

Defining an Inflection Dictionary

There are two types of the Verbs & Nouns databases: the Inflection Dictionary and the Simple Dictionary. The description below explains how to set up the Inflection Dictionary. Setting up the Simple Dictionary is straightforward. If you use the ready-made modules then you can skip this chapter.

Foreign Language Words Inflection Dictionary File and Signature

You can create 'Inflection Dictionaries' for many languages. The concept of these dictionaries is very easy but it is important that you understand it. Each dictionary consists of two files that are automatically created when you select New... from the 'File' menu: they are the main file and the keys file. These two files are necessary to access the dictionary and they should always be kept together. When you select the New... menu item, you are asked to enter a dictionary signature. The signature is NOT the name of the file. It is an arbitrary string (for instance: French Verbs by John Brown) that identifies all 'Inflection Dictionaries' derived from the same parent. The signature is visible in the Dictionary Settings window.

Example

In the picture below you can see a diagram that explains the role of the dictionary signature. An author creates two dictionaries with the signatures French Verbs and Greek Verbs respectively (1). In fact there are two files for each dictionary but in the diagram we've skipped the 'keys' files. The author can then distribute these dictionaries to other users who can add new verbs and comments to the original dictionaries (2). So now there are several files with the signature French Verbs or Greek Verbs. Then somebody can collect these dictionaries from the other users and merge them into a single huge dictionary with everyone's verbs and comments in it, by using the Merge... option in the Verbs & Nouns application to merge the dictionaries automatically (3). But it is important that the Greek Verbs dictionary is not merged with the French Verbs dictionary by mistake. This is why the original dictionaries (1) have their signatures, so the daughter dictionaries (2) can inherit this signature (even if the file names for these daughter dictionaries differ).

Access Code

After you've entered the new signature you are asked to enter the access code. This acts as a password known only to the author of the dictionary. Knowledge of this code allows you to define the inflection rules for the words. It is important that all daughter dictionaries share the same set of rules (because of the automatic merging feature). This is the reason why a dictionary user can add words and apply rules to words but cannot modify the rules. Only the author of the dictionary can change the rules, so the compatibility of the daughter dictionaries is preserved.

File Name

Then you should enter the file name for your dictionary in a standard dialog box. Two files will then be created (for example, if you enter the name Verbs, then files with the names Verbs and Verbs keys will be created). The dictionary name is not important and can be changed. If you change the name of the dictionary file in the Mac operating system, you must rename both (main and keys) files so that the name of the keys file is the same as the main file name plus the word 'keys'. For example you could change the file names of Verbs and Verbs keys to Nouns and Nouns keys .

My Dictionary

My Dictionary keys

Dictionary Settings

- **Rules Definition**

After setting-up the new dictionary the next thing is to specify the inflection rules for the regular words. Let's assume that you want to construct a dictionary of verbs.

T/M' is an abbreviation for Tense/Mood combination. To define a new 'T/M' category, press the button New T/M. The predefined category name is 'Present/Indicative' but you can change this name (like all names you'll enter in the future) by using the Rename T/M button. Typical 'T/M' categories are: Past/Indicative, Future/Indicative, Present/Imperative, etc.

Now you can enter the conjugation rules for the regular or almost-regular verbs. The five buttons at the bottom part of the window allow you to define rules for the conjugation. The predefined rule has the name '1' but you can rename it using the Rename button. Then you have to define suf(pre)-fixes for this rule.

To describe the rule you should:

- choose the desired 'T/M' (from the pop-up menu);
- fill the 6 boxes at the left with prefixes if needed (prefixes are usually used in the compound tenses and they consist of an auxiliary verb in an appropriate form + a space at the end);
- choose the stem (you usually choose stem '1' but for some languages the stem for the present tense differs from the stem for the past tense etc., and then you have to enter more stems for each verb that you add to the dictionary); if you need more forms of the stem for a single paradigm then choose Multiple from the Stem pop-up menu;
- fill six text-boxes at the right with suffixes (if alternate forms of suffix exist then separate them with a comma without a space). The complete form of the verb will be constructed by the program in the following way: prefix+stem(1...6)+suffix.
- There are six check-boxes at the right-hand side. If a given 'person' of a paradigm is not used for the chosen 'T/M' (see also 'defects' filters) then you should uncheck the appropriate check-box. You should repeat all these steps for all available 'T/M' items (you change 'T/M' using the upper pop-up menu);
- the pop-up menus located at the right-hand side of the window are useful for words with separable-prefixes. By choosing the proper menu-item you decide to put the separable-prefix in the front (choose 'prefix' or 'prefix+spc') or behind (choose 'suffix' or 'spc+suffix') the word ('spc' means a single space).

You can also enter the Pattern name for the rule. 'Pattern name' is displayed in the Browse window to indicate the rule of chosen word. It is usually the same as the rule-name, but you can enter any text. It is not used for other purposes so several resembling rules can share the same 'Pattern name'. A Rule pop-up menu is provided in the Word Editor window to allow you assigning the correct rule for the newly-introduced regular word (see the next chapter for information on 'Adding and Changing Words').

After you have entered the whole rule you should click the Enter Rule button to save this rule to disk.

Now you can press the New button to enter a new rule-name and repeat all the above steps. Alternatively you can use New via Copy button useful if the new rule is similar to the selected one. It duplicates the currently selected rule without saving it so you can enter the required modifications and press the 'Enter Rule' button to save the new rule.

