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Software FURCH-DIAOULEK 2.04
(Quick start)

Abstract

Introduction

The present release uses GTK3 inside two different codes, "Diaoulek" and "Furch". GTK3 is the new graphical library which is supposed to replace (not without many problems) the older GTK2. For West-European languages, software "Diaoulek" will help you to organize and learn your vocabulary in the language that you want to study and "Furch" will help you to read plain texts. If a text is displayed by "Furch" on your screen, you can move the mouse cursor on a word and by a simple click open a bilingual dictionary and have the meaning of that word. As both codes are integrated, you can also select the clicked word for a future learning with "Diaoulek".

The Breton word "furch" is the radical of the verb "furchal" which means: to look for, to search. The meaning of "furch" may thus be "look", "search" at the imperative or still : it looks for, it searches (present of the indicative, third person of the singular). But looking or searching for what ? Well, for words into dictionaries or more exactly into your whole data-base, so also into your lessons.

The development of software "Furch" started at the beginning of the 21st century but was stopped as there was no free bilingual electronic dictionary available at that time. That situation has changed somewhat with the series of "FreeDict" dictionaries. In particular, we have the Breton-French and French-Breton dictionaries whose first author was Tomaz Jacquet and are now maintained and extended by Denis Arnaud. They have both more than 38,000 entries. Even if the situation is not so favorable for other languages, a software like "Furch" can be quite useful. With it you can display text files or capture text on the web with your mouse, make some editing and store them after your changes. As explained above, the displayed text can be clicked and "Furch" will search the dictionary for the word under your mouse cursor. At present time "Furch" will work for Breton to French and to a lesser extent for English to French. For other languages, the services rendered by "Furch" will be more reduced but that software remains under development.

History of the software versions.

What is new in version 2.04 (2021) of software "Furch-Diaoulek" ?

- It is now possible to generate an audio lesson with articles selected in different lessons. The audio file (in wav, ogg or mp3 format) is obtained by concatenation of different parts extracted from registered "ogg" files or of "wav" files generated by the "svox pico" software. Each part has its own sampling frequency which has to be changed to the sampling frequency chosen for the concatenated audio file.

- There are no other new features in version 2.04 of the software but many bugs have been corrected.

What is new in version 2.03 (2020) of software "Furch-Diaoulek" ?

- The lessons articles were displayed in two different ways, the compact one or the random fashion. The random display, which was qualified of "normal" in the software, has been profoundly changed, it now includes compact displays in both senses of interrogation.

- Some lesson articles contain more than one single paragraph, up to now, all the article was

read and displayed in one language and then in the other. Now, each paragraph of the article is read and displayed in both languages and followed by the other paragraphs.

- Some orders in the command line make now possible the rapid adjustment of the font sizes for the left and right windows of the software.

What was new in version 2.02 (2019) of software "Furch-Diaoulek" ?

- Software "Furch-Diaoulek" is now able to read mp3 sound files. This feature allows you to install in your application sound files captured on the web. Theses files will be indexed and automatically replayed if it is adequate in your lessons. This is very useful for a language such as English. See annex C for details.

- Some buttons of the graphical interface may be programmed to discriminate between the different mouse clicks. They will appear with rounded corners. Other, more ordinary buttons will have squared corners.

- Empty lines are now taken into account in Windows.

And what was new in version 2.01 (2018) of software "Furch-Diaoulek" ?

- This version should work perfectly on Windows 7, well enough on "wine" (the Linux emulator for Windows) and it has a "snap" package for Linux.

- "Prov" lessons are automatically called back in both senses of study before disappearance.

- An advanced search is possible into the dictionaries.

- You can limit the number of articles studied in a lesson. These articles are classed according to their probability to have been forgotten.

- A tool bar can replace the command line at the top of the left window for some often used orders.

- The "Furch" part has been improved.

- A graphical interface allows you to choose the fonts used into the software (see the B annex (42)).

And what was new in version 2.00 (2017) of software "Furch-Diaoulek" ?

- That version was the first one to make use of the graphical library GTK3. However, this transition to a new graphical library was premature. There was much variation between versions of GTK3 and the Linux and Windows versions were different. Version 2.0 of software "Furch-Diaoulek" was trying to be identical to "Diaoulek 1.7" but was not working very well and so it was not published.

And what was new in version 1.7 (2016) of software "Diaoulek" ?

- Software "Furch", an help to read texts has been adapted and is included now in software "Diaoulek". Both software share the same resources (dictionaries, lessons).

- Version 1.7 of software "Diaoulek" is the last stable version of this software which makes use of the graphical library GTK2.

And what was new in version 1.6 (2015) of software "Diaoulek" ?

- Inclusion of "Svox pico", a text to speech software for French, English, German, Spanish and Italian.

- The possibility to choose at start the language to be studied.

- Improvement of the order "!update" and the possibility to exclude some files from the updating.

And what was new in version 1.5 (2014) of software "Diaoulek" ? Only two features but very important ones :

- Introduction of a sequence of oblivion for the "Prov" lessons.

- The possibility to use the Tomaz Jacquet's Breton-French dictionary.

We will now present with more details first " Diaoulek", the vocabulary manager and then "Furch", your assistant for reading texts.

The vocabulary manager "Diaoulek".

The vocabulary which you are learning in a language formerly unknown to you is your "capital". You try to increase your capital but this one keeps wearing away (we forget), it is necessary to periodically review your vocabulary while avoiding to waste time in reviewing already known words. You also have to learn new words, hopefully with the greatest efficiency, etc... All these needs imply a lot of management and it would be good to optimize that task. Software "Diaoulek" is a vocabulary manager. To accomplish that job, the vocabulary is organized into lessons. We have four different kinds of lessons :

1. **The short lived lessons,** they last only during the time spent to learn them. As we certainly not want to lose information, you may guess that these lessons are only lists of pointers towards the places where the actual information is stored. These lists of pointers are generated by the software itself. They are, for example, the 20 words that the software considers as the most badly known ones among those already studied. The short lived lessons receive the number "zero".

2. **The provisional lessons.** They are said to be "Prov" lessons. Their default life span is 5 days but you can recover them for at least 5 other days after their official disappearance. With the default settings, the recovery time is 78 days . However, they finally disappear completely and, in order not to lose information, they are, as the short lived lessons, made of pointers towards the location of the true information. The "Prov" lessons are created when you stop learning a lesson and they are made of selected words, for example those which you don't knew. They can also be created by a selection of words in the direct or inverse dictionaries. These dictionaries are the sum of all the words in the permanent lessons plus the words in the "FreeDict" or "freelang" dictionaries if they have been installed. It is possible to sum up several "Prov" lessons into a short lived lesson and to generate another "Prov" lesson with the badly known words. Consequently, one word can stay into the "Prov" lessons as long as it has not been declared as known during at least 5 consecutive days. If used well, the "Prov" lessons may become your main tool to manage vocabulary. This is particularly true since version 1.5 of "Diaoulek" because a sequence of oblivion has been introduced for the "Prov" lessons. Thought they are simple text files, the "Prov" lessons should not be directly modified by the student with a text editor.

3. **Your personal lessons.** They are said to be the "Own" lessons. They are created in the same way that the "Prov" lessons are but their life span in infinite. Since version 1.5 of the software, you can also automatically generate "Own" lesson from the "Freelang" or "Freedict" dictionaries. You can modify these lessons with a simple text editor. You can add

words in the simplified way as in the file "ex_simple_bis.txt", or in a more complete way as in the files "sa1.txt" or "ex2.txt". These lessons are located into a directory named "OWN" and this simplify the management because the software, at start, will systematically load the contains of the "OWN" directory. As for the "Prov" lessons, we have commands to accomplish simple operations on these files as addition or deletion.

4. **The data-base lessons.** These lessons are in fact personal lessons of someone else, but they have been published and everybody can use them. They can be automatically downloaded from the "alnfurch" web pages and they are managed by the software "Diaoulek". You can study these lessons one at a time but software "Diaoulek" is also making direct and inverse dictionaries from all these lessons plus your "Own" ones,. This allows you to select entries (one word in some lesson and another word in another lesson...) and with these selected entries, you will make your own "Prov" or "Own" lessons. At the date of November 2019, we have more than 350 Breton/French lessons and about twenty English/French lessons. All the Breton/French lessons are going along with audio files. They can be loaded or updated by the command "!update"

Software setup.

Software "Diaoulek" version 2.01 can work under Windows or Linux. It was written under Linux Mint 19 (bureau Mate) and it was compiled in Windows 7 with "MSys2" (a Linux emulator on Windows). The result of this compilation has been tested with "wine" (a Windows emulator) on Linux and finally a package independent of "MSys2" was prepared. This package does not work under WinXP but has been tested on Win7. A "Windows" installer, computed by "Inno Setup5" under "wine" is also available. A "snap" package developed on Ubuntu 18.04 is available for Linux.

Setting-up under Windows.

As the « Windows » version have an installer, this greatly simplifies the software setting-up and configuration. You will download the file "FDiaoulek-2-01-setup.exe". By double-clicking on this executable file, you will be proposed to install "FDiaoulek" by default in "Program Files\FDiaou-2-01". However, for a matter of read/write rights, it is recommended under Win7 to install the software into the directory " C:\Users\Your_User_Name\FDiaou-2-02". Here "Your_User_Name" stands for your logging name which must not contain any white space or accentuated character. You can also install your software in another place, for example on a USB key as in "J:\FDiaou-2-02" or even in a directory with a more complicated path. However, you should keep in mind that a software developed for Linux has difficulties with file names containing spaces or accentuated letters. Don't create yourself such file names even if you can use names like "Program Files". Your user name should not contain spaces or accentuated letters either. If this is the case, create a new user which don't need root privileges but at least needs the rights to read and write on its disk space.

Installation under Linux.

There are more "Linux" distributions than days in the year and there is not much agreement between them. So, you have only two possibilities : the first one is to import your software and all its external libraries in a single "universal" package such as a "snap package" and the second possibilities is to compile yourself the source code.

Installation of the "snap" package.

Unfortunately I was not able to make a fully working package for this version of the software, the sound was not working. So, you will have to compile the code.

Compilation from the source code.

If you have some knowledge in computer science, you may prefer to compile yourself the source code. This should be possible without too much hassle but my contribution will be limited to some advises and in giving you the source code and the "makefile". This will allow you to make the compilation. You should succeed because "Furch-Diaoulek" is only using standard libraries and it was developed under a derivative of Debian/Ubuntu. However, if for some reason, you are unable to make it, you still can install "wine" and use the Windows installer "FDiaoulek-2-02.setup.exe". This should work well enough (but not perfectly, some icons will be missing and the font chooser will be ugly).

Software "Furch-Diaoulek" is written in C (gcc) and is only using standard libraries. You must install the graphic library "gtk3", then the "glib" which is an extension of "gcc" and is included, at least for Ubuntu, into "gtk3". You also need for the sound the libraries "libsndfile" and "mpg123" and for the connection to Internet, the library "libcurl". You also need the "ttspico" library for the voice synthesis. In order to make the compilation possible, all these libraries must be installed with their "headerfiles" and you must have the "make" utility.

The source code of "Furch-Diaoulek" is given to you with its "headerfiles" and some other files necessary for the documentation and the internationalization. You have also the "makefile" whose name is here "makediaou". It is then enough for you to write in a terminal the command:

make -f makediaou > w1

and you will get the result of the compilation and the "log" of the program launch into a "w1" file.

The errors or difficulties can only come from missing libraries or "headerfiles". As software "Furch-Diaoulek" is using hyper-classical libraries, you should succeed in compiling without too many problems !

First launch of software « Diaoulek ».

Software "Furch-Diaoulek" is given to you as a most stripped down version, in order to minimize the size of the archive which you have to download, but this version is a fully functional one and that allows us to test the downloaded software. This will be done now. The software is automatically launched after set up but you can also start it by double-clicking on the file "diaou.exe" (Windows) or by writing "./diaou.x > file_name" on a terminal (for Linux). With software "FDiaoulek", you can learn more than one language, each language to be learned must have its "configuration" file. This file will be called "diaou.conf" for the language that you study much often (which is said here the default language). For the configuration file of the other languages, you can take any name with the extension ".conf".

In the configuration that you have downloaded, the Breton is the main language to be learned (configuration file : diaou.conf) and the English is the second language (configuration file : diaou_en.conf). By default, the software starts on the the main language and later you can shift to another language by the order : "!chconf name_file.conf" where "name_file.conf" is the name of the configuration file for the language you want to study. This is not very convenient if you want to

learn first a secondary language, specially if you have many lessons to load for the primary language. This is why when the software starts, it will give you 10 seconds to choose your configuration file :
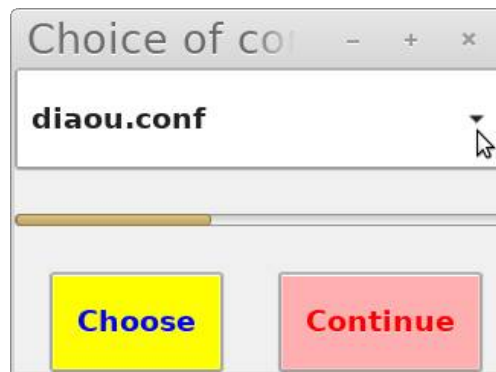
Ten seconds is a lot of time if you are in a hurry and want to learn the language of the default configuration file. Pressing the "Continue button" will stop the count down and you will immediately load the "diaou.conf" file. On the contrary, pressing the "Choose" button will also stop the count down but will let you time to change the configuration file. This is done by a mouse click when the mouse pointer is positioned like on the above picture or more generally on the configuration file name. The program will then display all the configuration files which are on the directory of the executable and will allow you to choose one of them. You will then press once on the "Continue" button to restart the count down and even twice if you want to load immediately the chosen configuration file.

For the moment, we will start on the default configuration file "diaou.conf", immediately if we press on the "Continue" button or after 10 seconds if we do nothing. We will load the Breton-French lessons. The dialogue with the user is done in French. This may be a problem for English speakers and we can change that. In the file "Diaou-1-6/diaou.conf", we will change the line:

 Lang :> FR <:

 into:

Lang :> EN <:

We can now restart the software and we will obtain something which looks likes figure 1:

Figure 1 (FD-2.png) Study of a lesson.

Figure 1 will allow us to define the windows and the use of the various buttons. We have on figure 1 two windows and both will be useful. The left window is the main window and is almost exclusively in use for the display of the vocabulary. At the top of the left window, you have a command line which can receive orders. You can write "help" on that command line and you will see the list of all the possible orders. That command line can be replaced, for some of the most used orders, by a bar of buttons that is made to appear by clicking on the "+" button at the left of the command line. Here is how that bar looks like :

Each green button can be clicked and it opens a menu. Each element of that menu replaces an order of the command line, but "FDiaoulek" is still in development and only a few orders are available for now. If you have a click on the button marked "-", you will return to the command line.

At the bottom of the left window, on figure 1, you have a series of buttons. The button "Quit" must be used to leave gracefully the application. You should avoid clicking on the little cross at the top

right place of the application window, this would be equivalent to a crash of the program ! The buttons "Prev" (**Prev**ious) and "Next" are used to navigate through the list of the lessons. For now, you have only 2 lessons so that will be easy ! When you have downloaded other lessons (more than 340 in Breton/French), you can reach them by writing on the command line their alias or their ordering number. The following button is for the sound. It has on it the symbol "<)))" when the sound is active and the symbol "<XX" when the sound is inactivated. There is no sound file for lesson 1, so this button does not have any action at present. On the contrary, lesson 2 comes with an audio file and you will be able to test this button and tune your system sound output for "FDiaoulek" during the study of that lesson. The present version of "FDiaoulek" is able to generate sound from text for French, English, Italian, Spanish or German languages but this possibility has been turned off for the Breton-French lessons to simplify the presentation. We will see later how to make it work.

 A language must be studied in two different directions, from the language to be learned towards the language you know and from the language you know towards the language to be learned. In software "FDiaoulek", by convention, we call "Question" what is written in the language to be learned and "Response" what is written in the language you know. The following button on figure 1 allows you to easily toggle from one direction of study to the other. On figure 1, this buttons bears the indication "R->Q", so words in French (the language you are supposed to know) are proposed to you to translate into Breton (the language you are studying). By clicking on that button, it toggles and it will then bear the indication "Q->R" for an interrogation in Breton that you will have to translate into French. You should always balance the two directions of study.

The last button of the left window bears the indication " Quest./Resp." (for " Question/Response"). It is a dialog button and its use is not particularly simple. If you manage to understand how it works, then you will have understood almost everything of software "FDiaoulek". If you have difficulties, don't panic, this button is not used when you study a lesson in the "compact display mode" that we will also see. In the "normal display" mode, words are presented one by one in random order, but, in fact, this random order is biased. The badly known words will be presented more often. It is that mode, qualified with some exaggeration as "diabolic", which is at the origin of the software name "Diaoulek".

The first lesson with a "normal display" mode.

The normal display mode is useful for small lessons containing at most some twenty or so words. However, that mode of display is difficult enough to understand and some amount of time is necessary to learn it. Its study is relegated to Annex A (36)

The second lesson with a "compact" display.

We are now back to the situation of figures 1 and A1 but, this time, the software proposes to us the following lesson, lesson number 2. One can change lesson at will by clicking on the "Prev" or "Next" buttons but here we will accept lesson 2. This is also an example of lesson, simpler for the vocabulary than lesson 1, but more complex for its file structure. Moreover, this lesson comes together with an audio file and we will use it to test sound. For Windows, the software comes with all the necessary "dll" libraries into the directory "FDiaou-2-01" and so, the sound must work "out of the box" without any other installation, at least if the sound volume is not set to zero for your output devices. For Linux, at compilation time, you were obliged to load the "libsndfile" library but, after compilation, the problem is the same than the one with Windows, to choose the good output device and be sure that the output volume is not set to zero. In case of difficulty, check your sound settings with another software, an audio or video application for example. If your computer remains stubbornly mute, you may have more than one output audio device, try them successively one by

one.

However, we don't have reached that point yet. We are in the case of figure 1, except that, this time, lesson 2 is proposed to us. We accept by making a left click on the "Question/Response" button. We come now to a situation like in figure 2. Be sure that the sound is activated, if necessary by clicking on the button with the logo "<XX". You will also choose the direction of study as "Q->R" in order to be in the case of what will be presented later. The software is waiting for you to choose the display mode. Here, we will choose the "compact" mode by a middle click on the "Quest./Resp." button" and we will obtain something like on figure 2, except for the order of the questions because that order is random. So, each time, you have a different order.

On figure 2, we remark that all the buttons, except one, at the bottom of the left window have changed color. They are deactivated except for the sound button which remains active. It is not even possible to leave correctly the application because the "Quit" button is also inactive. That is also the case for the command line at the top of the left window. You only have to know that, to come back to a normal functioning mode of the software, it is enough to have a click on the "Continue" button at the bottom of right window. On that same right window, we have the display of all the "Questions" in the lesson, that is to say the words in Breton. These words are separated by lines whose beginning is yellow. The response is not displayed. In order to verify the "Response", you have to click on one of these yellow lines. For example, on figure 2, the line with the label "ti" was clicked and in the left window the "Question" (ti ; an ti) and the "Response" (maison ; la maison = house, the house) were displayed. When you click on the yellow line, you should hear the sound if the sound button at the bottom of the left window is on "<)))". You can hear again the sound by clicking on the sound file name " aln-ex2.ogg" and you can do that as many times you want, even if your general sound button is into its off state : "<XX".
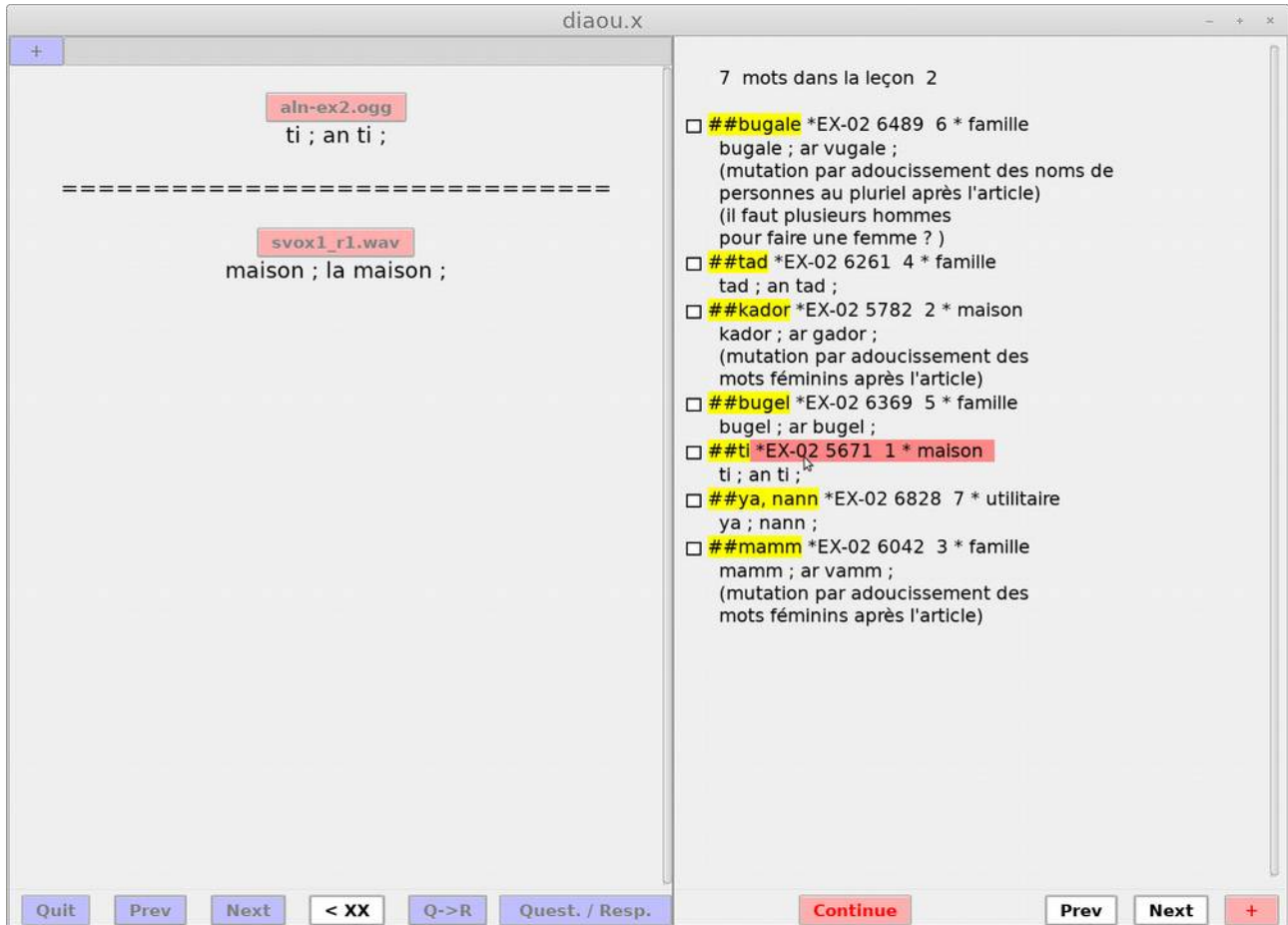
Figure 2 (FD7.png) Example of compact display.

