [f], which is disallowed in Basque. Thus, Spanish [fɾeʃa] ‘wheel’ becomes Basque [eʃueʃa] , [ɾoʃaɾjo] ‘rosary’ becomes [ɾoʃaɾjo] , [ɾepuʃlika] becomes [ɾepuʃlika] , and so on. As in
We certainly would be missing a generalization if we formulated these different epenthesis rules as insertion of [e]. I propose instead that the epenthesis rules simply insert a V slot. Then, Basque has a rule that gives the features of [e] to an empty V slot:

(6) **Default Vowel Features**

\[ V \rightarrow [e] \]

This is a default rule that applies when more specific rules, such as Total Vowel Assimilation, do not provide an empty V slot with features. It fills in the values of both underlying empty Vs (which are found in suffixes such as the genitive indefinite) and empty Vs that have been inserted by epenthesis:

(7) Underlying representation

<table>
<thead>
<tr>
<th>Total Vowel Assimilation</th>
<th>Epenthesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ast-o-Vn/</td>
<td>/gison-Vn/</td>
</tr>
<tr>
<td>aštōn</td>
<td>—</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>gisonen</td>
<td>gisonen</td>
</tr>
<tr>
<td>'donkey,'</td>
<td>'man,'</td>
</tr>
<tr>
<td>gen. indef.</td>
<td>gen. indef.</td>
</tr>
</tbody>
</table>

A form such as the genitive plural /gison-en/ [gisonen], where the /e/ is underlying, will not undergo any of the rules in (7).

In Arbizu Basque there is an unmarked or default vowel, [e], and there are vowels bereft of features. But we need to establish a crucial underlying distinction between the unmarked vowel and the empty vowels. Against the claims of radical underspecification in Archangeli (1988) and in Abaglo and Archangeli (1989), the unmarked vowel cannot be represented simply by an empty V. In underlying representation these are two different entities. This is a distinction that is predicted not to exist in the radical underspecification model and that could be captured only by some ad hoc stipulation in this model.

To conclude, the radical underspecification model presents the theoretical advantage over other frameworks that it can straightforwardly capture the unmarked status of a given vowel in a given language. It does so by establishing an identity between the unmarked vowel and the vowel that lacks all features in underlying representation. I have shown, however, that Arbizu Basque requires a distinction between the unmarked vowel and vowels that are empty of features, thus disconfirming the predictions of radical underspecification. Radical underspecification is therefore not better equipped than other models to deal with the issues presented by unmarked vowels and empty
vowels. In fact, it seems worse equipped than other models to capture the lack of identity between the two. 2

References


2 For other arguments against radical underspecification, see Steriade (1987), Clements (1988), and Mester and Itō (1989).

1. Introduction

Baker (1988) presents a theory of syntactic incorporation according to which the operation that derives morphologically complex words from more basic elements (roots, stems, or affixes) is held to be the variant of Move-a that applies to heads.

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