The T/M menu for the nouns dictionary will usually contain only two items for the declension patterns: singular and plural.

• Rules Manager

If the number of rules is large or you want to logically re-arrange rules then you should use the 'Rules Manager'. It allows you to split the rules into the classes (sets). For example you can define classes 'Masculine', 'Feminine', and 'Neuter' for nouns and split all your rules into these classes. The Rules Manager works via drag-and-drop.

• Stem Procedures and Multiple Stem

In some cases the framework 'prefix + stem + suffix' is not sufficient. This can happen if some forms of the paradigm use a modified stem. In this case the 'Multiple Stem' feature should be applied. You can use up to 6 different forms of the stem for each word. You can enter these forms manually in the Word Editor window or define procedures to generate these forms automatically. The procedures for the stem modification can be defined in the Stem Procedures panel. The forms of the stem will be created automatically when you select a rule in the Word Editor window provided that an adequate procedure is found and the check-box Auto Generate Stems? (in the Preferences window) is checked.

o define a 'Stem Procedure' you should:

1. Click the New button.
2. Enter the name of the procedure (can be the same as the name of the corresponding rule).
3. Choose the Corresponding Rule.
4. Decide how many forms of the stem you have to use and check the proper number of check boxes (at the left-hand side of the window).
5. For each stem (presented in the row with checked check-box) you have to:
 - choose (in a pop-up menu) how many letters should be cut from the end of the basic-form (i.e. word entered in the 'Word' field in the Word Editor window);
 - define the find/replace operations that will be performed on the remaining root - you can do this in a wide text-box next to the pop-up menu; you use the following syntax: `number, find-replace, find-replace, find-replace` etc.; here is the example entry:
2,e-ee,d-t
this means: take the suffix of 2 letters and if found 'e' then replace it with 'ee', and if found 'd' then replace it with 't' (if you choose to cut 1 letter of a word 'vedè' and apply the above example then you'll get as the result the stem 'veet'),
 - enter a suffix into the last text-box in this row.
6. Optionally you can enter the typical endings of the basic-form that correspond to the rule. This is used for the Guess feature in the Word Editor window.
7. Click the Enter button.

If you are not able to write a procedure that works for all words due to its complexity or exceptions then you can correct forms of the stem manually before entering them into the dictionary. The utilization of the 'Stem Procedures' is optional.

- **Defects & Fonts**

There is a support for the 'defective' words (i.e. words that do not have some forms; examples: nouns that have only singular form, verbs that cannot be used in 1-st person etc.). You can define many 'filters' and give them names. When you add a regular but 'defective' word to the dictionary then you can just assign the required defect name to it. To define the first defect you should:

- click the Rename Defect button and assign the new name to the first defect,
- uncheck the boxes that correspond to the non-existent forms for each 'T/M',
- click the Enter Defect button.

To define more defects just click New button. If you want to change the existing defect then just choose it, change it, and press the Enter Defect button again.

You should also choose the default foreign font for the new dictionary. There is a pop-up menu for this at the top of the window. This font is applied to all foreign language words (except for the comments-box where the standard 'Font/Size/Style Edit' menus apply). If you use the RomanScript only (typical situation in the English versions of MacOS) but you want to use another keyboard layout to enter characters in the foreign language then choose this layout from the pop-up menu F. Keyboard. If you do not use the RomanScript or the other keyboard layout belongs to a different script then leave pop-up menu on Native (in this case the MacOS will handle the change).

- **Titles & Reflexive Verbs**

The Titles item allows you to enter words that precede the words in the paradigm (like: I, you, he ... etc.). If you begin the 'T/M' name with • then the • Extra titles are applied (otherwise the Standard titles are default). In case you want to skip titles for a particular 'T/M' use •• as a prefix of your 'T/M' name.

The check-box Inverse Reflexive Prefixes? is mainly used for the compound tenses of reflexive verbs. In some languages (like Italian) the reflexive pronoun comes before the auxiliary verb (uncheck the box), and in others (like German) it comes after the auxiliary verb (check the box).

You should also choose the native (usually English) and the foreign languages from the pop-up menus (at the bottom of the window). This will assign the correct flag-icons to the switch-find-button of the Browse window.

Now you are ready to enter words into your inflection-dictionary. You'll learn how to do it in the next chapter (see section 'Adding and Changing Words').

Distributing Dictionaries

You can create the new dictionary for your personal use or for distribution to other users of the Verbs & Nouns application.

You can distribute the dictionary as a commercial, shareware or freeware package. In the first two cases you might wish to prohibit users from full access to the dictionary until they pay the registration fee. This can be done by choosing the menu item Password from the 'File' menu. You have to enter the password and press OK. After that users can browse only the first 59 words from the dictionary.

To get full access to the dictionary, a user has to select the Password menu item and enter the password. After that the dictionary becomes fully accessible.

If you want to distribute your dictionary I'd be glad if you let me know about it so I can list your dictionary in future versions of the program documentation. You cannot distribute the registration number for the Verbs & Nouns program itself. If someone wants to use this program with all the features enabled then they should always register the Verbs & Nouns application with me.

The opportunity to merge dictionaries that have been updated by different users makes exchanging dictionaries between users very useful.