On version 2.01 of the software, you can also hear the sound generated by the text to speech software "Svox-Pico" for the French responses. We will see later, when the English to French lessons will be introduced, how to remove or tune that sound.

On the right window, you have also check boxes and I suggest to you to check the words that you don't know. The checked boxes will be used to create a "Prov" lesson.

When you have a compact display, the lesson is cut into pages and you can navigate among the pages with the buttons "Prev" and "Next" at the bottom of the right window. In lesson EX2, we have only 7 words which are displayed on a single page. The buttons ."Prev" and "Next" are thus without any action. At the bottom of the right window, we have also a button with the logo "+". That button is there to complement the button "Continue" without leaving the compact display mode and without the recording of the lesson results. Figure 3 shows us what we get by a click on the "+" button. The first choice, activated by default, is particularly interesting. It allows you to regroup all the checked entries, most often the words which you did not know, at the top of the lesson. For lesson EX2, that is not very useful because we have only seven words in the lesson which is then displayed on a single page. In a true lesson, with perhaps a few tens of entries, the regrouping may spare you a lot of time. Moreover, the order of the entries is changed and randomized. That can be interesting if you want to separate two related words or two false friends.
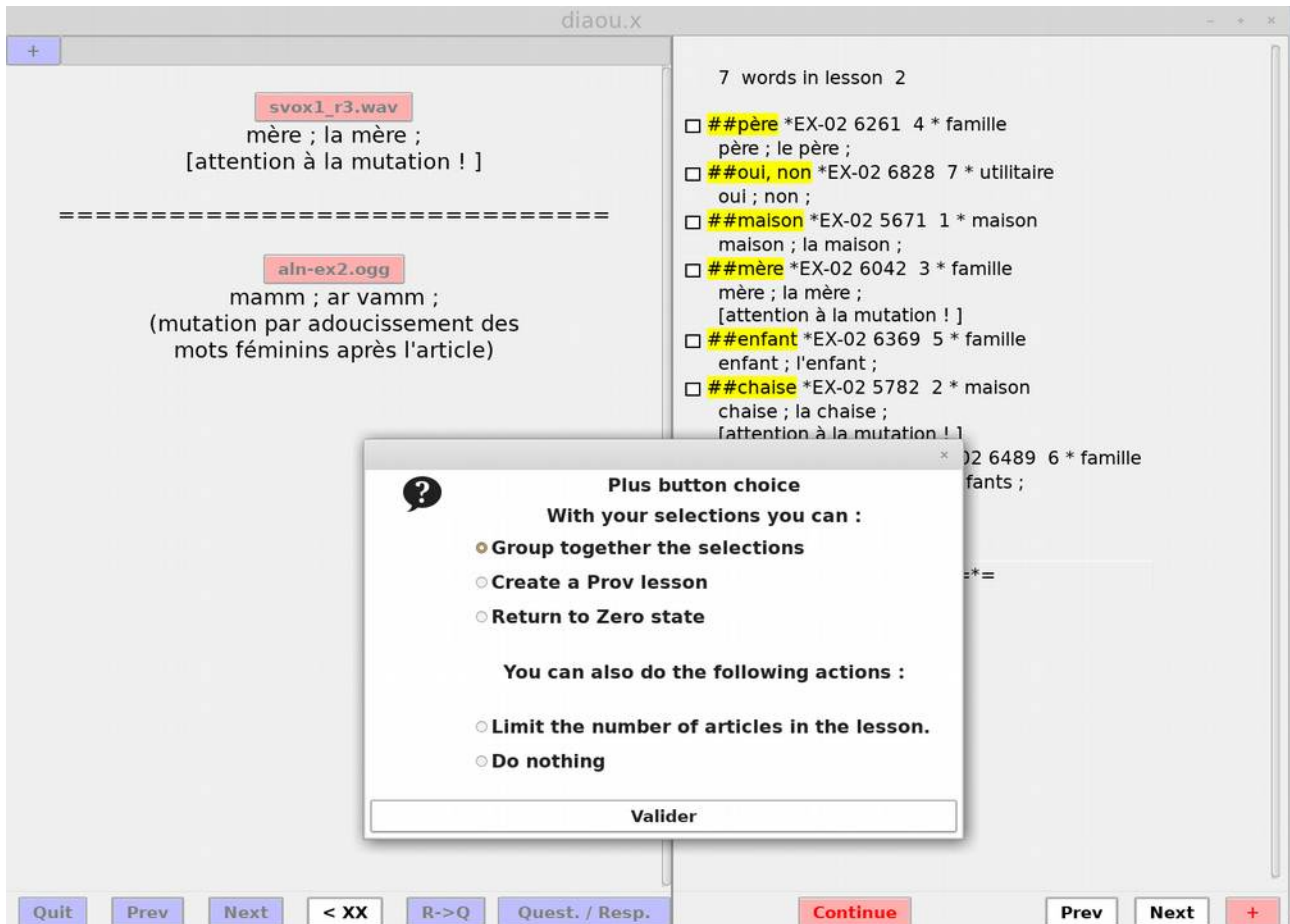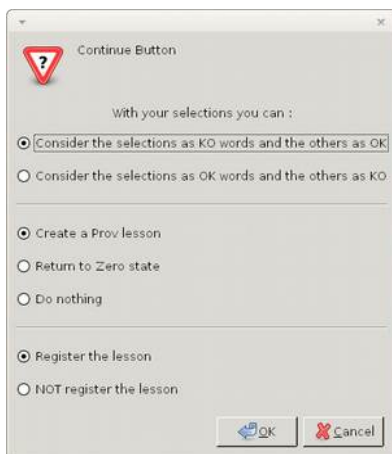
Figure 3 (FD8.png). Compact display and the various possibilities offered by the "+" button.

When you have finished to study your lesson with the compact display mode, you click on the "Continue" button and it will display a new window which you can see at left. That floating window is divided in three parts with a group of choices into each part and you have to select a particular choice in each group. In the top part, you have to tell if the selected entries where unknown ("KO" words) or, on the contrary known ("OK" words). In the central part, you can create a "Prov" lesson or not. At last, in the bottom part, you are asked if the lesson has to be recorded or not.

In fact, the default choices are those which you will use most often and so, generally, you will click on the "OK" button without any other action. The software will then ask to you the life span of the "Prov" lesson and the comments if you have some to add to the lesson and after that everything will proceed automatically. Then, you will be back to the normal display mode but, following a "compact" display of a lesson, it will be proposed to you to study the same lesson in the other direction (QR or RQ) because that was not possible in the compact display mode.

Remark : When you are in a "normal" display mode, you can change to a "compact" display mode

by the order "!cpct" but the reverse, going from a "compact" display to a "normal" display is not possible.

Management of the "Prov" lessons.

As we have seen above, after the study of a lesson, you were strongly encouraged to create a "Prov" (Provisional) lesson. These "Prov" lessons will probably become your main tool to study a language. Recent studies seem to confirm the fact that to retain something in memory, it must be recalled frequently first and then after longer and longer time periods. It is also better when there is not obvious regularity in the intervals. The "Prov" lessons will provide such an optimal learning if you use them regularly, that is to say, each day. These lessons disappear after 5 days. In fact, they simply change their name in "old-date-former-name". They will be back 3 times 2 days apart, then 2 times after 4 days, again 2 times 8 days apart, then once after 16 days and finally once after 32 days. So they completely disappear only after more than 2 months. You will recopy the words which you don't know well enough every day in another "Prov" lesson up to complete memorization. To predict when words are recalled will rapidly become impossible because they will be part of many lessons, each one following independently its own cycle of oblivion. The numbers of recalls given above are only the default ones, you can change these numbers in the configuration file, and adapt them to your ability to memorize.

What we will see now is how to list and select your "Prov" lessons in order to study them anew. When you are back to the normal display mode, you only have to write the order "!shprov" (**sh**ow **Prov**) in the command line at the top of the left window (or click on the "+" button, then on "display", then on "PROV"). You will obtain something like in figure 4 :
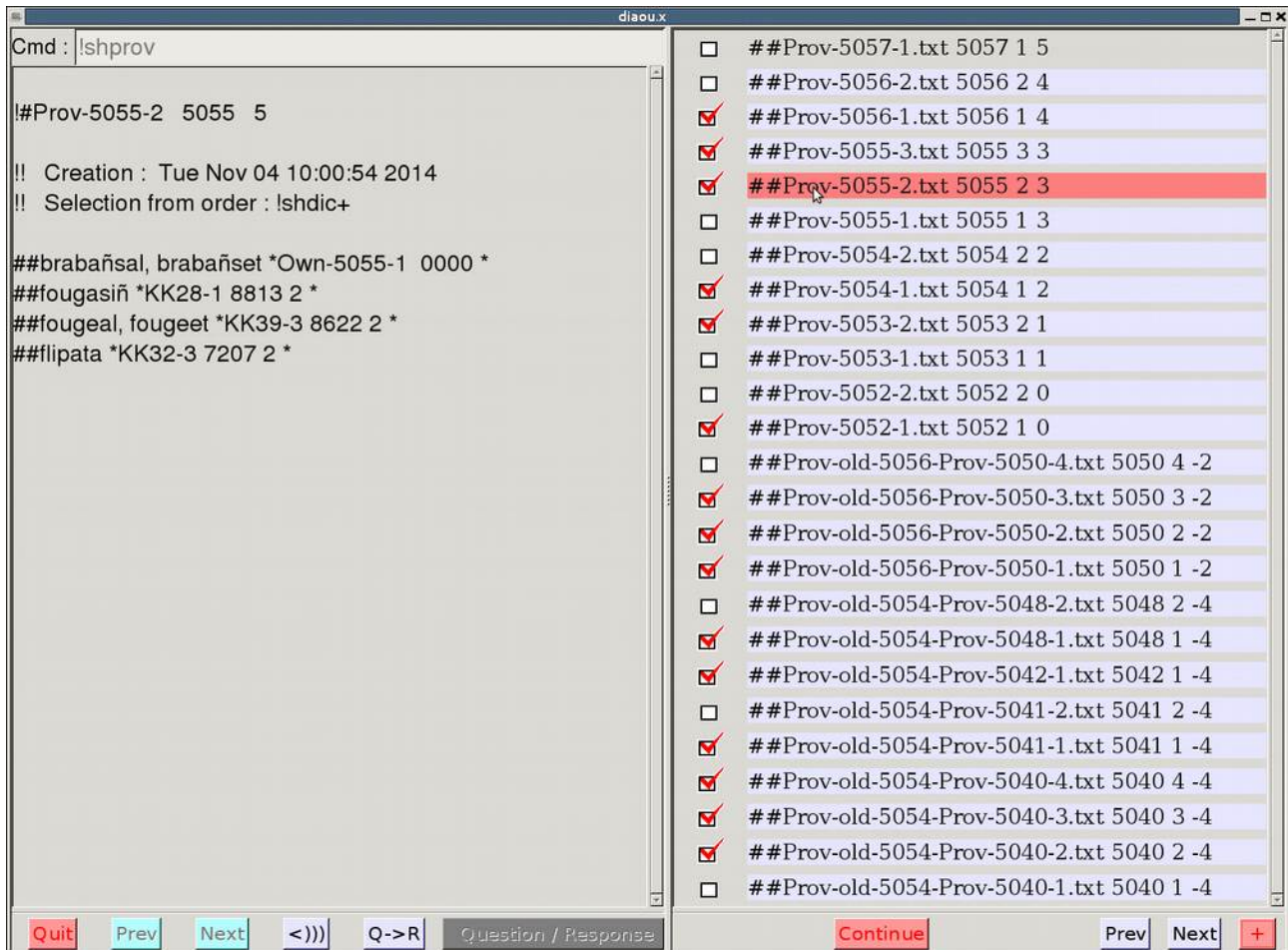
Figure 4 (QS-12-1.png). Management of the "Prov" lessons.

What we have on the right window is a paginated listing of all your "Prov" lessons. For you, at present time, you have created only one or two "Prov" lessons yet. So, you will obtain something similar to what is on figure 4 but with fewer lessons. However, the principle remains the same. In the right window you have check boxes, they are followed by the name of a "Prov" lesson and after you have 3 numbers. The last number is the number of days which that particular lesson has yet to "live". In fact, as it has been said earlier, the "Prov" lessons do not disappear immediately but their names are changed and they remain available for at least 5 more days and even 2 months if you have not changed the default values in the configuration file. The lessons which are in their survival time are listed after the active "Prov" lessons and you can reach them by clicking on the "Next" button at the back of the right window. The recalled lessons have a provisional name beginning by "Prov-old" and their life span is negative. You must also know that the provisional lessons will not disappear before an ultimate recall into both senses of study, so, if you cannot learn your lessons during a few days, you will find them when you return.

If you click on a "Prov" lesson name, an abstract of its contains will be displayed in the left window. You can see there the comments that the software has automatically generated when it has created that lesson, that is to say, the lesson name, the date of creation and a few other indications on the origin of the lesson. If you have inserted comments when the lesson was created, they will also be displayed. These indications are followed by the list of all the lesson entries.

As you can see on figure 4, it is possible to select "Prov" lessons, then by pressing the "Continue" button you will be able to add them up for study. It would even be good to study, each day, all the "Prov" lessons in both directions QR and RQ. If you have too many "Prov" lessons, the button

labeled "+" at the back of the rightmost window will allow you to select about half of them according to various criteria.

Remark : The management of the "Own" lessons is very much alike to the management of the "Prov" lessons. You only have to write "!shown" (**sh**ow **own**) in the command line.

Study of several languages with software "FDiaoulek".

Software "FDiaoulek" allows you to study several languages. For that purpose, you only have to give a configuration file for each language. The configuration file for the language which you study most often must be called "diaou.conf" because the software starts (by default) from a configuration file of that name. For the other languages, the configuration files can have any name you want but with the extension ".conf". The "Windows" installer will set-up the software "FDiaoulek" with the Breton as main language to be learned and the English as another language. So the configuration file for Breton is "diaou.conf" and the configuration file for English is "diaou_en.conf". If you want to study other languages, you will introduce other configuration files extrapolated from "diaou_en.conf". In the file "diaou_en.conf" the language set to communicate with the user is English. This is not quite logical but that was used as a test to ascertain that the communication with the user could be done in English as well as in French. If you want the dialogue of the software with yourself to be done in French, you only have to change the line:

    Lang :> EN <:

into:

    Lang :> FR <:

In order to pass from the study of the Breton to the study of the English language, you will write the order "!chconf   diaou_en.conf" (chconf = **ch**ange **conf**iguration), in the command line at the top of the left window. You can also have a click on th "+" button at the top left of the left window to hide the command line and display the buttons. Then, you click on the "DIAOULEK" or "FURCH" buttons and on "chconf" in the menu. A small window will pop up and let you choose a configuration file.

The "FDiaoulek" version which you have installed comes with 12 English-French lessons, the vocabulary of them is taken from articles in "Scientific American". They are not lessons for beginners but they can be used as examples for you to write your own lessons. Of course, you can display and study these lessons as you were doing for the Breton lessons.

The "Svox-Pico" text-to-speech software.

The English lessons come without any audio files but the "Svox-Pico" text-to-speech software has been integrated into "Diaoulek". "Svox-Pico" is a technology bought by "Google", not free but usable off-line without any fee. Only the main part, the "engine" is delivered under a binary form. The other parts are in C. This software is currently the best text-to-speech software available that can be integrated into a standalone code. The sound it delivers is not perfect but generally quite good. "Svox-Pico" can read texts written in English, French, Spanish, Italian and German. We have only a female voice but we can adjust somewhat the sound pitch, speed and volume. It is what we will see now.

It is sufficient to write the order "!svox" in the command line at the top of the left window and that will open a graphical wizard like on figure 5. This wizard is organized into 3 tabs and what you see first is the "General" tab which gives you some indications on what can do for you this implementation of "Svox-Pico" in the "Diaoulek" software. You need to tell what you want for the

"Questions", that is to say the language you are learning, here English, and what you want for the "Responses" done in the language you know, here French. This is the reason why you have two other tabs which are labeled as "Q svox " and "R svox"
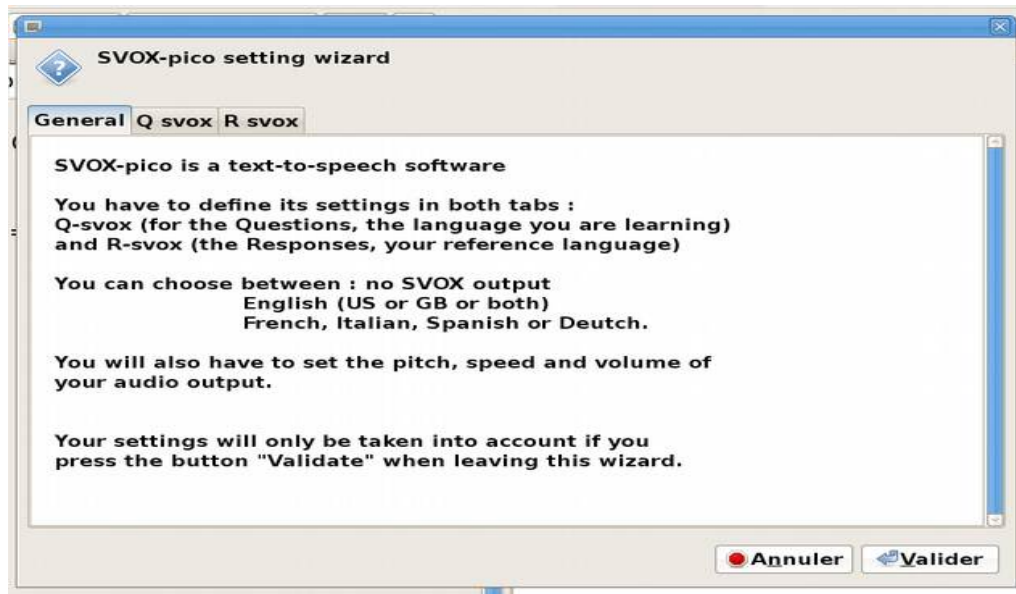

Figure 5 (Svox1_en.png). The "general" tab of the Svox wizard.

