

DRC

DRC is a simulator of the Dual-Route-Cascaded model of visual word recognition and reading aloud. Please visit the website for more information:

<https://maxcoltheart.wordpress.com/drc/>

DRC is a command-line program. It should be used from within the *Terminal* application in Mac OS X, from the *shell* in Linux or from the *Command Prompt* in Windows.

Usage Examples

Simulate reading aloud of a single word:

```
drc word
```

Save a log of activation levels during simulation:

```
drc -a word
```

Simulate reading aloud the list of words in the file `wordlist.txt`:

```
drc -b wordlist.txt
```

View a list of available command-line options:

```
drc --help
```

Changes (Since Version 1.2.0)

1.2.3

Deleting output rules

GPC 'output' rules can now delete the phoneme they operate on. To create a rule that deletes a phoneme, use an asterisk as the output phoneme for the rule.

1.2.2

Body-Rime Rules

The way body-rime rules match has been adjusted so that body-rime rules apply in more cases. Previously, for example, the body-rime rule for the body A would apply for an input like SPA but not for the input A. The rule now applies in both cases. The body-rime rule list has also been updated.

Note that the default value for the `GPCRimePhonemeExcitation` parameter is zero. It will need to be given a non-zero value for the body-rime rules to excite any phonemes.

GPCInterletterInterval Returns

The `GPCInterletterInterval` parameter has been reintroduced. It can be used to set a minimum on the number of cycles that must pass after a letter is introduced to the GPC route before a new letter can be introduced.

The point at which a letter is introduced to the GPC route is still also controlled by the `GPCCriticalPhonology` parameter. Both parameters must be satisfied before a new letter can be introduced.

If the `GPCEarlyLetterProbability` parameter has a non-zero value, however, a new letter *can* be introduced before the inter-letter interval and critical phonology criteria are met.

If you want the GPC route to be controlled solely by the `GPCInterLetterInterval` parameter, set `GPCCriticalPhonology` to zero. If you want the GPC route to be controlled solely by the `GPCCriticalPhonology` parameter, set `GPCInterLetterInterval` to zero.

1.2.1

Split-Grapheme GPC Rules

A split-grapheme rule is one in which the grapheme contains one or more gaps between its letters. The rule that produces the phoneme for the letters O and E in a word like LOBE is an example. The rules governing when such a rule can match have been modified slightly:

Previously a 'middle-position' split-grapheme rule could not match if the rule LOBE. Such rules are now allowed to match, although they still cannot match if the grapheme appears at the start of the word. Since such rules do not produce the final phoneme, it makes sense that they be allowed to run to the end even when they are middle-position rules.

English Language Data

The process used to build the vocabulary was improved to eliminate certain inappropriate items, such as contractions. A handful of vocabulary items were removed and others have slightly lower frequencies as a result.