

#illustrate the content of the folder and how the program operates

#illustrate options

```
./drc --nofiles fetch
./drc -P ActivationRate .10 fetch
./drc -S ActivationRate .10 .20 .02 fetch
./drc -p new.parameters fetch
./drc -a fetch
./drc -b regularHighFrequency.txt fetch
```

#let's try to make the DRC quicker

```
./drc --nofiles -S OrthlexPhonlexExcitation .25 .50 5 fetch
./drc --nofiles -S ActivationRate .2 .4 5 fetch
```

#it seems that ActivationRate is more effective: why? Note the non linearity.

```
./drc --nofiles -S GPCPhonemeExcitation .051 .091 5 fetch
```

#not so effective, right? Why?

#let's dive into the fine balance between the two routes

```
./drc --nofiles chef #this is a very difficult item for the
lexical route
```

```
./drc --nofiles starn #this is a very difficult item for the
GPC route
```

#let's try to break the balance

```
./drc --nofiles -S GPCPhonemeExcitation .051 .091 5 chef #chef
gets regularised
```

```
./drc --nofiles -S OrthlexPhonlexExcitation .25 .50 6 starn
```

#whoops, no effect whatsoever here. Why? Let's check activations.

```
./drc -a -P OrthlexPhonlexExcitation .50 starn
```

#let's find another way to let lexical competitors come up

```
./drc --nofiles -S LetterOrthlexInhibition .48 .36 7 starn
```

```
./drc -a -P LetterOrthlexInhibition .40 starn
```

#can we compensate with a stronger GPC route?

```
./drc --nofiles -S LetterOrthlexInhibition .40 -S
```

```
GPCPhonemeExcitation .051 .091 5 starn
```

#yes, we can. But notice how quicker is now 'starn' (at GPC=.061) as compared to the default parameter set. So perhaps these parameters would mess us with 'chef'?

```
./drc --nofiles -S LetterOrthlexInhibition .40 -P
```

```
GPCPhonemeExcitation .061 chef
```

./drc -a chef #we explore the activations and we see how the regular first phoneme 'J' is giving us troubles

#we can run batches of stimuli at once

```
./drc --nofiles -b words.txt
```

```
./drc --nofiles -b nonwords.txt
```

Default DRC Parameters for Australian English
#

General Parameters

ActivationRate 0.2

FrequencyScale 0.05

MinReadingPhonology 0.4

Feature Level Parameters

FeatureLetterExcitation 0.005

FeatureLetterInhibition 0.15

Letter Level Parameters

LetterOrthlexExcitation 0.07

LetterOrthlexInhibition 0.48

LetterLateralInhibition 0

Orthographic Lexicon (Orthlex) Parameters

OrthlexPhonlexExcitation 0.25

OrthlexPhonlexInhibition 0

OrthlexLetterExcitation 0.3

OrthlexLetterInhibition 0

OrthlexLateralInhibition 0.06

Phonological Lexicon (Phonlex) Parameters

PhonlexPhonemeExcitation 0.09

PhonlexPhonemeInhibition 0

PhonlexOrthlexExcitation 0.25

PhonlexOrthlexInhibition 0

PhonlexLateralInhibition 0.07

Phoneme Level Parameters

PhonemePhonlexExcitation 0.04

PhonemePhonlexInhibition 0.16

PhonemeLateralInhibition 0.147

PhonemeUnsupportedDecay 0.05

GPC Route Parameters

GPCPhonemeExcitation 0.051

GPCCriticalPhonology 0.05

GPCOnset 26