Now we will see the other tabs.
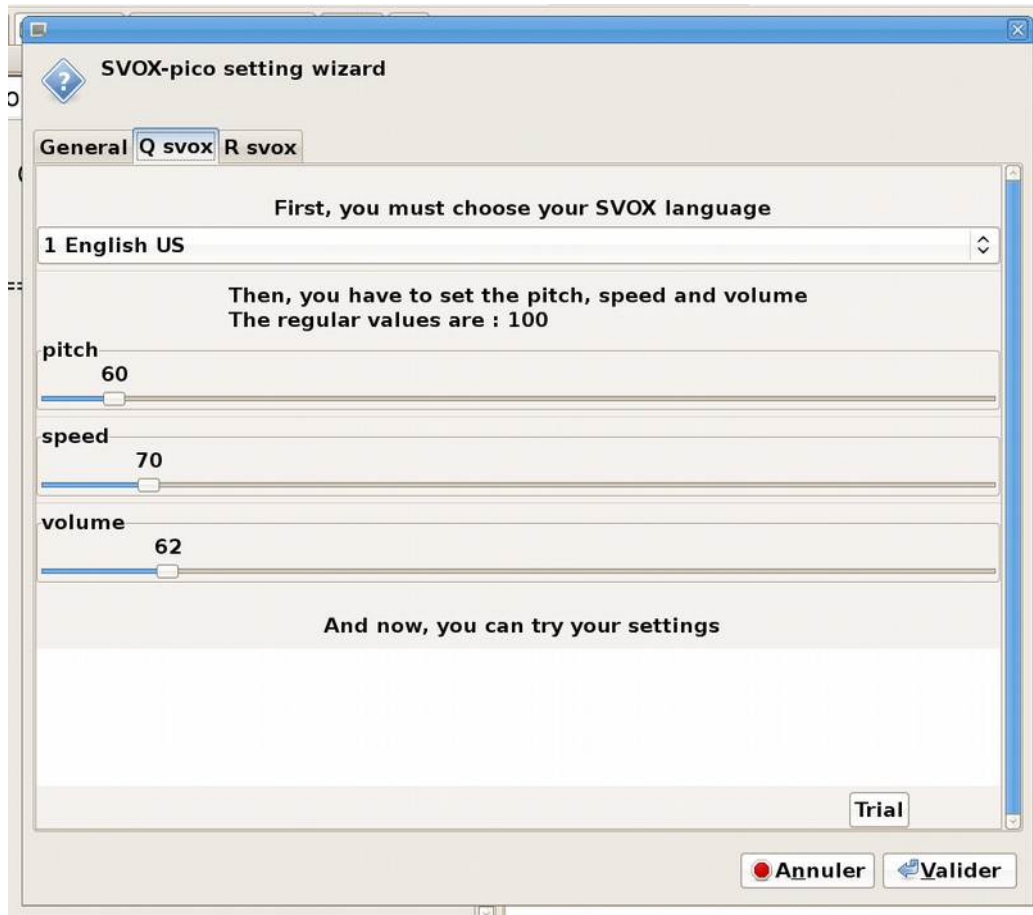
Let us open the "Q svox" tab :

Figure 6 (Svox2_en.png). The "Q svox" tab of the Svox wizard.

On figure 6, you have first a "combo box", that is to say a kind of line which let you choose different items. Here we have selected item 1 : "English US". You can choose between 8 different items :

- item 0 : No svox output
- item 1 : English US
- item 2 : English GB
- item 3 : English US + GB (your sentences are read first with an American accent and then with a British accent)
- item 4 : French
- item 5 : Spanish
- item 6 : Italian
- item 7 : German

Obviously, because we are learning English, we must choose item 1, 2 or 3. In fact, there is not much difference in "Svox pico" between the American and British accents and so choices 1 or 2 are best. For the "Responses" in French, we must select in the tab "R svox" item 0 (no output) or item 4. Once we have selected the language, we must select the pitch, speed and volume of the voice. The values "100" for each of the 3 parameters are the regular ones. You have only a female voice but you can make it speak like a little girl or be deep enough. The speed parameter is very important. For a language that you are learning, you don't want "Svox" to speak too fast. The

volume of the sound output depends from your hardware and of your settings. The best choice for the 3 parameters will be obtain by trial and errors. On figure 6, under the sentence " And now, you can try your settings", you have a white text zone which can be edited but we will leave it empty. Under the text zone we have a button labeled by the word "Trial". We will click on that button and few sentences extracted from "Wikipedia" will appear on the text zone and will be read by the "text to speech" software. These sentences are for the different languages a very short presentation of the capital cities of these countries. You may found these texts to be too long for your purposes but, because the text zone is editable, you can remove or modify the sentences. In fact, this feature is very important because "Svox Pico" is far from perfect, specially in French. However, "Diaoulek" offers you the possibility to replace in the lessons words by some hopefully better phonetic equivalents. For that, we will introduce a notation like the following one :

 word1 word2 <(word3 word4) word5 word6 word7.

On your screen, in a lesson, you will see : word1 word2 word5 word6 word7.

But what will be transmitted to "Svox Pico" will be : word1 wor2 word3 word4 word7.

That is to say that we will not write on the screen what we have between "<(" and the following parenthesis ")", but the number of words will be counted and they will replace for "Svox Pico" the same number of words following the closing parenthesis. There is a little problem if we want to have a greater or lesser number of words to be replaced. In that case the underscore "_" will do the trick because it will be considered as a regular character when counting the words and it will be replaced by a blanc space when transmitted to "Svox Pico". With our above example :

  word1 word2 <(word3_word4) word5 word6 word7

will be read on the screen : word1 word2 word5 word6 word7 (as above)

But we will transmit now to "Svox Pico" : word1 word2 word3 word4 word6 word7.

For a lesson, we usually need quite a few trials before we obtain a satisfying replacement. It would be very tedious to recompile each time the lesson. The use of the editable text zone in the "svox" setting wizard will ease that problem because we can rapidly make many trials. For example, in the English text extracted from "Wikipedia" that we use, if we want to replace for "Svox" the word "capital" by "main city", we will edit the text and write : … <(main_city) capital.... In a lesson you would have read on your screen only the word "capital" but "svox" would have pronounced it as "main city" as we can test it here by a click on the "Trial" button.

The dictionaries computed with the words of the data-base.

As we have a dozen of lessons, each with about twenty words inside, there is already some vocabulary, enough to make small English/French and French/English dictionaries. It is what we will see now.

In fact, you have nothing special to do, the dictionaries are automatically created or updated. As soon as you add a lesson or modify one which already exists, the dictionaries are updated. We only have to see how to use them. To make a call to the "QR" dictionary, that is to say the dictionary of the language to be learned towards the reference language, you only have to write "!shdic" (**sh**ow **dic**tionary) in the command line at the top of the left window. The first page with the words beginning with "a" (here we have only 4 words) will then be displayed. The dictionary has only 26 pages, this is not much but it is already a lot if you have to turn the pages one-by-one by means of the buttons "Prev" and "Next" at the bottom of the right window (see figure 7). It is why, there is also at the bottom of the right window a small command line where you can write the first characters of the word you are looking for. For example, in the case of figure 7, we were looking for

a word beginning by "bri". So, we have written "bri" in the command line and made a "return". The page with the words beginning by "bri" has been displayed and ahead of these words we have a yellow mark to put them into evidence. If you click on one of the lines of the dictionary, you can have the translation into French. In the case of figure 7, we have clicked on the word "bright" and the translation has been displayed in the left window. In fact, what is displayed is the couple Question-Response of the lesson whose alias is "SA1". It is into lesson sa1.txt that we have the word "bright".

It is possible to select words in the dictionary by checking the boxes at the beginning of the lines. On figure 7, three of these boxes were checked and, obviously you can have other boxes checked on other pages of the dictionary. When we have finished to use the dictionary, we make a click on the "Continue" button at the bottom of the right window and then, you will be proposed to create a "Prov" or an "Own" lesson with the selected words.
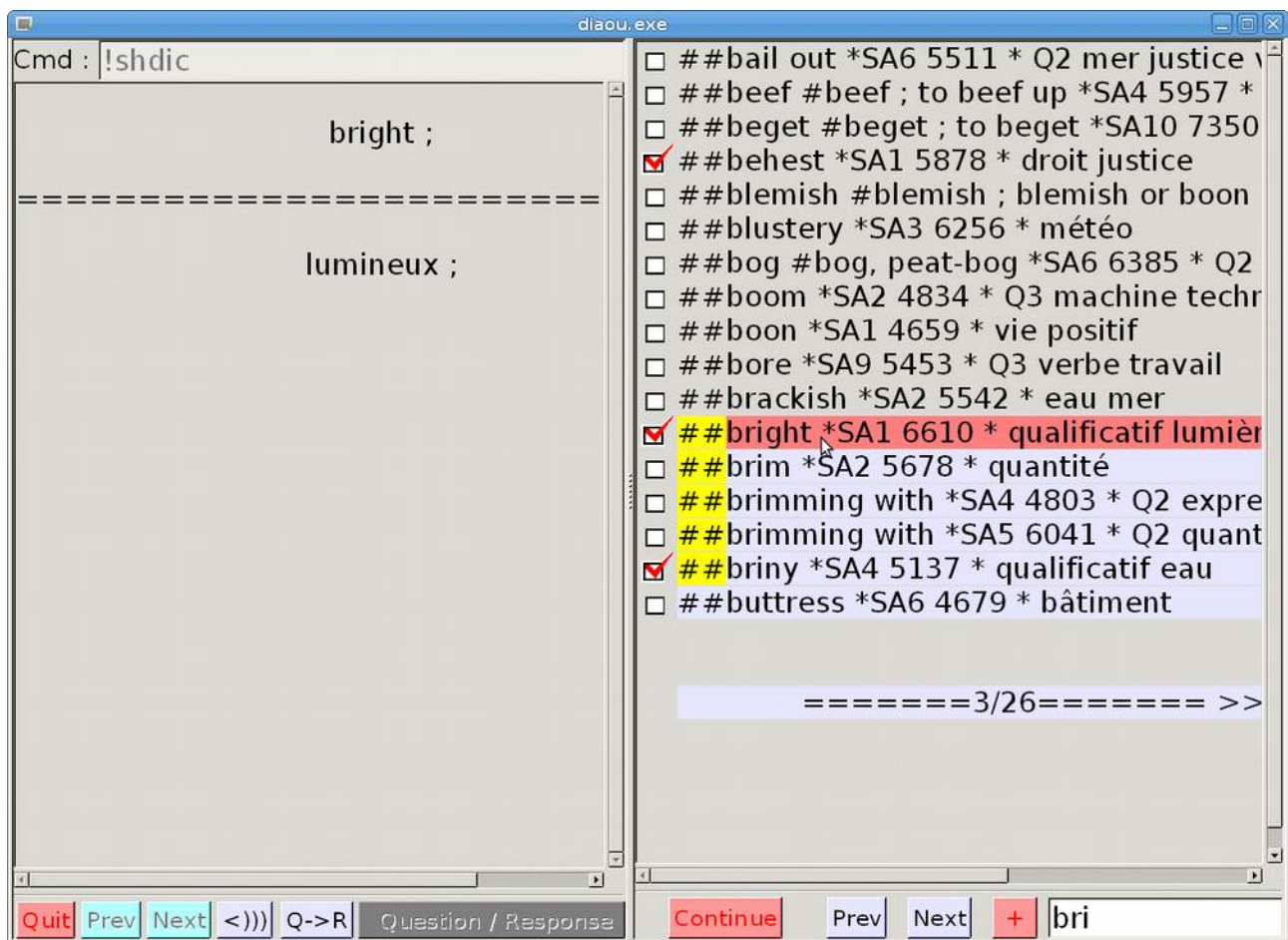

Figure 7 (QS-13.png). Searching a word in the English-French dictionary.

On figure 7, the QR dictionary has been displayed, but it is also possible to display the RQ dictionary (here the French-English dictionary). For that, you only have to write the order "!shcid" ("cid" is simply "dic" written in reverse order) in the command line at the top of the left window. The list of all the possible commands can be obtained by writing "help" or "!help" on that same command line.

Dictionary of the words with a particular tag.

When you compose a lesson, you can attach one or several tags to each of the lesson entries. This has been done for the English-French lessons as well as for the Breton-French lessons. The list of all the tags which were really used can be displayed if you write the order "!ltag" (**l**ist of **tag**s) in the command line. In the case of English lessons, the word "eau" (water) has been used as a tag. We can compute a dictionary with all the words having the tag "eau", for that you will write in the command line at the top of the left window the order:

!shtag eau

What we obtain is shown on figure 8 below. We can view the words with their translations by a click on the lines in the right window and we can select some of them with the check boxes. These words will be used to create "Prov" or "Own" lessons when, by a click on the "Continue" button, we leave the dictionary.
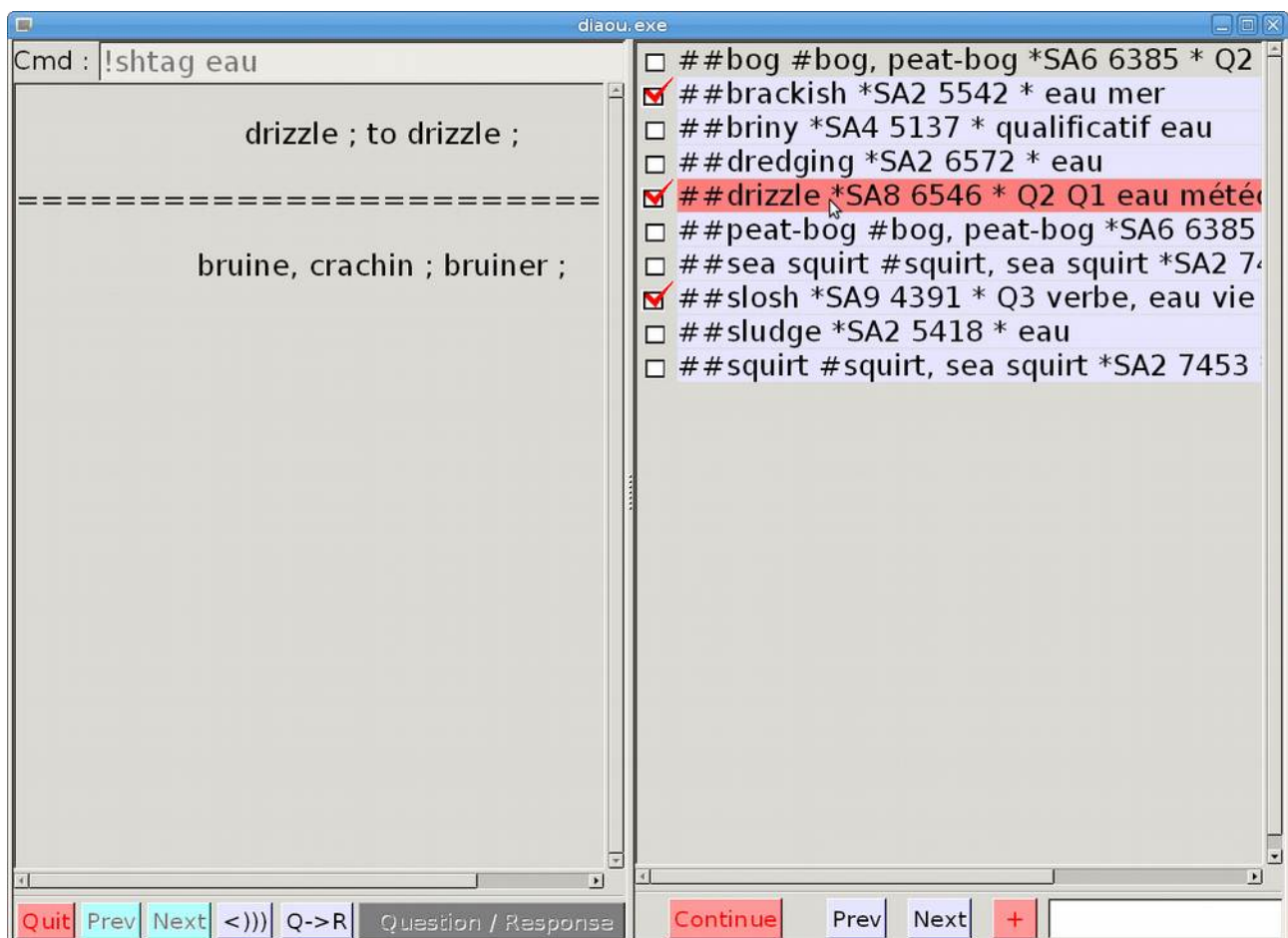

Figure 8 (QS-14.png). Display of the words with the tag "eau".

Remark : The order "!shtag" (**sh**ow **tag**) allows you to generate a QR dictionary but it is also possible to generate an inverse dictionary, that is to say an RQ dictionary from the reference language towards the language to be learned. To get that, you only have to write the order "!shgat" ("gat" is "tag" written in reverse order) which must be followed by the particular tag name you are looking for.

Use of other dictionaries in software "Diaoulek".

As we have seen above, we are able to create dictionaries with the words in the lessons. However, if we have only a few lessons or no lesson at all, what is to be done ?

In fact, we will try to use bilingual dictionaries if we can find them on the web. This seems however to become harder and harder with time. You can easily find "online" dictionaries but not down-loadable ones. A few years ago, there was the "Freelang"dictionaries with the extension ".wb". They are not available today. They have been replaced by encrypted versions. However, if you have on your computer some of these older files, you can use them in "Diaoulek". The only collection of bilingual dictionaries which are delivered under a GPL license is the "FreeDict" collection. They are small, at most 9000 entries dictionaries. They are delivered under different formats but "Diaoulek" can only use those with the extension ".tei". They are written in a kind of "XML" language. For the convenience of the user, the "Diaoulek" project will distribute the French/English, English/French, French/Deutsch, Deutsch/French and French/Breton dictionaries. A special version of the Tomaz Jacquet Breton/French dictionary, specially developed for "Diaoulek" is also available.

The "Freelang" dictionaries.

The "Freelang" dictionaries were a collection of about 200 dictionaries which you could download without any fee and among them Breton/French and English/French dictionaries. Since version 1.5 of software Diaoulek, you could have used the "Freelang" dictionaries to generate lessons, or at least those of west European languages and among them all the regional languages of France. These dictionaries were ".wb" files, formatted but otherwise ordinary text files. These dictionaries have recently disappeared and have been replaced by other ".flg" files, probably an encrypted or at least not readily readable file format. So, you will not be able to use the "Freelang dictionaries" except if you have an older version on your computer. If this is the case, you can install it easily with the order "!mngdic" (**ma**na**ge dic**tionaries) or by copying it in the "FOUND" directory of the appropriate language. The installation wizard will ask you if it is a "QR" or a "RQ" dictionary and it will perform the installation.

The "FreeDict" dictionaries.

As said above, you can use the dictionaries with the extension ".tei". These dictionaries are included into source archives which are more and more difficult to obtain. They can however be downloaded for example at :

 https://en.osdn.jp/projects/sfnet_freedict/releases/

These files can be found in archives whose names include the sequence ".src." for example :

freedict-fra-eng-0.3.5.src.tar.bz2   or   freedict-fra-eng-0.3.5.src.zip

The "Diaoulek" project will also distribute the ".tei" dictionaries whose one of the languages is French. However, they may not be in their most recent version. For the English/French and French/ English dictionaries, you will have them directly by the order "!update". When you are studying Breton, the order "!update" will also download the "French/Breton" ".tei" dictionary. The "Breton/French" ".tei" dictionary will not be distributed by the "Diaoulek" project because it has not been tested yet by lack of time. It is replaced by the special version of the Tomaz Jacquet Breton/French dictionary whose anyway origin is the same.

Use of the dictionaries.

You can use the external dictionaries that you have downloaded and installed along with the dictionaries computed with the words of your lessons with the order "!shdic+" and select words to generate "Prov" and "Own" lesson. There is no need for a reversed order like "!shcid+" because the order "!shdic+" will display the two lists of words in two different pages and you will toggle from one list to the other with tabs labeled "Dic QR" and "Dic RQ". On figure 9 we have written the order "!shdic+" in the command line at the top of the left window.
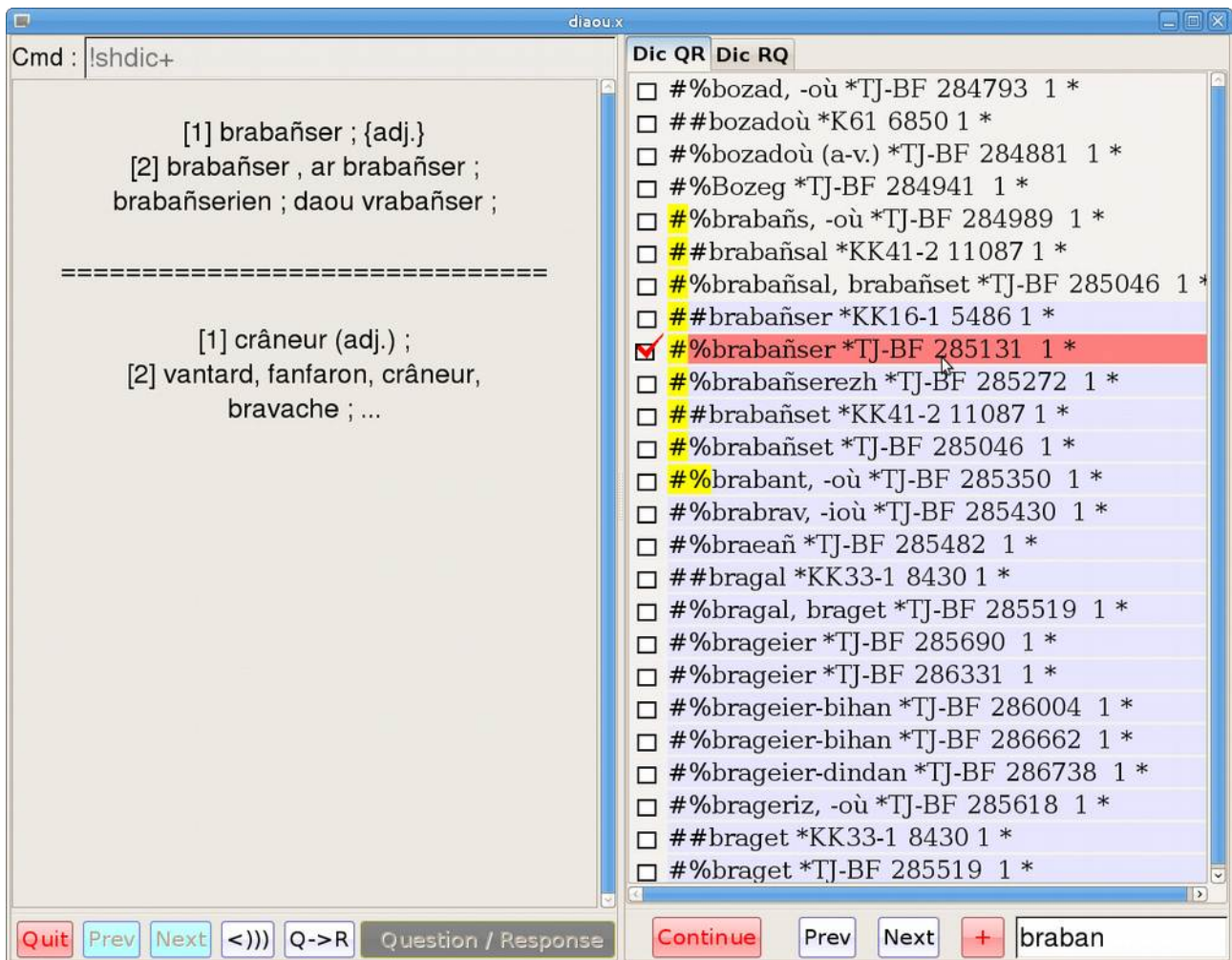

Figure 9 (QS-15.png) The order "!shdic+" and the selection of a word in the "Tomaz Jacquet" Breton-French dictionary.

The "Dic QR" tab is selected and "braban" has been written on the line located at the bottom of the right window. All the entries beginning by "braban" (with or without the accent) are indicated by a yellow mark. Here the verb "brabañsal" in the Tomaz Jacquet dictionary is selected. You can see on the left window what will be automatically generated in a lesson "Own" if you choose that option when you have finished your selections. This option is offered to you when you leave the "!shdic+" dictionary by pressing on the "Continue" button. That same option can be obtained by a click on the "+" button located at the bottom of the right window.

On figure 9 the words in the lessons are marked with a sign "##" and the words in the external dictionaries, here the Tomaz Jacquet dictionary, are marked with the sign "#%". The alias of the dictionary or of the lesson is also indicated as well as other information for the software.

Obviously if you press the "Dic RQ" tab you will get the French-Breton dictionary as in figure 10.
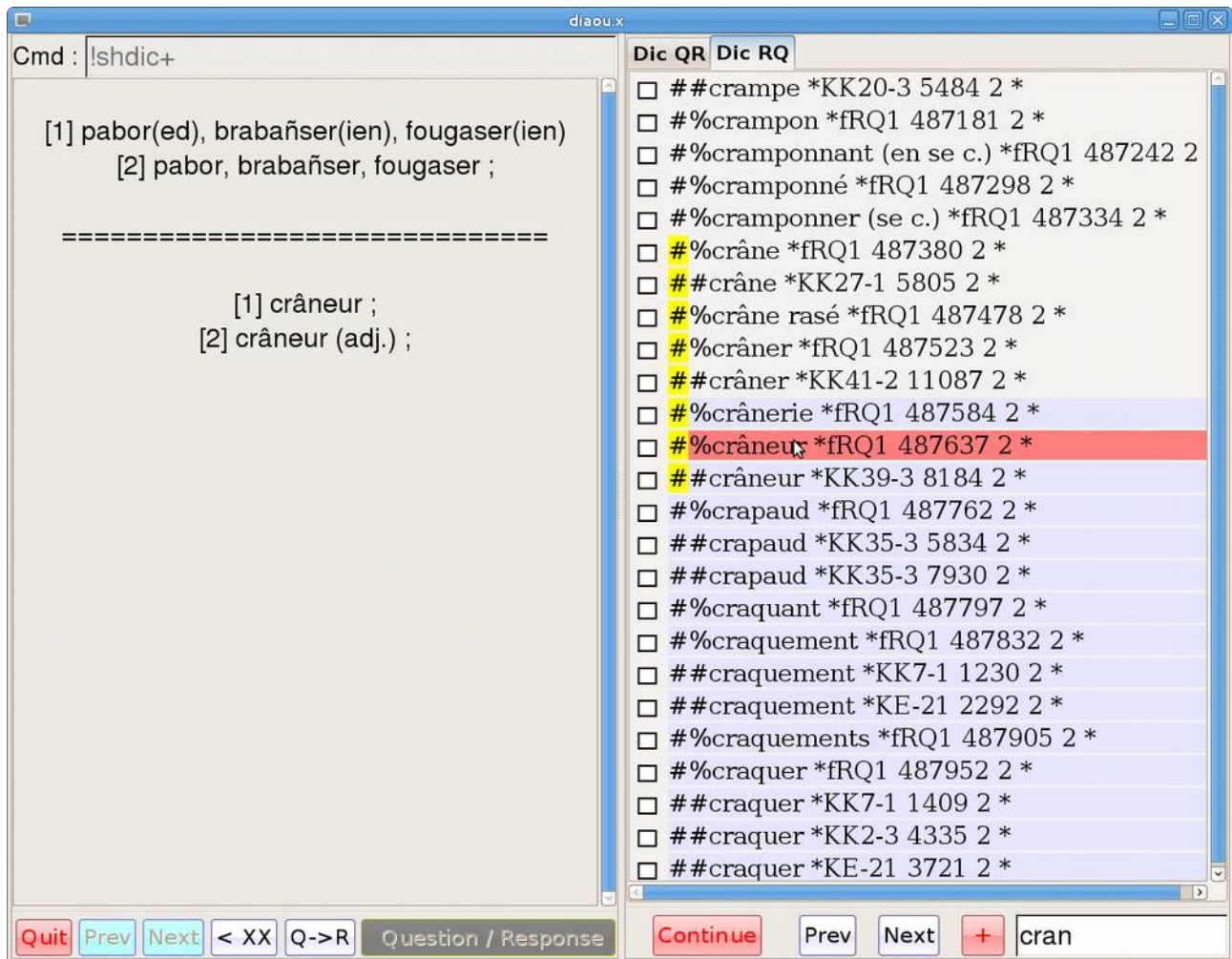

Figure 10 (QS-16.png) The order "!shdic+" and the selection of a word in the "Tomaz Jacquet" French-Breton dictionary.

As you can see on figure 10, you have words in the lessons as well as on the Tomaz Jacquet French-Breton dictionary which was obtained from a ".tei" file downloaded from the "FreeDict" site. As indicated above, this dictionary is now distributed by the "Diaoulek" project and you will obtain it automatically with the order "!update". That will be seen later.

The English/French and French/English dictionaries.

Small (about 8000 entries) English/French and French/English dictionaries exist in the "FreeDict" project. They cannot withstand comparison with the 50000 words contained in those from "Freelang". The "FreeDict" dictionaries in the ".tei" format can be obtained by the order "!update" and they will be installed almost automatically. You will just have to specify if they are QR or RQ dictionaries. Here, for us, QR means English to French and RQ means French to English. The "Freendict" dictionaries can be used along with the "Freelang" ones if you still have old copies of them in the ".wb" format on your computer. The command "!mngdic" gives you the possibility to install or uninstall any dictionary.

Advanced search into the dictionaries.

As we have already seen, in order to search words into the dictionaries, we type the first letters of the words into the command line located at the bottom of the right window. However, we can also use a star "*" to replace any group of letters (or no letter). We can even use two stars, one for the beginning and the other for the end of the words. For example:

- with : "*enn" you will search for all the words with ending "enn".
- with : "*aba*" you will get all the words which contain the sequence "aba".
- with : "brab*" you will get all the words beginning by the sequence "brab"

We have immediately one question : What is the difference when you write "brab*" and when you write "brab" into the command line ? In both cases you look for the words beginning by "brab". However, there is a big difference, with "brab" the dictionary is not changed and with "brab*" you generate a new dictionary which contains only the words starting with "brab". And so, all the other later searches will be done into that reduced dictionary. You can then simulate a function "AND" and obtain for example all the words beginning with "brab" and ending with "er" (with "*er") or containing the sequence "raba" (with "*raba*").

As a rule, each time you have a star in the command line, each time the dictionary is reduced. Obviously, you need some way to return to the full dictionary. This is done by writing "--" into the command line.

There is also another difference, with the advanced search, that is to say when you use stars into your search, then the accentuated letters are important. For example "*añ" will give a result different from the one obtained by a search with the sequence "*an".

Setting up and updating of the data-bases.

The software which you have installed is fully functional and we have made a rapid presentation of its main features. However, this software must be completed by "data". We have 2 kinds of "data", the lessons with possibly their associated audio files and the results of your studies.

Recovery of data from an earlier version of software "FDiaoulek".

If you begin with software "FDiaoulek", obviously you have no results coming from earlier studies. The results of your studies will be generated and updated automatically each time you use the software, so you have nothing special to do. However, if you were using an earlier version of software "FDiaoulek", you want, of course, to recover your lessons and the results of your studies. This is done by the order "!import". This order must be followed by the absolute path towards a configuration file. You must use the order "!import" for each of the languages you are studying and you should also take care not mixing up your configuration files. As an example In Windows and for the language you study most often, if you were studying that same language with version 1.7 in the directory "Diaou-1.7", you will write in the command line at the top of the left window:

!import   C:\Program Files\Diaou-1.7\diaou.conf

With that order you will recover into your new version 2.01 all your work done with version 1.7.

Attention : If you install software "FDiaoulek 2.01" on a USB key, transferring something like 250 Mo of data can take a lot of time and at the next restart of the software it will be even worse. The waiting time can reach up to half an hour on a slow and old computer. The indicators monitoring the loading of the software have been improved but they are still not well adapted to such conditions (sorry). In order to help you be patient, you can display the contains of the directory "BR\FOUND"

which is the directory of the lost and found files for the Breton language. At least under Win7, you have at the bottom left of the window the number of items in the directory and this is very useful here. In the "import" phase, you will see this directory filling up and then, after the restart of software "FDiaoulek", you will see that directory emptying gradually. The other restarts will be quick enough and you will have no problem with them.

If you were also studying English with version 1.5 of software "Diaoulek" with a configuration file whose name was "english.conf" (for example), when you study English with your new version 2.01 (with configuration file "diaou_en.conf"), you will write:

!import   C:\Program Files\Diaou-1.5\english.conf

Remark : Software coming from the Linux world has difficulties with file names when spaces and accentuated letters are included into them. Don't create yourself such files. However, the orders "!import", "!synchro" and "!synchro0" will accept names like "Program Files".

When the software has finished transferring the data, it stops. You are then obliged to restart it and the new start will take a lot of time, specially if the software is on a USB key (up to half an hour). In fact, the software has to change place to a lot of files and this takes time. For you not to lose patience, you can watch the "FOUND" directory becoming empty. When the software has finished its loading and is ready and waiting, you must write in the command line the order "!ccdb" (**C**heck and **C**orrect **D**ata **B**ase). The data-base will then be verified, adapted to the software new version and corrected if necessary. You are now ready for an update of your Breton or English lessons.

Semi-automatic updating of the lessons.

The updating of the lessons concerns only the Breton/French and the English/French lessons which are published on the site of software "FDiaoulek". On the site, the Breton/French lessons are garnered into packs of 5 or 6 lessons together with their sound files. For technical and cost reasons, it was historically the only solution. However, the experience has proved that the lessons are changing (slightly) very often and so the packs were never up to date (they are automatically updated now). Moreover, to download 6 lessons and 6 audio files when a comma has changed place in some particular lesson is not very efficient. Since version 1.4 of software "Diaoulek" you can automatize the updating of the lessons and audio files. In the configuration file "diaou.conf", you have a line:

Url_update :> ************* <:

where an Internet address is written. At that address, you have the last version of the lessons and audio files. You only have to write the order "!update" in the command line at the top of the left window and the software will connect to Internet at the address indicated on the configuration file. The software will compare the md5 sums (the fingerprints) of your files to those of the site. If a difference is found, the file on the site is downloaded, the md5 sum of the downloaded file is computed and is compared to the expected sum. In case of agreement, the downloaded file will be substituted for your own file. Moreover, the new lessons will also be downloaded. So, in the case of a new install (without having used the order "!import"), you will download about 340 lessons and 340 audio files and also the Tomaz Jacquet Breton-French dictionary and the ".tei" French-Breton dictionary. This will take some time because you have about 250 Mo of data to download. You may have a bad connection to Internet, but this is not too much of a problem because your download is made of independent files. If, for some reason, your connection is down, it is enough to stop and restart later software "FDiaoulek". When your connection will be active anew, you will restart the software, write "!ccdb" in the command line for security and continue the updating from where it had stopped by writing again the order "!update". When this command has completed its action, it will open a window where you will find a summary of what has been done, you will also be advised

that the software will stop and that you have to restart it and write the order "!ccdb" to verify, adapt and perhaps correct your data-base. The updating of your data-base must be done every three months or so, or each time that a new pack of lessons has been published and this is announced on the site's RSS feed. So, if you have subscribed to the RSS feed, you are automatically advised of that event.

For the English/French lessons and dictionaries, the process is the same. When you study English, that is to say when you have activated the "diaou_en.conf" configuration file, you will type the order "!update" in the command line.

Remark 1 : As for the order "!import" in the case of an installation on a USB key, and if you have downloaded more than 600 files (case of a first installation), the restart of the software can last for half an hour. In order to compensate for the poor behavior of the start indicator and make you be patient, you can display the contains of the "FOUND" directory and watch this one getting empty.

Remark 2 : Why a semi-automatic update and not a fully automatic one ? Simply because I hate programs or systems which are connecting themselves to Internet behind your back, sometimes with very good reasons but often just to verify what you are doing, in fact for spying purposes. This will not be the case for software "FDiaoulek", it is connecting itself to Internet only when you ask it to do so and only to download files at the address indicated in the configuration file. Any other connection will be due to a virus. Except for the updating of the lessons, software "Diaoulek" works without connection to Internet.

How to use the vocabulary manager "Diaoulek".

The installation of software "FDiaoulek" has now been completed and we have also seen its main possibilities. In the present paragraph you will find some advice on how to use the software to learn Breton. It will not be difficult to adapt these recommendations to the study of other languages.

The lessons which are given together with software "Diaoulek" and that you have downloaded or updated with the "!update" command are not to be used as such. The ten or so EE lessons are an example of complete lessons but they were mainly written for technical purposes when the software was developed. In the KE lessons, you have basic vocabulary, words that any beginner must learn, but it is hard and tedious work to do such learning without the support of a text. This is even more true for the other lessons.

So, my advice is that you should learn Breton (or any other language) with the text book of a true method. That method can be one chosen by yourself or one imposed to you by your professor if you are a beginner. If you are more advanced in the study of the language, you will also find vocabulary to learn in the books you read. You will only use software "Diaoulek" to learn and review your vocabulary. Each time you encounter a new word or expression worthy of interest, you will search it in the dictionaries by the orders "!shdic", "!shcid" or even better by the order "!shdic+". If you find it, you will select it in order to add this word into a "Prov" or "Own" lesson. If you don't find it, you have to add it yourself with a text editor (Notepad+, gvim...) into an "Own" lesson of the "OWN" directory or into any other lesson that you would have created yourself. Your personal lessons are simple text files created on the models of the lessons "ex_simple-bis.txt" or "ex2.txt" or still on the model of the English-French lessons which are in the directory "EN/SA-lessons". If you are creating yourself from scratch a lesson (except for the "Own" lessons), you must notify it to the software by a modification of the configuration file relative to the language you are studying (file "****.conf"). If you don't do so, the software will not be able to take that lesson into account. If you want to study the "Own" lessons, you will reach them by the order "!shown" (**sh**ow **Own**). For any other personal lesson, you will call it by writing its alias in the command line at the top of the left window. It may also be convenient to make a copy of that personal lesson into a "Prov"

lesson. For that purpose, you only have to study your lesson in the normal display mode and after you have finished your study, you will select all the entries for the creation of a "Prov" lesson.

So, if you wish, everything will come down to the study of the "Prov" lessons. The order "!shprov" (**sh**ow **Prov**)allows you to display and select these lessons. In fact, to do well, it would be necessary to select all the "Prov" lessons for a summation into a short lived lesson and to study that lesson in the two directions QR and RQ. If you have too many "Prov" lessons, you can select only some of them according to the conditions of their creation. This information is given in the comments of the "Prov" lessons and can be displayed as on figure 4. The options available by pressing on the "+" button may also help you in your selection. It is however important to study every day all the lessons, some in direction QR and the others in direction RQ. From time to time you will alternate the direction of study so each word will be studied in both directions.

After each study, it is proposed to you the creation of another "Prov" lesson with the words which remain unknown, so the words will stay into the "Prov" lessons as long as they have not been learned and declared as known during 5 consecutive days (the default life span of a "Prov" lesson) and after all the recalls in the sequence of oblivion. As we can suppose that in the long run you will learn every word, even the most difficult ones, the number of words in the sum of the "Prov" lessons will keep decreasing. You must then replenish your collection of words which are into the "Prov" lessons by new words encountered elsewhere, into the lessons of your learning method, or those given by your professor or those found into the texts you are reading. Most often, you only have to select these words into the dictionaries by the order "!shdic+". It is also recommended, when the number of words in the "Prov" lessons is low enough, to take advantage of that situation and to generate and study a "!worst qr" or "!worst rq" lesson. The forgotten words of these lessons will also be added to the "Prov" lessons.

If you follow these recommendations, the learning of the vocabulary will rest on the study of the "Prov" lessons. You must study these "Prov" lessons every day, preferably all of them in both directions QR and RQ. If that would take too much time, you will study half of the "Prov" lessons in one direction and the other ones in the other direction. How many words should you have into the sum of your "Prov" lessons ? That depends on how much time you can devote to the study of that particular language. You will rapidly determine the number of words corresponding to that amount of time. It is useless to introduce more words into your "Prov" lessons. Too many words will only ruin your learning. In the compact display mode, one option, reachable by the "+" button, will let you limit the number of words by ordering them according to their probability to have been forgotten.

Presentation of "Furch".

"Furch" is an assistant for reading texts written in some language that you don't completely master. It will not try to translate texts but it will often avoid to you the boring toil of turning the pages of a paper dictionary. For that you need to have some electronic bilingual dictionary and an appropriate software that will make the link between a displayed text and the dictionary. "Furch" is such a software. This version does not have much feature, still it will allow you to display formatted or not formatted texts, to capture something on the web and insert it into a file. By a simple click on a word of the displayed text, you will get the translations of that word. You can also analyze a whole page of text and display with a red background all the words which have not been recognized by the software. This is a handy tool for the one who tries to improve the software or complete the dictionaries. At present time the "Furch" engine works only for Breton (and English). It tries to recognize words with their mutations (changes of the first characters), their conjugations (changes of the terminations), their different writings (3 or 4 orthographic systems for the Breton language) or even words in old publications which were written with some fantasy. Taking into account for all

those difficulties, you cannot hope to obtain a unique result. It is up to the reader to select among what has been found by the software which translation best corresponds to the text meaning. As for a "Google" search on Internet, it would be necessary to class the results by their degree of likelihood. This has begun but it is still far from complete. Happily enough, we don't have 250,000 results but at most 10 or 15. We can also have no result at all for two reasons:

- The word is not in the data-base.
- The software is not smart enough to recognize the word.

All the words in a page which have not been recognized may be displayed by "Furch" with a red background, thus sparing you the time that you would have lost by clicking on them without any result. However, in the case of compound words with hyphens, even if they are declared as unknown, you can obtain the translation of each of the components of those words when you click on them. "Furch" allows also you to search manually the Breton/French and the French/Breton dictionaries. You can also mark some results, among those automatically or manually found, to make a lesson that you can latter study with "Diaoulek". Let us see now how to launch and use "Fuch".

Launching or leaving "Furch".

Your software always start in its "Diaoulek" state. It has always to load the dictionaries and the lessons which are parts of its data-base. It then computes or loads indexes to search the data-base. "Furch" uses the same data-base but it does not use the same indexes. So you must tell to your software to go in its "Furch" state. This is done by the order " !furch ". If you are in the "Furch" state, you can go back to the "Diaoulek" state by the order " !diaou ". You can also hide the command line by clicking on the "+" button and then on the "DIAOULEK" button that will show up. That will unroll a menu and you will select "FURCH". Both methds are equivalent, we will detail only the case with the command line.

Let us suppose that we are in the "Diaoulek" state. In the command line at the top of the left window we write " !furch" and then press the "enter" key. On the left window, the software will just write "wait ..." while it is loading or computing its indexes. When that is finished, it will write : "We are in the Furch state". At that point, you will be able to use the orders specific to the "Furch" state. We have only 5 orders : " !bib ", " !capt ", " !shbib ", " !shcapt ", and " !analy ".

We will now detail the action of each order.

Reading a book file of your library.

At present time, "Furch" works only for Breton or English to French. If you are in that case, you may have used the order "!update" to load lessons, sound files, dictionaries and some other text files. These last files install themselves automatically into a "./BR/BIB" directory. They are formatted or not formulated text files and were made for the original "Furch" project which was developed years before the "Diaoulek" project. They are texts of old books in Breton and are given with simple formatting marks that will generate a display as close as possible to the one of the original publication. At present you have "tis-tot.txt", the "An ti satanazet" (the house haunted by Satan) book by Jakez Riou which is in the KLTG orthographic system and the "Th-tot.txt" file which is the book "Buhez Santez Thereza" (Life of Saint Teresa) by Father Jezegou, a book written without any firm orthographic system. You may also add yourself any not formatted text file to the "./BR/BIB" directory, they will automatically be taken into account. The "./BR/BIB" directory is your library, the software will not remove or modify the files which are in this directory, you can only read them. As a first example, we will read the "tis-tot.txt" file. For that, we type into the

command line at the top of the left window the order : " !bib tis-tot.txt" (without the " ") and we will obtain something like in figure 11.
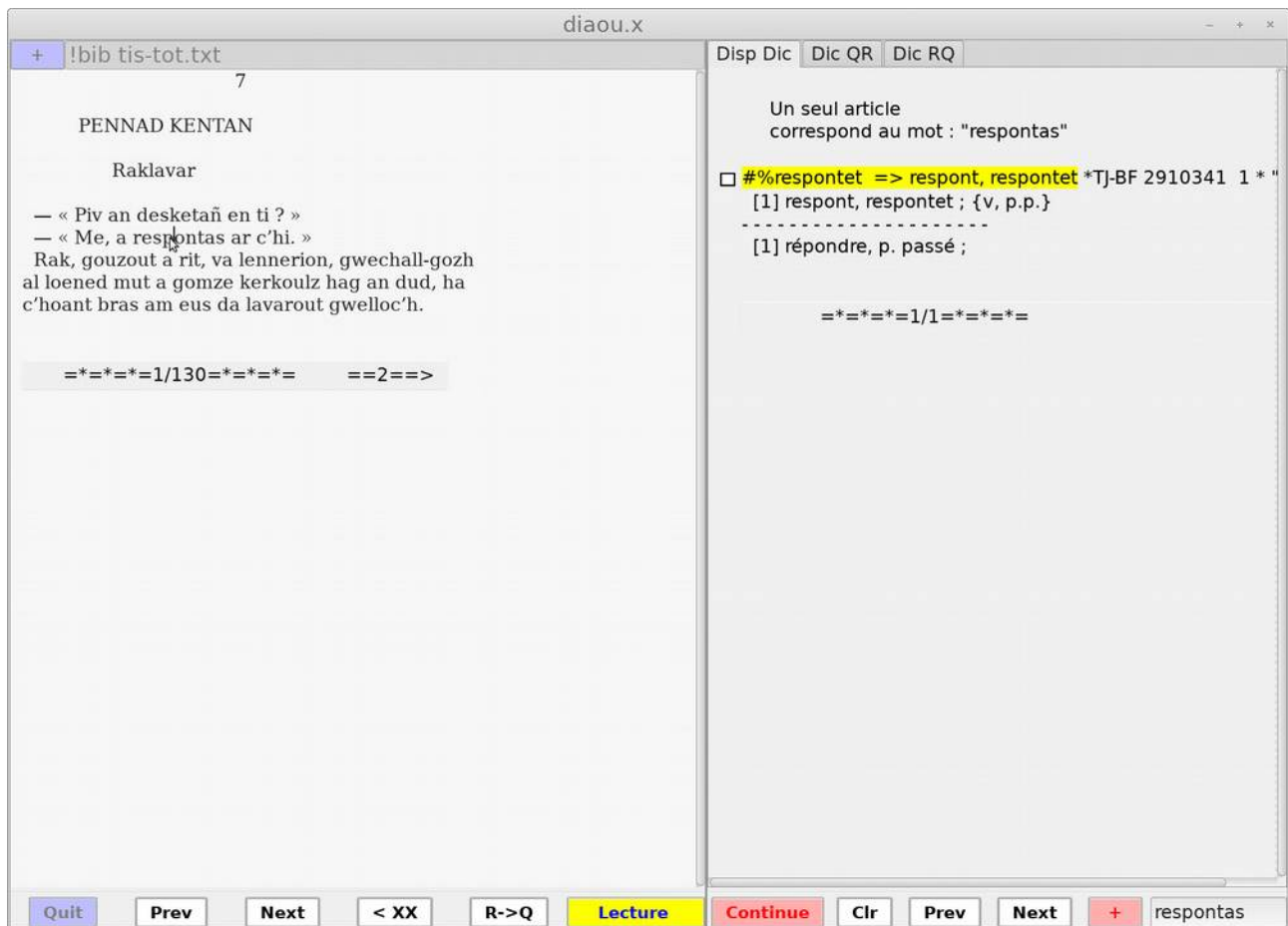

Figure 11 (FD10.png). Display of a text file located into your "library" directory "./BR/BIB"

The text is displayed in the left window and in the right window, a book-note with 3 tabs has appeared. At first, on the first tab labeled "Disp Dic" (Display Dictionary), you have nothing. On the contrary, on the second and third tabs, labeled respectively "Dic QR" and "Dic RQ" (for dictionaries QR and RQ), you have the Breton-French and French-Breton dictionaries like on figures 9 and 10. The interesting thing, and in fact the main objective of "Furch", is that you can click on a word and have its translation. For example, on figure 11, the word "respontas" which is a conjugation of the verb "respont" (to the preterit), was clicked. On the right window that was formerly empty, we have now an extract of the Breton to French dictionary. The first line, with some yellow background color on it, can be selected by a click on the square at its beginning. In that case, when you leave the lecture of the book, it will be proposed to you to make a "Prov + Own" lesson for a later study in the "Diaoulek" state. In the case of figure 11, there was only one response for the word "respontas" and it could be displayed on the first page of the "Disp Dic" tab. This is not always the case and you can have several responses that will be displayed on successive pages of tab "Disp Dic". You can navigate through these pages with the "Next" and "Prev" buttons at the bottom of the right window. If you make a click on another word in the left window, the tab "Disp Dic" (**Disp**lay **Dic**tionary) of the note-book will be cleared and the information on the new clicked word will be displayed. However, all the selected items will remain in memory for the creation of the "Prov" lesson if you choose that possibility at the end of your lecture. The other, non

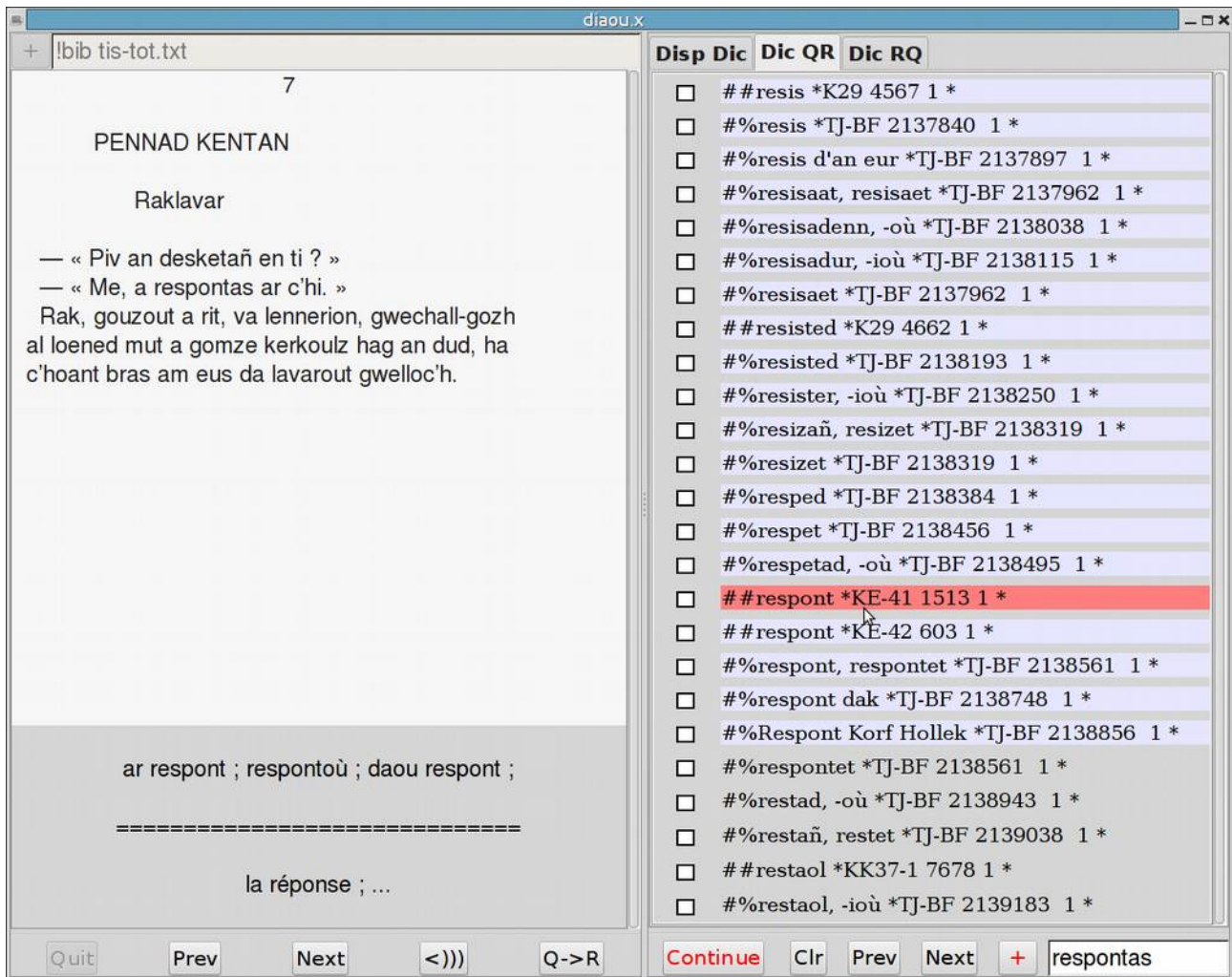selected items are forgotten each time that the "Disp Dic" tab is cleared.

Figure 12 (furch-5.png) You can also consult the dictionaries on the second or third notebook tabs.

It can also happen that the software does not find the word that you clicked on, but you can also try a manual search into the QR and RQ dictionaries. The little command line at the bottom of the right window is just for that purpose. The "Furch" software even duplicates the clicked word on that command line (on figure 11 or 12 the word "respontas"). You will probably have to modify that word (mutations, conjugations, old orthography…) in order to get the word you need. It is enough to type the first characters of the word.

On figure 12, we have clicked on the "Dic QR" tab and we can navigate through the pages of the "QR" dictionary with the "Prev" or "Next" buttons or with the little search line at the bottom of the right window. On a page of the dictionary, we have a list of words followed by cryptic indications for the software to retrieve the information if it is asked to do so. This was the case on figure 12 where the line with the word "respont" has been cliqued. The information relative to that word has appeared at the bottom of the left window after the book page. If another line of the "QR" dictionary is clicked, its information replaces the previous one. So, we have always a few lines of text after the book page. That may not be desirable and you can clear them by pressing the "Clr" (**Clear**) button at the bottom of the right window. If a few words are of some interest for you, you can select the lines of the dictionary by a click on the little square at their beginning and they will be

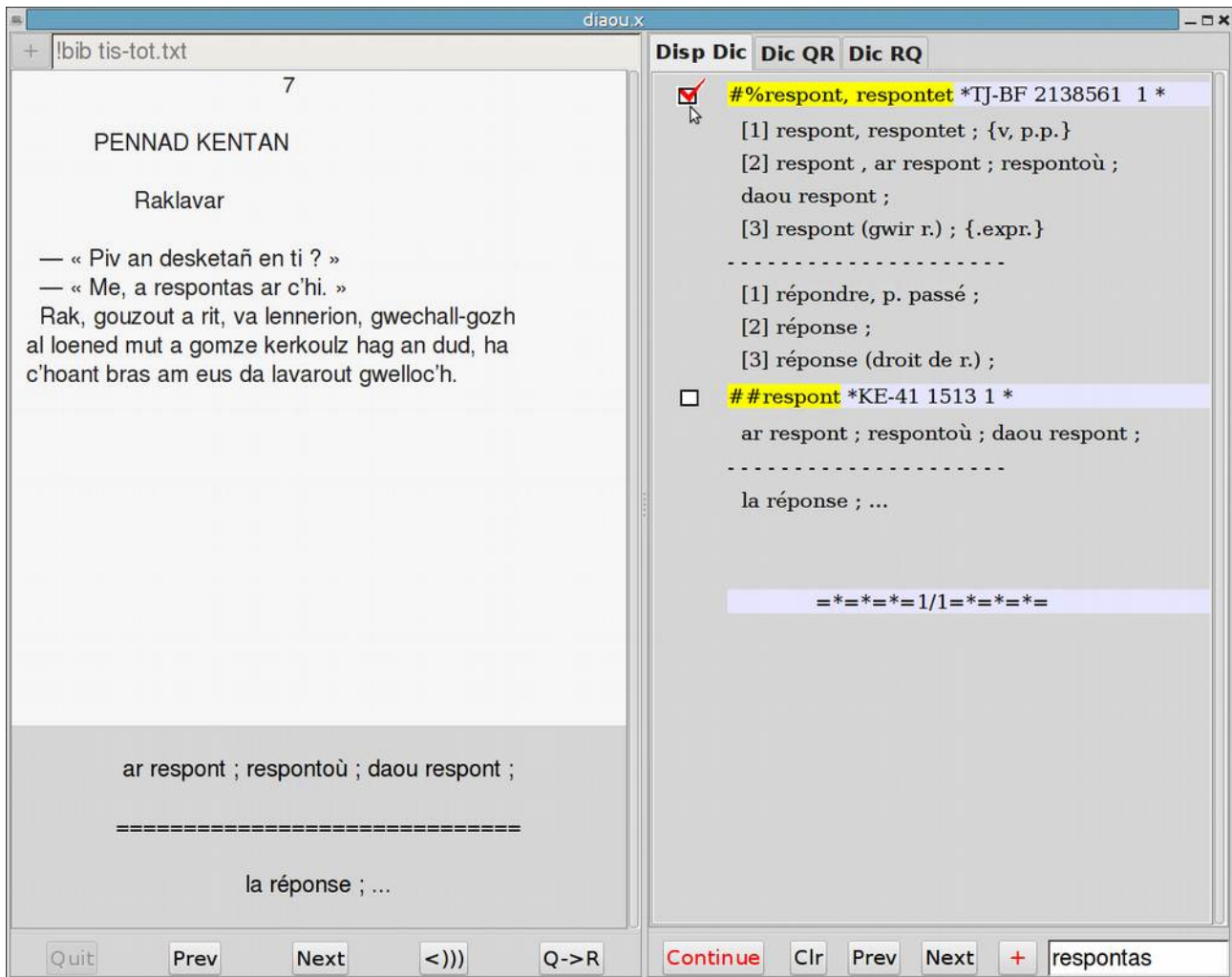transferred together with their information on the first tab as in figure 13.

Figure 13 (furch-7.png) Another word selected in the "QR" dictionary has been added to the first tab page and the first word has also been selected.

As was said earlier, we can also select words on the "Disp Dic" tab pages. This is the case on figure 13 and the article "respont, respontet" will remain in memory for the creation of a "Prov+Own" lesson.

Capturing and editing texts.

In the previous paragraph, we have seen the display of a text file from the "./BR/BIB" directory which is supposed to contain books or articles of your personal library. That is to say files that you don't want to modify and, in fact, they are not editable. However, you may also want to write texts in Breton or, for example, to capture some text in the Breton Wikipedia.
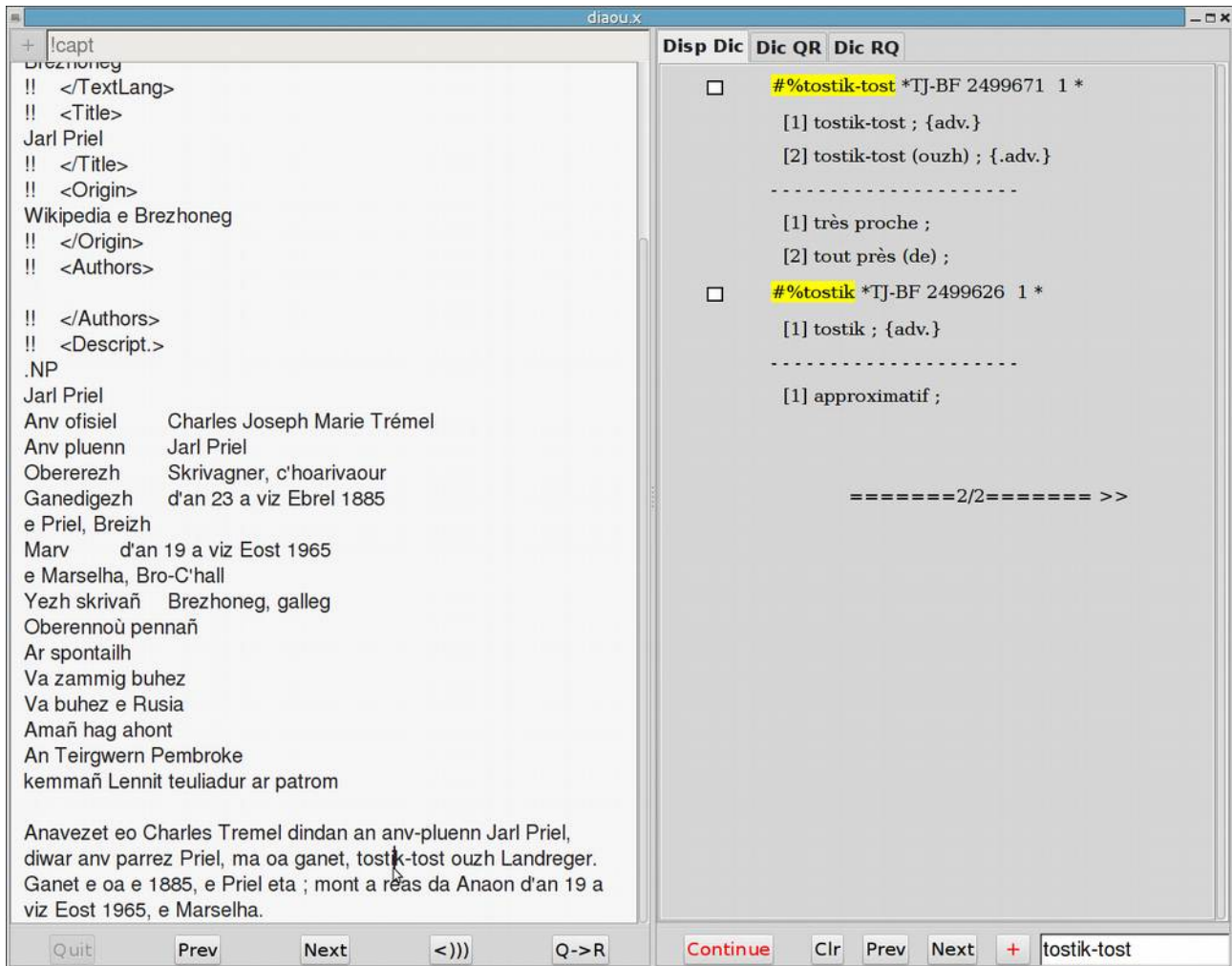
Figure 14 (furch-3.png). Some text has been captured with the mouse in "Wikipedia" and is displayed on the software left window.

In order to create an editable file with the "Furch" software, you will simply type the order "!capt" in the command line of the left window. This order will create a file in your "./BR/CAPT" directory and that file will be editable. The contains of that file will be displayed on the text zone of the left window. At its creation, this file is not empty. You have on it the date of creation and the skeleton of a technical note that you can fill with a title, an author name, a subject, comments, etc… That note is of no use so far but later it can be used to search among all the files and help retrieve a particular one. You can type what you want on the text zone but you can also insert text captured with the mouse into another application like "Libre-Office", "Vim" or your web browser. On Linux, you will highlight the text that you want to capture by dragging the mouse cursor on your screen. Then, with a middle click of your mouse, you will insert that text at any place of the left window text zone. If you have a "MS-Windows" operating system, you can capture the text with the usual "CTRL C" and then with a "CTRL V", you insert it. Now, what has been said for files in the "BIB" directory remains true. The usual left click on a word will give you its translation in French if the software can find it. That was the case in figure 14 for the compound word "tostik-tost". The software has found the words "tostik-tost", "tostik" and also "tost" which is not on figure 14 because there is not enough place on the first page of the "Disp Dic" tab. You can reach the second page, where you have the word "tost", by clicking the arrow with the label "2/2" or the "Next" button at the bottom of the right window.

Software "Furch" or more exactly software "GTK3" which is used in "Furch" , has very limited

editing capabilities, it will only create not formatted text files. You can however insert a "jump to next page" order into your text by typing ".JP" at the beginning of a new line. That order is not taken into account immediately but only after a new compilation of the indexes. This is done when you leave the edition of that file by a click on the "Continue" button at the bottom of the right window.

A tool to analyze texts.

When you are reading a file in the "BIB" or "CAPT" directories, a simple click on a word will induce the "Furch" software to search its data-base for related articles. This search takes into account the preceding and the following words and it will detect invariant expressions composed of two words. When you have a hyphenated word, it will also analyze each of the components of that word. So, often you have some more or less relevant response. It can also happen that you have no response at all, the word being completely unknown to the software. The question is how often ?

There is a tool included in "Furch" that will give you a visual response to that question. When we are reading a text of the "BIB" or "CAPT" directory, we have at the bottom of the left window a yellow button which when pressed will toggle between "Lecture" and "Analysis". As said earlier, you can click on words to have their meanings but when we are into the "Analysis" state, the words unknown by the software will be displayed with a red background on the left window. One example is shown on figure 15.

There is much red on that figure yet ! But many possible improvements are suggested by this figure. Some will concern the grammar of the Breton language, we need to introduce the conjugation of the irregular verbs. The proper nouns like "Theresa" or "Thereza" are written in that way instead of the more modern spelling "Tereza" and they must be added to the dictionaries (this has been done). It is the same thing for the place names. With that tool, it is easy to imagine how to improve the "Furch" search engine, by a modification of the code itself or by the writing of dictionaries specialized in grammar or old word spellings.
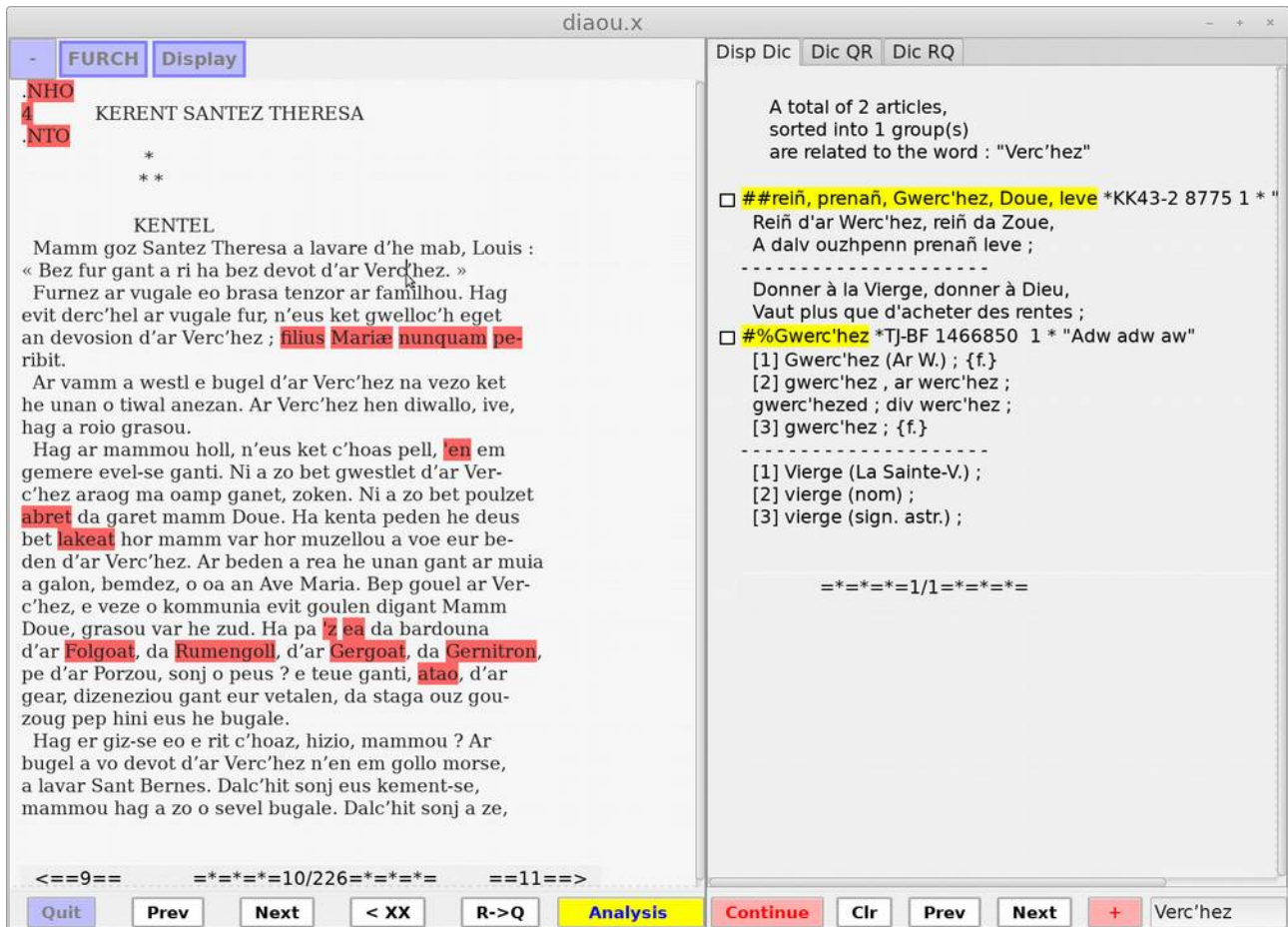
Figure 15 . In red you have the words unknown by the "Furch" engine, here in a page of an old book.

Listing and selection of the registered text files.

As it was said above, the "Furch" software displays text files which are into the "BIB" and "CAPT" directories. The texts in the "BIB" directory cannot be changed and the texts in the "CAPT" directory can be edited. You can display a text by the orders "!bib" and "!capt" which must be followed by a file name. If you don't give a file name after these orders, in the case of "!bib" nothing will happen and in the case of "!capt", a new file will be created. If you give a name which does not correspond to a file name in these directories the software will signal it and wait for some other order. In order to help you to choose your files, the "Furch" software has the orders "!shbib" (**sh**ow **bib**) for the files into the "BIB" directory and "!shcapt" (**sh**ow **capt**) for the files into the "CAPT" directory. These orders are very analogous to the orders "!shprov" and "!shown" of the software "Diaoulek". With these two orders, you will be able to select existing files for display. For now, the files are ordered by date of last modification (or creation). Obviously, these orders need to be extended to include different ways to class the files.

In version 2.01 of the software, instead of the orders "!shbib" and "!shcapt" of the command line, you can use the buttons. You can press the button labeled "Display" which will open a menu where you can choose "BIB" or "CAPT" to list what we have into the folders "BIB" and "CAPT". You will then select some files like previously with the command line.

Future improvements of the "Furch-Diaoulek" software.

After years of stagnation, the development of "Furch" has started again on new basis. You can now capture and edit texts and select words for a future learning in the "Diaoulek" software. However, the "Furch" engine needs to be much improved and it needs also to be extended to other languages specially English (this has partially been done).

For now, much work has already been done and the "Furch-Diaoulek" software has reach a state where it starts to be useful. The passage from version 2 towards version 3 of the graphic library GTK has taken twice as much time has initially expected but it has now been done. However, if GTK3 works perfectly under Linux, it has yet some defaults under Windows and even more of them under the emulator "wine". In fact, it has not been possible to compile under Linux a version for Windows. This slow down a lot the development of the software.

Conclusion.

Software "Diaoulek" is a vocabulary manager. With it you can study several languages. Except for the Breton language, you will have to write yourself your own lessons on the models of the ones provided when you install the software. For Breton, you have something like 340 Breton-French lessons which can be downloaded and updated at will. This represents a vocabulary of about 6500 words or expressions, enough to meet the needs of many beginners. Moreover, the Tomaz Jacquet dictionaries will extend that vocabulary to more than 38000 words or expressions.

The "Furch" software can help you to read texts written in Breton and it is now integrated into "Diaoulek". With some clicks, you will be able to know the translation of a word in French and select it for a further study with "Diaoulek".

It only remains to me to wish you good luck and courage for your language studies. You can contribute to the project by improving the published lessons and by adding your own ones for everybody profit.

You can join me at the address indicated on the "Alnfurch" site: http://furchhadiaoulek.free.fr

Alphonse Nandert, November 30, 2018.

Annex A

Study of a lesson in the "normal display" mode.

We supposed we are in the "normal display mode" and we need to use the "Question-Response" button. When you are questioned, for example with a word in Breton, that word is written at the top of the left window and you need some time to think about it. This is a "waiting" state. When your thinking is finished, you click to look at the response, the translation into French but, with your click, the button passes from the "waiting" state towards the "registering" state. What you thought about the Breton word can, indeed, be true or false. You need to tell that to the software for it to know your possible difficulties with that word. Then it will be able to propose you that word more often. You tell your result to the software by a left click (the usual click) in case of a correct result and by a right click in case of an incorrect result. So a left click means "yes", it is "good", it is "OK" and a right click means "no", it is "false" it is "KO".

The above analysis shows you that the button which is marked "Quest./Resp." must necessarily have two states , a "waiting" state (yellow state) and a "registering" state (red state). This button must also make a difference between the left and right clicks and even the middle click (for other actions, for example to go back and erase a former registering)

Here are precisely the actions of the main button according to its states:

State :	*Left Click*	*Middle click*	*Right click*
Yellow state	Continue	**Remove the recording of the previous word**	Continue
Red state	Register "good" and continue	Skip the recording of the present word and continue	Register "false" and continue

Remark 1 : The records "good" or "false" are provisional, they become definitive only when you leave the lesson and after a demand of confirmation.

Remark 2 :In the yellow state, the left and right clicks have the same effect, they make the software to continue. You can take advantage of that particularity by clicking two times with the left click if you think you know the words and that is true or by two right clicks if you think you do not know the word and effectively you don't know it. If you proceed that way, your reactions will become

almost automatic and you will do much less click errors. Only for doubtful cases you will have to think about what is the good click to choose.

The first lesson in the "normal display" mode.

Up to version 2.2 of this software, we had two ways for learning a lesson, the normal mode which was essentially a random interrogation and the compact mode where all the articles were put into pages of a kind of dictionary. In the random mode, it was possible to change the sens of interrogation, Q→R or R→Q. That is not possible in the compact mode. In the present 2.3 version of the software, a compact display in both senses has been added to the random interrogation and you can change at will from one mode to the next. This will be explained now for a very simple lesson, but everything remains true for more complex ones such as those computed from the "Prov" lessons.

In the case of figure A1, we still are not ready to learn lesson 2. We have first to load that lesson by a left or right click on the "Quest. / Resp." button. The difference between the clicks is unimportant here, in one case we write something in the right window and in the other case we write nothing. To differentiate the clicks would be useful only for the ten "complete" lessons, the "EE" lessons where you have like in a text-book some text with explanations and then vocabulary to learn. Here, we have only vocabulary and a right or left click have the same effect. Below, in figure A1, you can see what you obtain after a left click on the "Quest. / Resp." button.
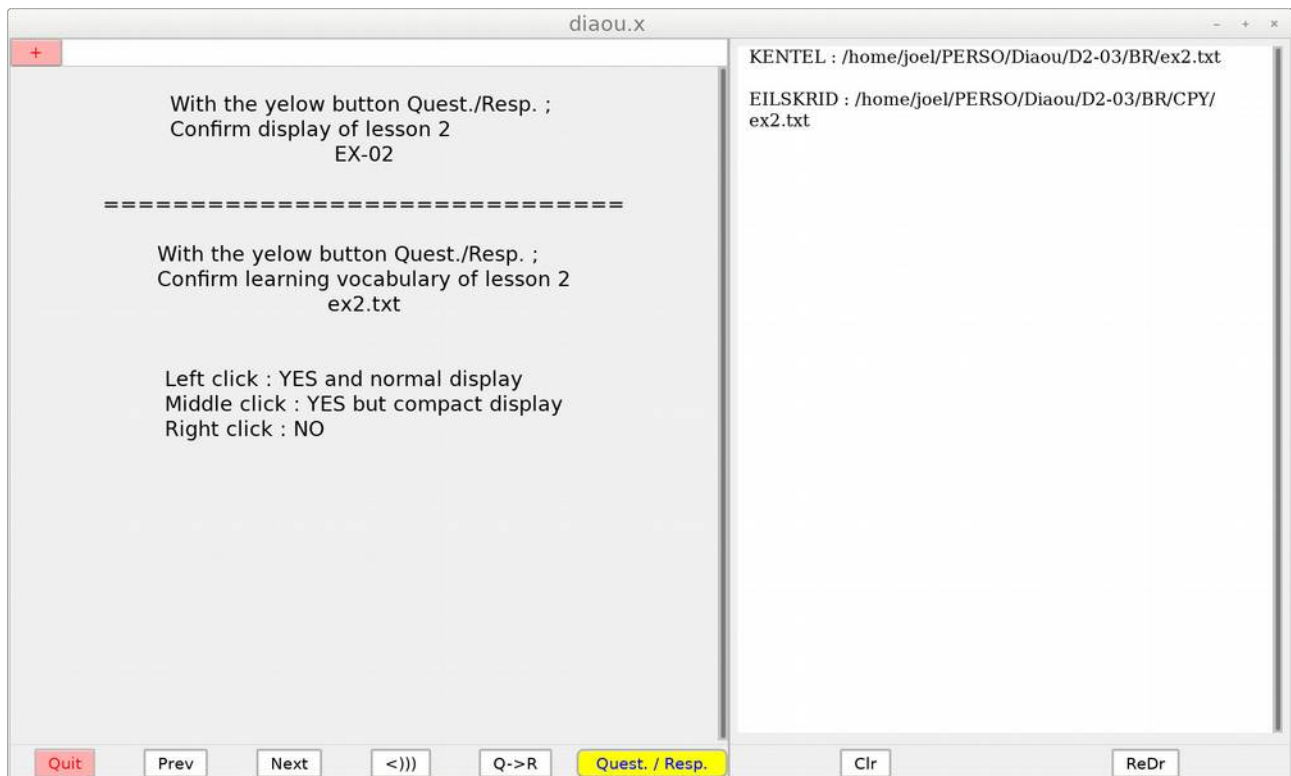

Figure A1 (FD2-3-en1.png) Choosing the display mode.

In the "Quest. / Resp." button, we will do a left click, the usual click, in order to have the kind of display which is qualified in software "Diaoulek" as "normal". The questions will be asked randomly one at a time. In a first pass, all the words of the lesson are used, then in the second run, the random order is strongly biased towards the words where you have difficulties. It is the origin of

the name "Diaoulek" (Diabolic) given to the software. In fact, it is not that "diabolic" ! It is in fact only the first kind of display that was coded. There is another kind of display, the "compact" one. In the "normal" display, the question is first written and the software waits for a click before starting to write the response. Then it waits again for another click that will tell to the software if you knew the word (left click) or not (right click). After the second click, the software passes automatically to the next question. One example of "normal" display is given in figure A2.
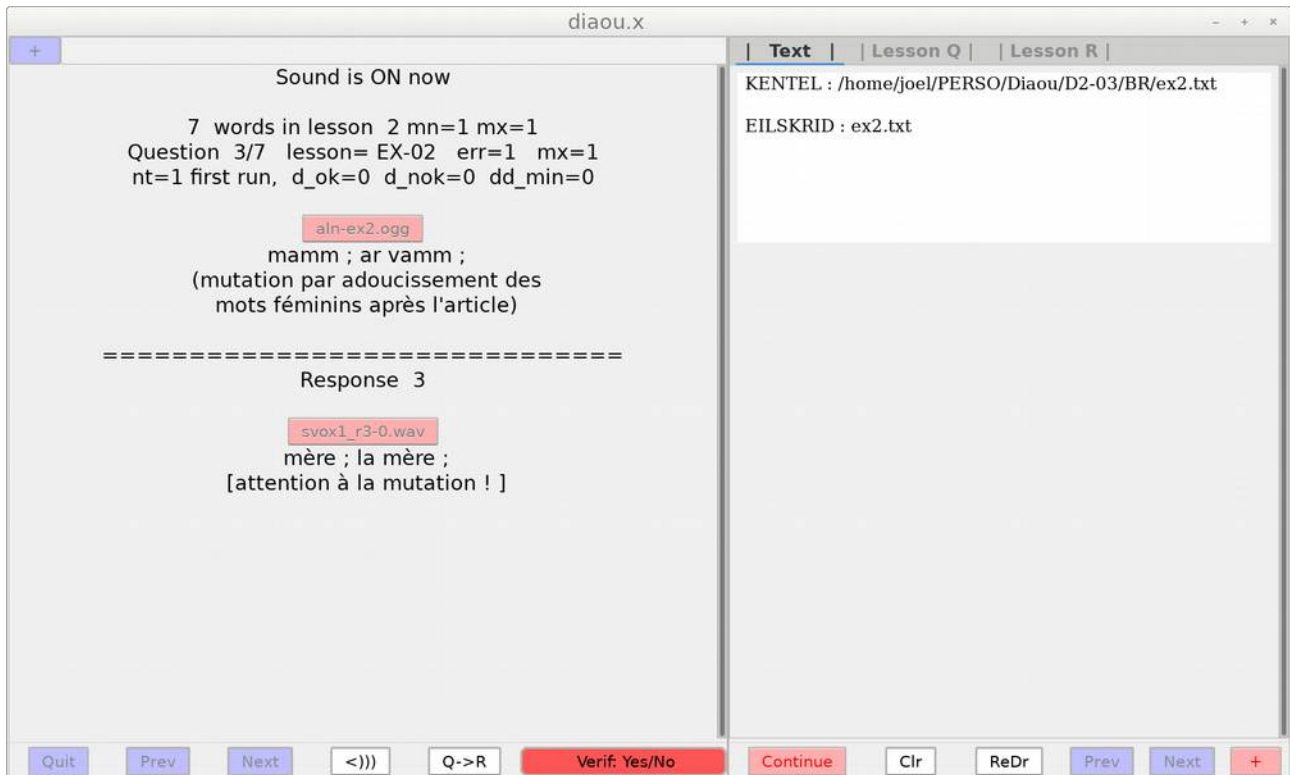
Figure A2 (FD2-3-en2.png). Example of "normal" display.

Lesson 2 is an example of lesson simplified to the maximum and we have it here only to practice the use of the "Quest. / Resp." button as was explained before. Let train yourself to the use of the left or right click according to the kind of response "I know" or "I don't know" that you wish to give to the software. Here, be sure that you are giving some negative responses (right clicks), that will be useful to us later.

In version 2.3 of "Furch-Diaoulek" compact displays of the lesson have been added to the random interrogation and you can at any time leave it and shift towards a Q→R or a R→Q learning and after a while, return to the random interrogation if you want to. That is done simply by a click on one of the tabs at the top of the right window. One tab is labeled "Text" for the display of the text of the lesson if it is a complete lesson (or with nothing if you have only vocabulary to learn). This tab starts also the random interrogation. The two other tabs are labeled "Lesson Q" and "lesson R" and are for the compact displays.

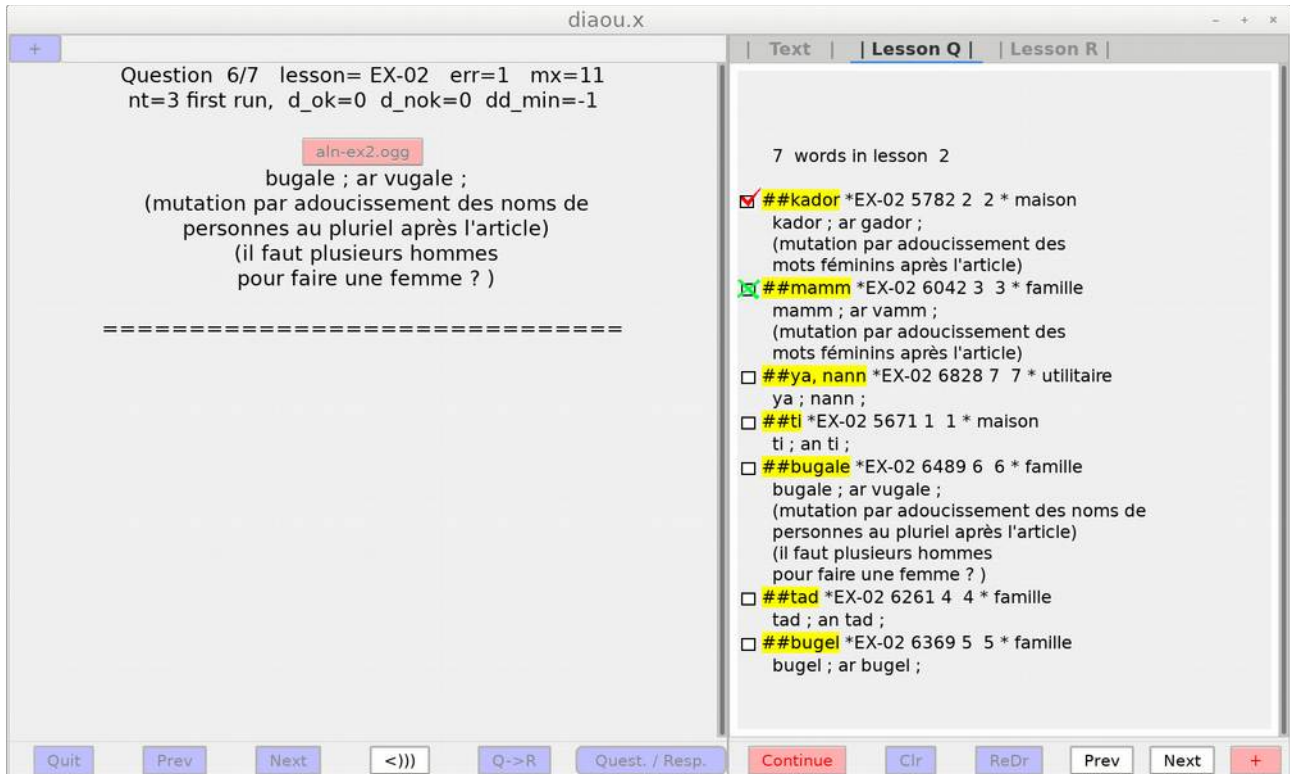Let us have a click on the "Lesson Q" tab. What we obtain is shown in figure A3.

Figure A3 (FD2-3-en3.png). Normal display mode, tab "Lesson Q" and its compact Q→R display.

In the normal mode of learning, each article of the lesson has 3 states, "false", "true" and "not studied". One article is in the false state if at least one of the interrogation was followed by a negative response (right mouse click), the true state is when all the interrogations were followed by a positive response (left mouse click) and obviously the not studied state is when the article has not yet been presented. These three states must be represented in the compact displays. As in figure A3, the check boxes will have a red mark for the false state, a green cross for the true state and nothing if the article has never been visited. Moreover the articles are classed, we have furst the false check boxes then the true boxes and at last the articles which have not been studied in the present lesson. The articles of this last kind are also classed, those most likely to be unknown first. The software uses the recorded results of the previous lessons to compute the probability that a word has of being unknown. Obviously, the words or articles which have never been studied will be presented immediately after the last one with a green cross. You will note that this behavior of the "normal mode" is different from the one of the "compact modes" where the never studied articles are put at the end and so are most likely to be eliminated if you limit the number of words that are studied in your lesson. In the "normal mode", you don't have the possibility to limit the number of words. In the "normal mode", you will use time or the number of articles already visited to limit your study. This number is given, when you are interrogated at random, at the top of the left window by "nt=...".
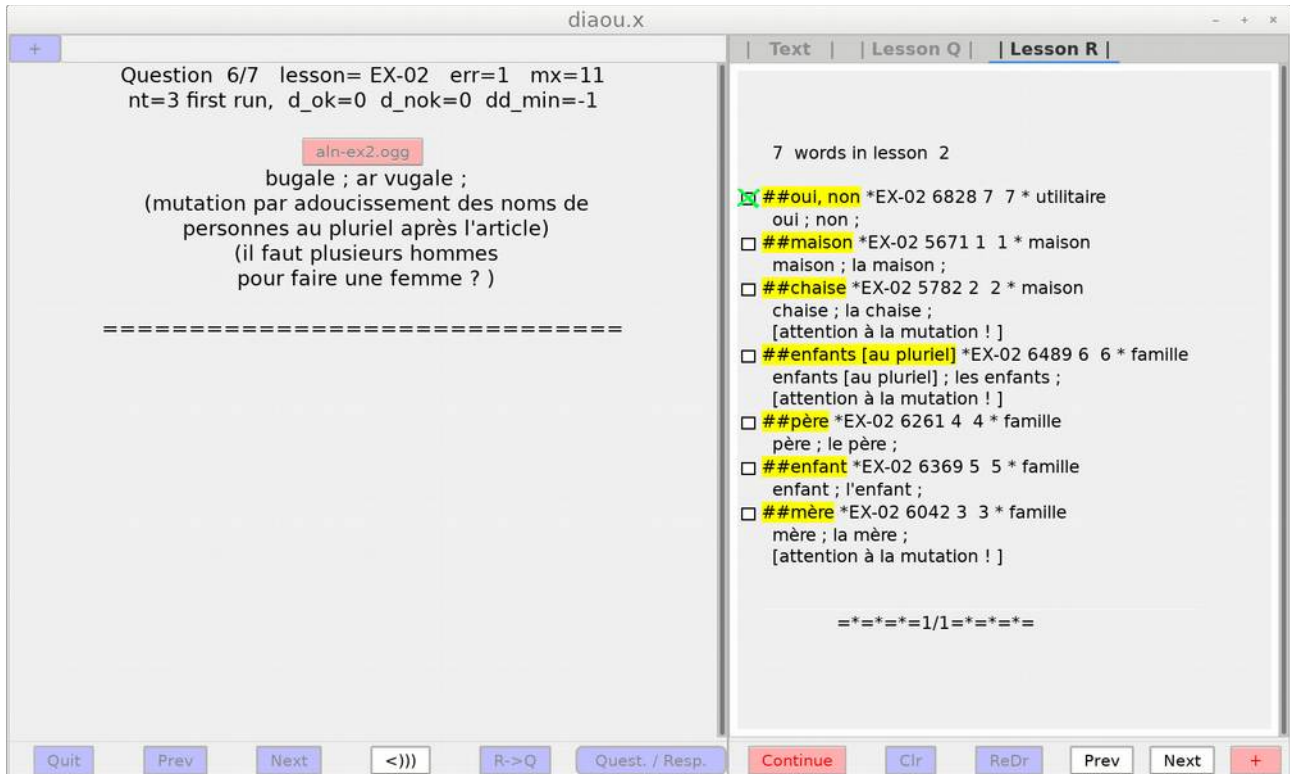
Figure A4 (FD2-3-en4.png).Normal display mode, tab "Lesson R" and its compact R→Q display.

On figure A4 you have the compact display in the R→Q sens. As usual with that kind of display, you can verify your response by clicking on the lines which begin with a yellow background. The check box which at start was in its zero state will turn to the state OK with a green cross. If your response was false, you will have to click again, but this time on the little box to turn the green cross into the red check mark. Still another klick on the little box and this one will return to its zero, unchecked state. So, when you are in the compact display modes, you can by successive clicks put each article of the lesson in the state you want, unseen, OK or KO. This allows you to correct errors which may have occur during the random interrogation.

What has been said here for the R→Q sense is also true for the Q→R sense and you can use this feature to put each article of your lesson in the state you want before leaving and possibly record that lesson.

When you decide to leave the lesson, it is recommended to check what you have on the two tabs "Lesson Q" and "Lesson R" and then, you will click on the red "Continue" button. What you will obtain is shown in figure A5 below.
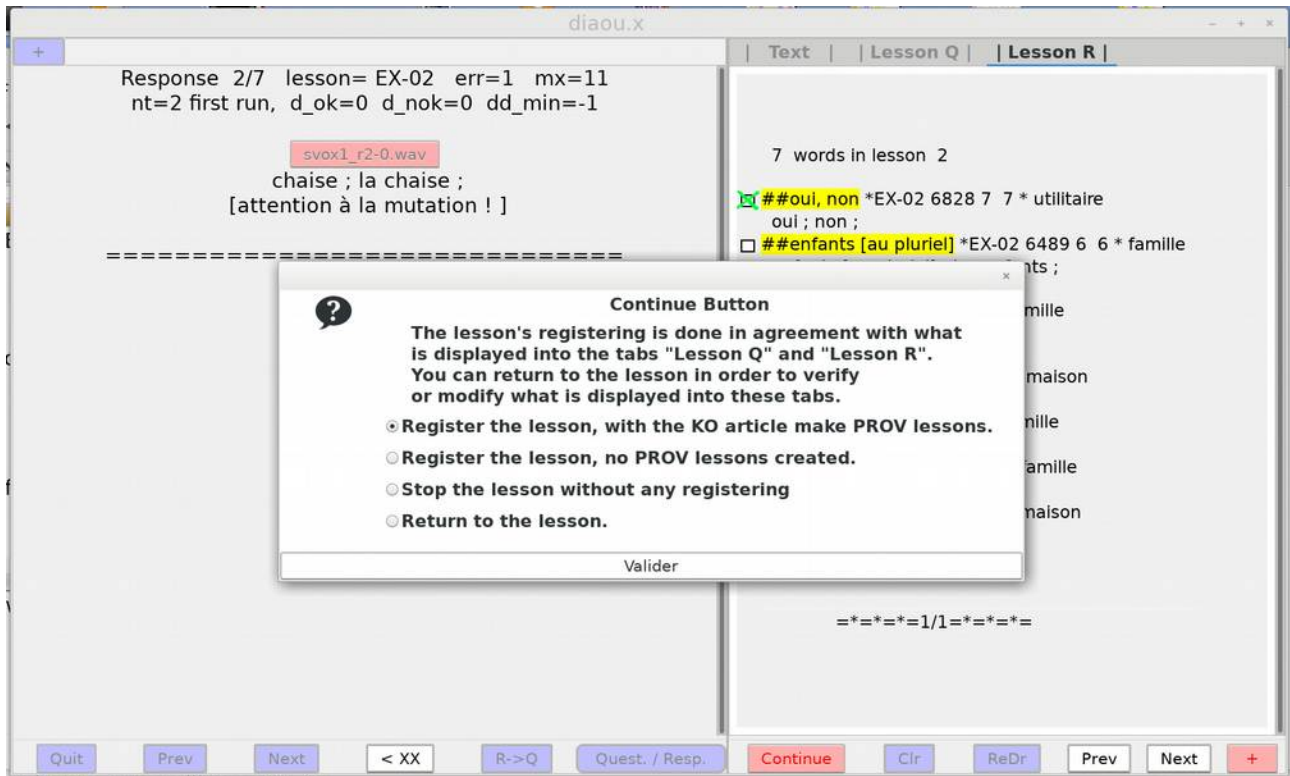
Figure A5 (FD2-3-en5.png).After a click on the "Continue" button, you have options to choose.

The "Continue" button allows you to leave the lesson and register your results as they are shown in the two tabs "Lesson Q" and "Lesson R". A dialog window will pop up and offer to you several options. The default choice is leave, register and make a "Prov" lesson with the words that presented some difficulties to you (those with a red checked box) . You can also return to the lesson if your click on the "Continue" button was an error.

As a conclusion, the new "Normal display" mode offers all the possibilities of a random interrogation and of the "Compact display" modes. It can work with any kind of lesson and specialy with the lessons computed from the "Prov" lessons. The registering has been simplified and everything had been done to make of this display mode the one that you will most often use.

Annex B

Choice and tuning of fonts.

Software "FDiaoulek" is using many fonts. Some of these fonts are imposed by the graphical library GTK and you cannot change them. Most often, these fonts are used for the decoration of the windows and even if they are very small, they will not be too much of a problem. For the display of texts, of the questions and responses, the button labels, etc…, software "FDiaoulek" will let yo tune up as many as five different fonts. You can change the name and the size of these fonts with the restriction that they must be installed into your computer OS. You must also know that the appearance of sofware "FDiaoulek" is set into files with the extension ".css" which are used by the graphical library GTK3. You must also know the names of these files, where they are located and which one will be used.

For our purpose, we will distinguish 3 folders :

1) Folder 1 contains the executable "diaou.x" (for Linux) or "diaou.exe" (for MS Windows).

2) Folder 2 contains the configuration files "diaou.conf", "diaou_en.cont" and more generally all the files with the extension ".conf". In the case of a Windows OS, folders 1 and 2 are the same. This is not the case on Linux when the software has been installed from a "snap" package.

3) Folder 3 is specific to the language studied. So, you have as many folder 3 as you have studied languages. In the packages as they are delivered to you, you have folders "BR" for the Breton language and "EN" for English.

Folder 1 contains a "fdiaou_0.css" file and folder 2 may contain a "fdiaou.css" file. Each folder 3 may also contain a "fdiaou.css" file. The graphical library GTK3 is using ".css" files to determine the colors, fonts and general appearance of its widgets. The software "FDiaoulek" will use the "fdiaou.css" file of folder 3 if this file exists, if this file does not exist in folder 3, it will look for a file "fdiaou.css" in folder 2. If, again, you don't have such a file, the software will use the "fdiaou_0.css" file of folder 1 which must exist because that file has been delivered with the software.

What is the reason of such a complicated scheme ? In fact, you may need or want to have fonts specific to the language studied. If it is not necessary to change the fonts, then the ".css" file into folder 2 will be used everywhere. The "fdiaou_0.css" file of folder 1 should be left unchanged and used as a default or backup file.

The easiest way to tune the fonts is to make a copy of file "fdiaou_0.css" into folder 2 and rename that copied file as "fdiaou.css" (for Windows, folder 1 and 2 are the same). You can now edit file "fdiaou.css" of folder 2, that file will be used for all the studied languages.

On figure B1, you have a part of such a "fdiaou.css" file ;

Figure B1 (FD-21.png) An extract of file "fdiaou.css" shown here with the editor "Vim".

On line 20 of figure B1, you have the size (23px) and name ("Sans") of the font. The indication "Bold" is ignored by GTK 3.24 but it is used by the graphical wizard that will be presented later. The same thing is true for the comments "/* F-popup */" so it is better not to remove these indications. You can modify the size measured in pixels (here 23) and even the name of the font (here "Sans"). The fonts "Sans" or "Serif" are fairly common and they should be on your computer but you can replace these fonts by others if they have been installed on your machine. Each operating system has specific applications which are able to list and display the installed fonts.

You can also change the colors of the widgets and other characters such as the thickness of the borders but this is outside the purpose of this short presentation.

The graphical library GTK3 includes a tool that can be used to display and choose a font which is already installed on your computer. That tool, which is far from perfect even on Linux, has benn included into a graphical interface which may help you to adjust the fonts of software "FDiaoulek".

A graphical interface to choose and tune fonts.

The graphical interface can be reached by the order "!fonts" that you must type in the command line located at the top of the left window. You will obtain something like in figure B2.

In the upper part of the wizard there is a red button with a "+" label. That button can remove some or all the "fdiaou.css" files and so will allow you to return to the default settings as defined into the "fdiaou_0.css" file. The use of this button will be explained later. Below that button, you have a notebook with two tabs. In the first tab, which is labeled "General", you have explanations on how to use that graphical interface. It is explained that software "FDiaoulek" is using up to 5 different fonts for different purposes and though these fonts may be the same, you will have to first select the application domain (or domains) of the font that you want to change. Then, you will have to choose the font name, size and other characters such as "bold" or "italic". This is done in the second tab where you have the GTK3 tool for that purpose. To say the truth, even on Linux, this tool is not perfect. What you obtain is given in figure B3
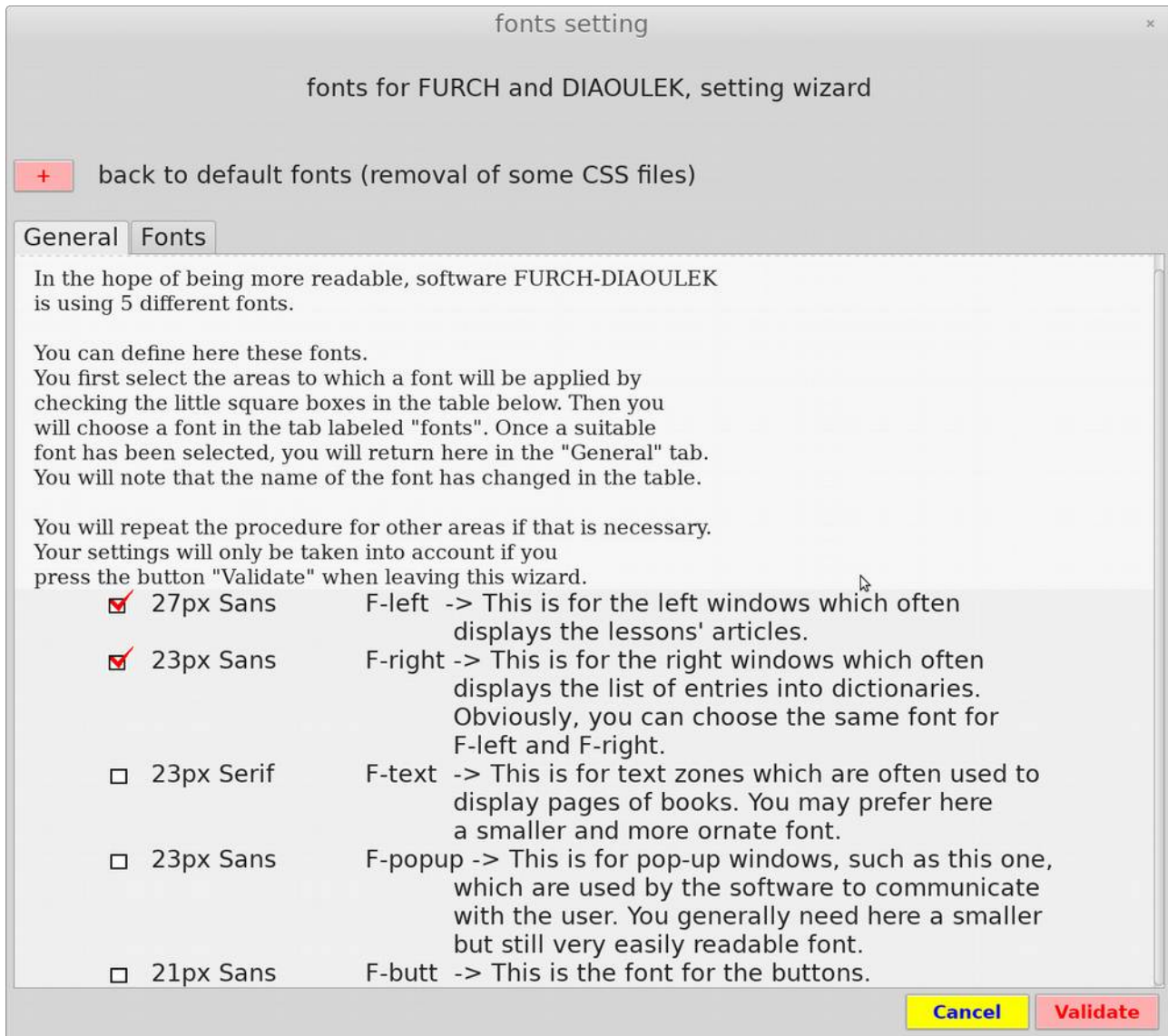
Figure B2 :(FD17.png) The "FDiaoulek" wizard to choose fonts. Here, on tab "General", you have the identity and usage of the five different fonts used by software "FDiaoulek". When everything suites you, you will leave the wizard by pressing the "Validate" button which is in its active state. You can also leave and cancel everything by pressing the yellow button.

Important remark : If you press the "Validate" button you will change the style file "fdiaou.css" in folder 3 of the language that you are studying. Howevrt, if that language is the main one, that is to say the language with the "diaou.conf" configuration file, then the file "fdiaou.css" of folder 2 will also be changed. That file is used as a default for the languages where you have not created a specific style file.
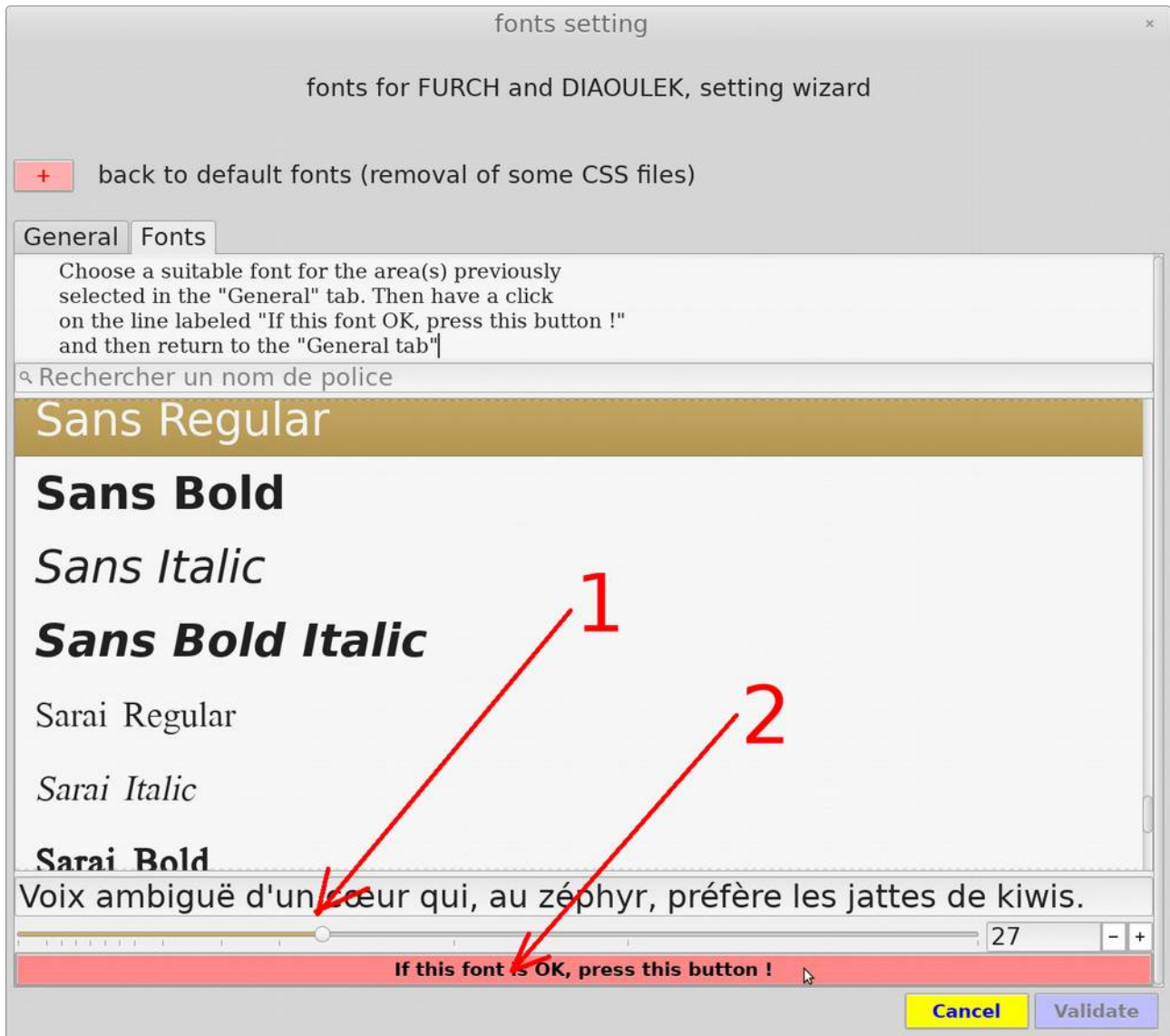
Figure B3 (FD18.png) : What you have in tab "Fonts".

On figure B3, you have a list of fonts, probably all the most current ones plus those which have been installed on your computer. You can reach and select a font by making use of the barely visible ruler at the right of the window and by a click of the mouse. The size of the font can be adjusted by the slider located between lines marked 1 and 2 on figure B3. Line 1 is very important, it has a lot of accentuated letters and it shows you what you will obtain in the software with the selected font. This line behaves properly in Windows, Wine or Linux. Once you have a suitable font, you will press line 2 but you cannot completely validate your choice because the other fonts must also be chosen. You can see on figure B3 that the button "Validate" has been disabled, it has got a purple background color. In fact, to activate that button, you have to return to tab "General", like in figure B2.
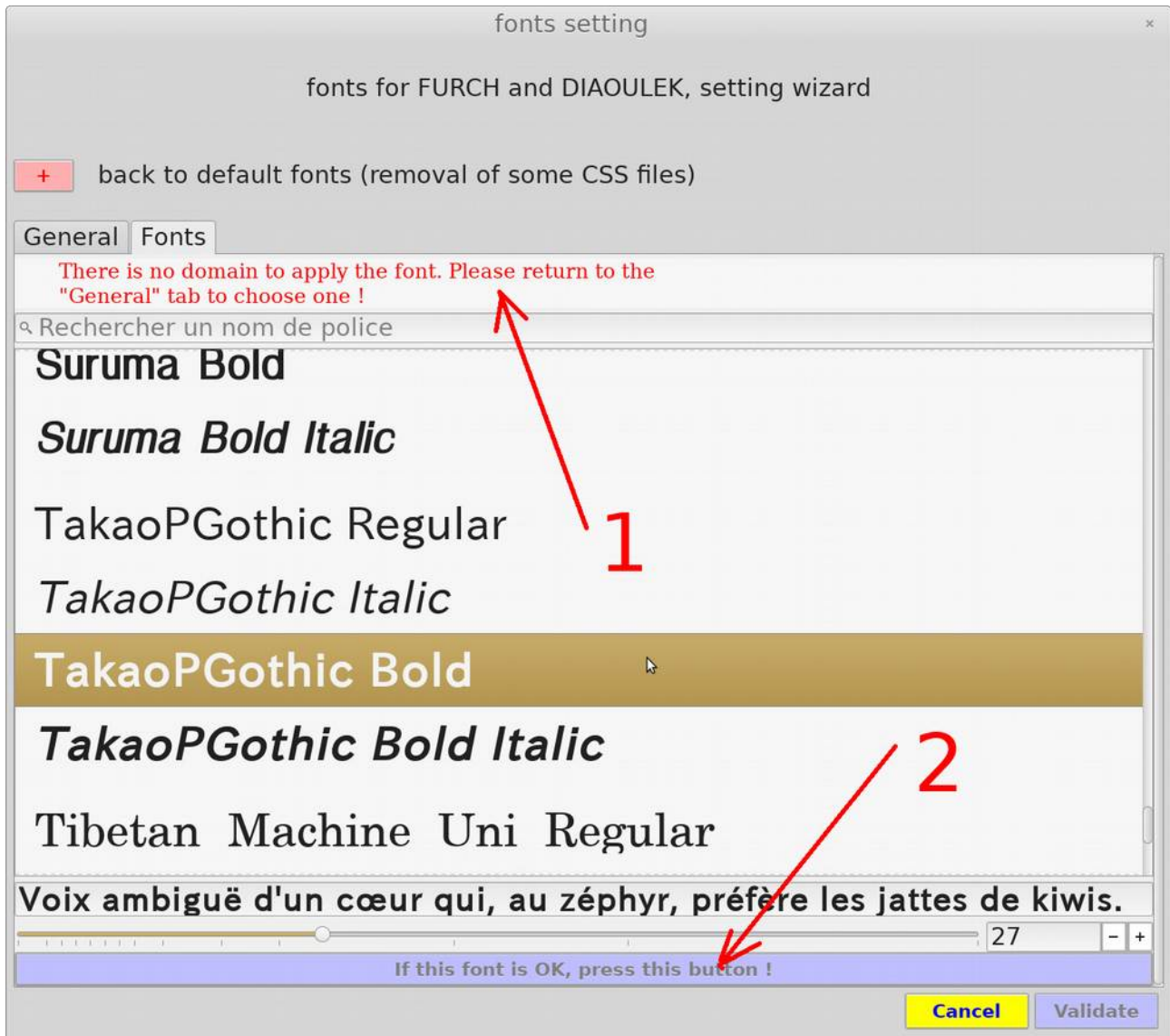
Figure B4 (FD19.png). Another aspect of tab "Fonts".

What happens if you have not selected in the tab "General" a domain of application for your font ? Well, on tab "Fonts", a comment in red in the part marked 1 in figure B4 will tell you that you have to return to tab "General". Still, you can try the fonts, see what they give with your trial sentence but you cannot select a font because the line marked 2 on figure B4 is disabled.
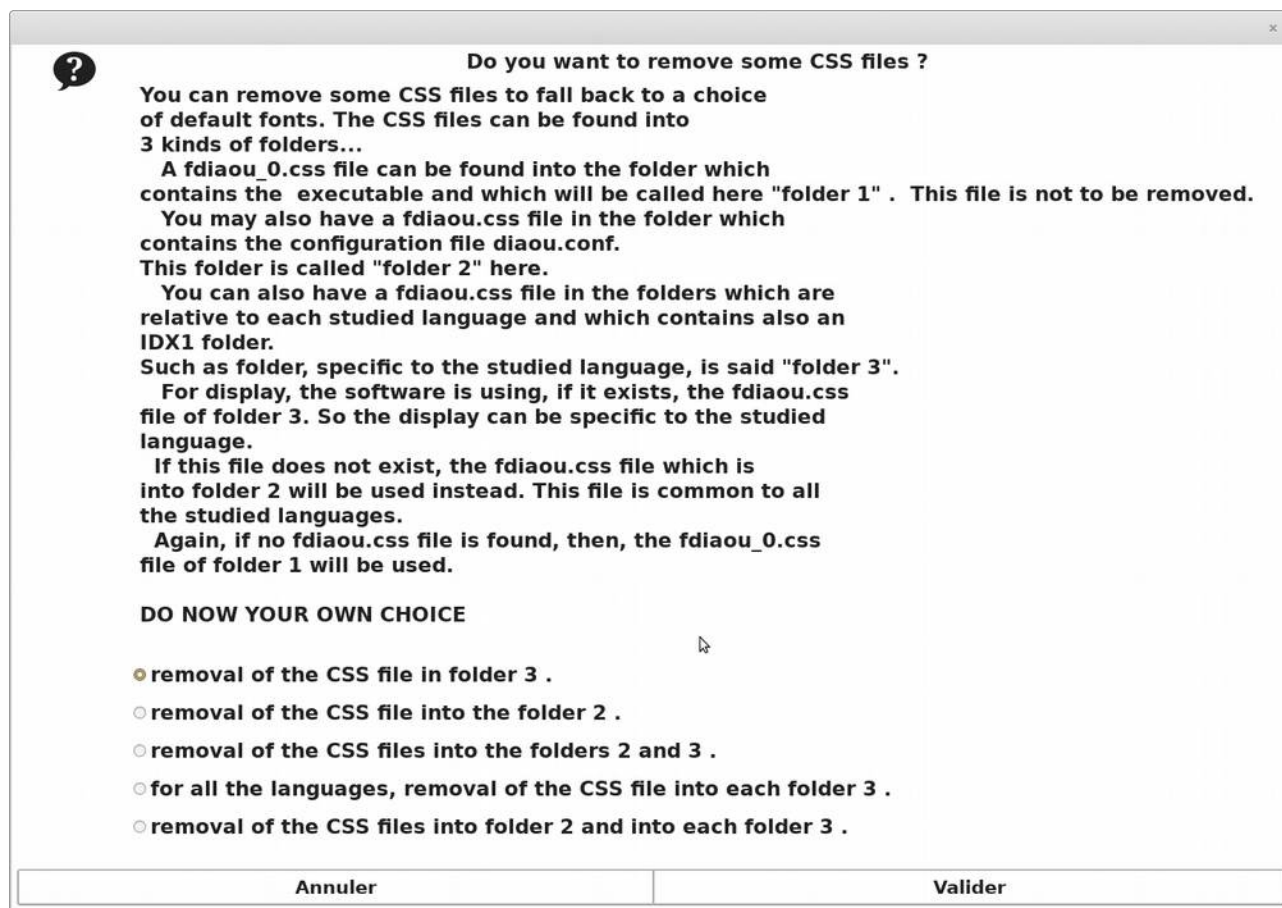
Figure B5 (FD20.png). This figure shows you what you obtain when you click on the "+" button shown in the upper part of figures B2, B3, B4.

As it was said earlier, it is possible to return to the default fonts by a removal of some or all the "fdiaou.css" files. On figure B5, the conventions which are used in "FDiaoulek" software to designate the location and usage of the "fdiaou.css" files is recalled. You have also a choice of different possible actions. If you are studying your principal foreign language (with a "diaou.conf" configuration file), then all the 4 possible actions are given to you. If you are studying another language, you have only the first action (removal of the ".css" file in folder 3) which is offered to you.

Once you have done your choice of action, you will cancel or validate by pressing one of the two buttons at the back of figure B5. The label of these buttons depends of the settings of your operating system and they are on figure B5 labeled in French. These labels are not determined by the language of communication chosen into software "FDiaoulek".

Let us suppose that you have chosen in figure B5 some action and have validated it. In fact, because of the risk of losing information due to the destruction of a style sheet, a second validation is necessary. When you press on the "Valider" button of figure B5, you return on something analogous at what you have on figure B2 except that the notebook and its two tabs is hiden and you have to validate another time. That will make you to leave the "!fonts" tool. Of course, you can also press the "Cancel" button and leave. In that case, the "fdiaou.css" files will not be removed even if you have pressed on the "Valider" button of figure B5.

Rapid adjustment of the font sizes.

The order "!fonts" gives you a complete mastering over all the fonts used by the software but it is not specially easy to handle. Quicker, easier but more limited are the orders "!lfont" and "!rfont" that will allow you to rapidly change the size of only two fonts, but the most important ones, those which are in use for the left and right windows of software "Furch-Diaoulek". Both orders are followed by characters "+" or "-" each of these characters modifies by one pixel the size of a font. The order "!lfont" is for the left window and it can be used with the "Diaoulek" and the "Furch" states of the software because each state makes use of its own font. On the contrary, the order "!rfont" for the right window can only be used in the "Diaoulek" state because the "Furch" state will use the same font to display dictionaries.

For example "!lfont ++++" will increase by 4 pixels the size of the font in the left window.

"!rfont --" will decrease by 2 pixels the size of the font in the right window.

Obviously, you can only use these orders when the command line at the top of the left window is active.

Annex C

Capturing a sound file.

Software "FDiaoulek" is using "svox pico", a technology own by Google, for voice synthesis, but how good is the generated sound ?

One way to solve that quandary, at least for an isolated word, is to search on the web where some sites such as: https://www.wordreference.com/ allow you to hear words pronounced by human beings. Some extensions of your web browser are able to register the original sound file. One such extension for "Firefox" is "Download-helper". The captured sound files are most often "mp3" files. Version 2.02 of software "Furch-Diaoulek" is able to read such files (but not to create them). For that feature to be useful, the software must store that sound file in some predefined place and automatically retrieve and use it when needed. For that to be possible, we can associate key-words to a sound file, they will be stored in a kind of dictionary that will be automatically searched. The order " !addcsnd " (**add c**aptured **so**u**nd**) will help you in that task.
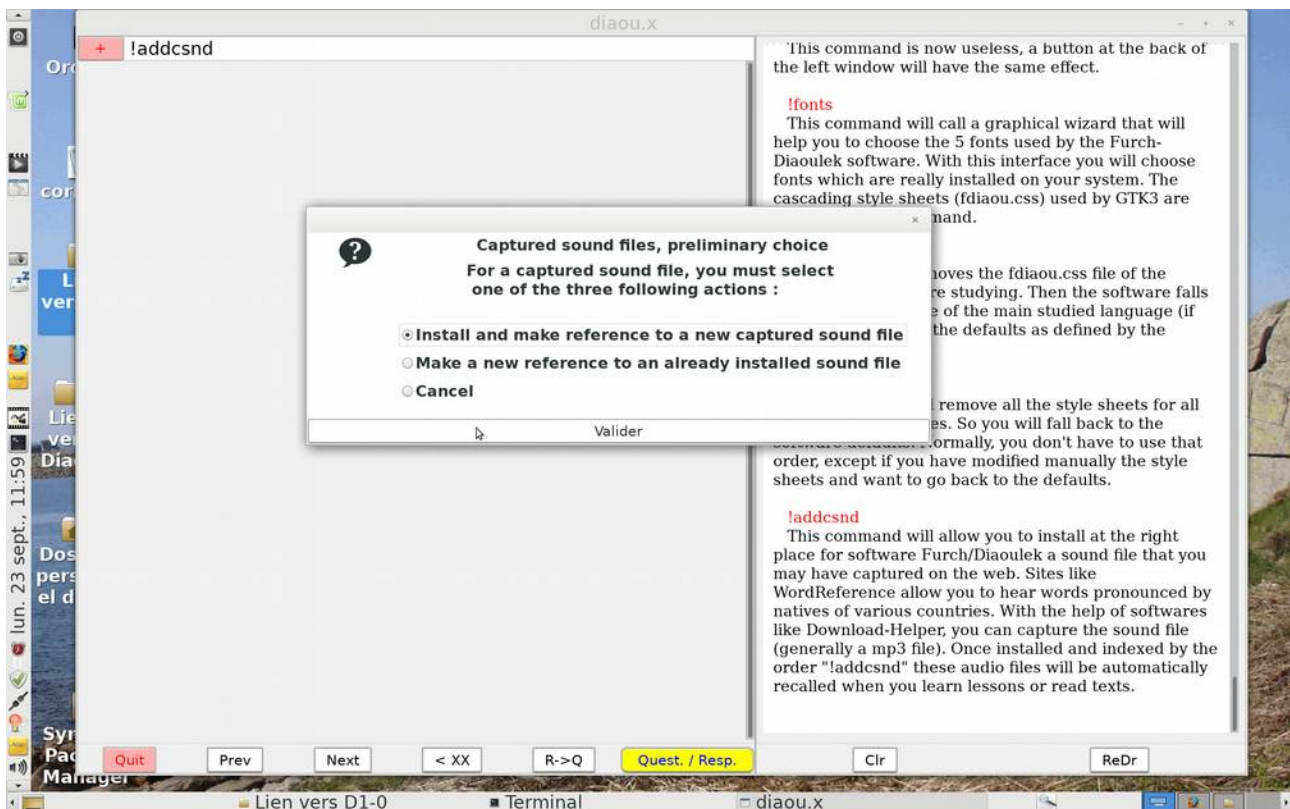

Figure C1 (capt-csnd1.png). The choice offered by the order "!addcsnd"

If you type " !addcsnd " in the command line at the top of the left window, a new window shown in figure C1 will offer you a choice between two actions. The first one, which is also the default, will allow you to install and reference the sound file. The second one must be chosen if you want to add another key-word to a sound file which has already been installed.

Let us supposed that we have selected the first option. A new window will open, letting you to select the sound file that you previously have downloaded (see figure C2 for Linux)
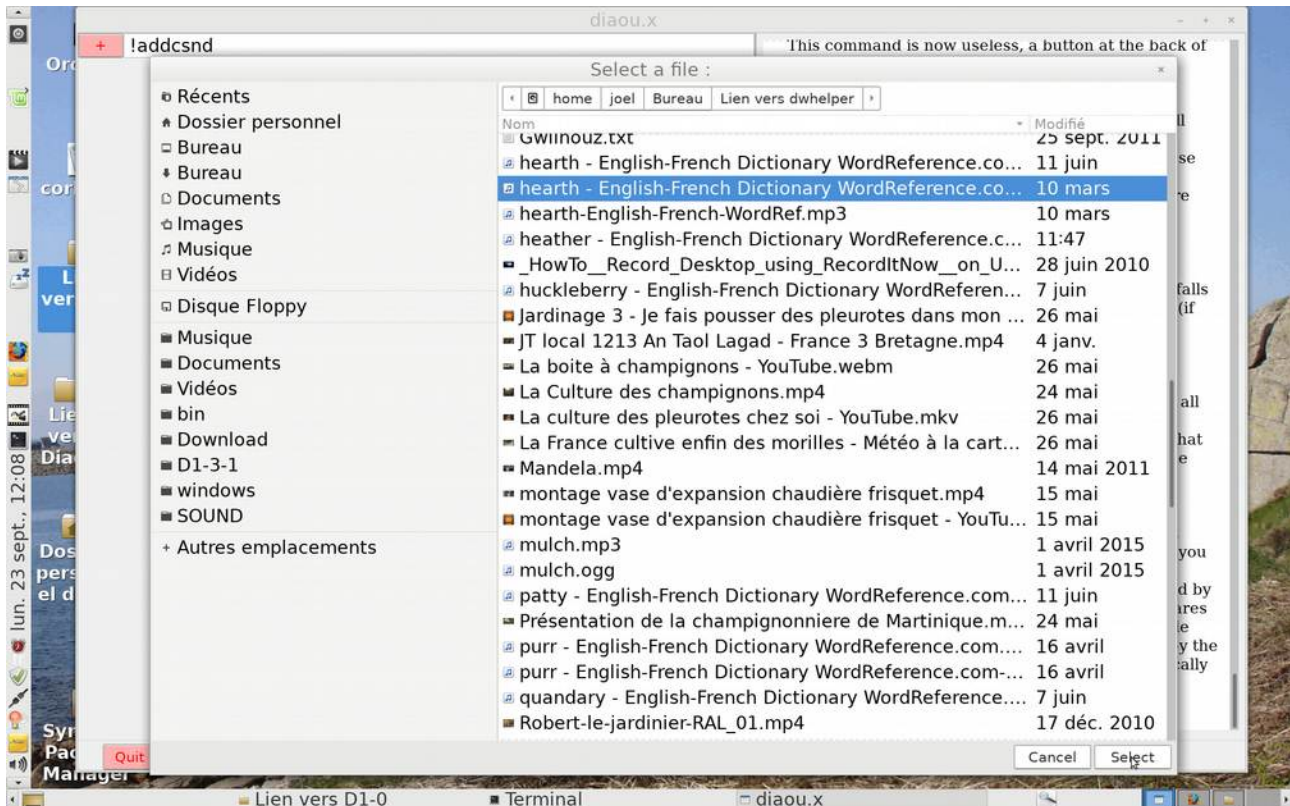

Figure C2 (capt-csnd2.png). On Linux, you can navigate your file system and select a sound file

If you are on a Linux system, you can navigate your system to find your downloaded sound file. However, this is not the case in a Windows OS, so you will have to know in advance where your sound file is. A little window (see figure C3) will allow you to enter the path of your sound file. You can enter the absolute or even the relative path.

Figure C3 (capt-csnd6). For a Windows OS, enter the path to the sound file.

Once you have selected a file, or entered its path, a new window will open where that name of the file, but not its path, will appear (see figure C4).
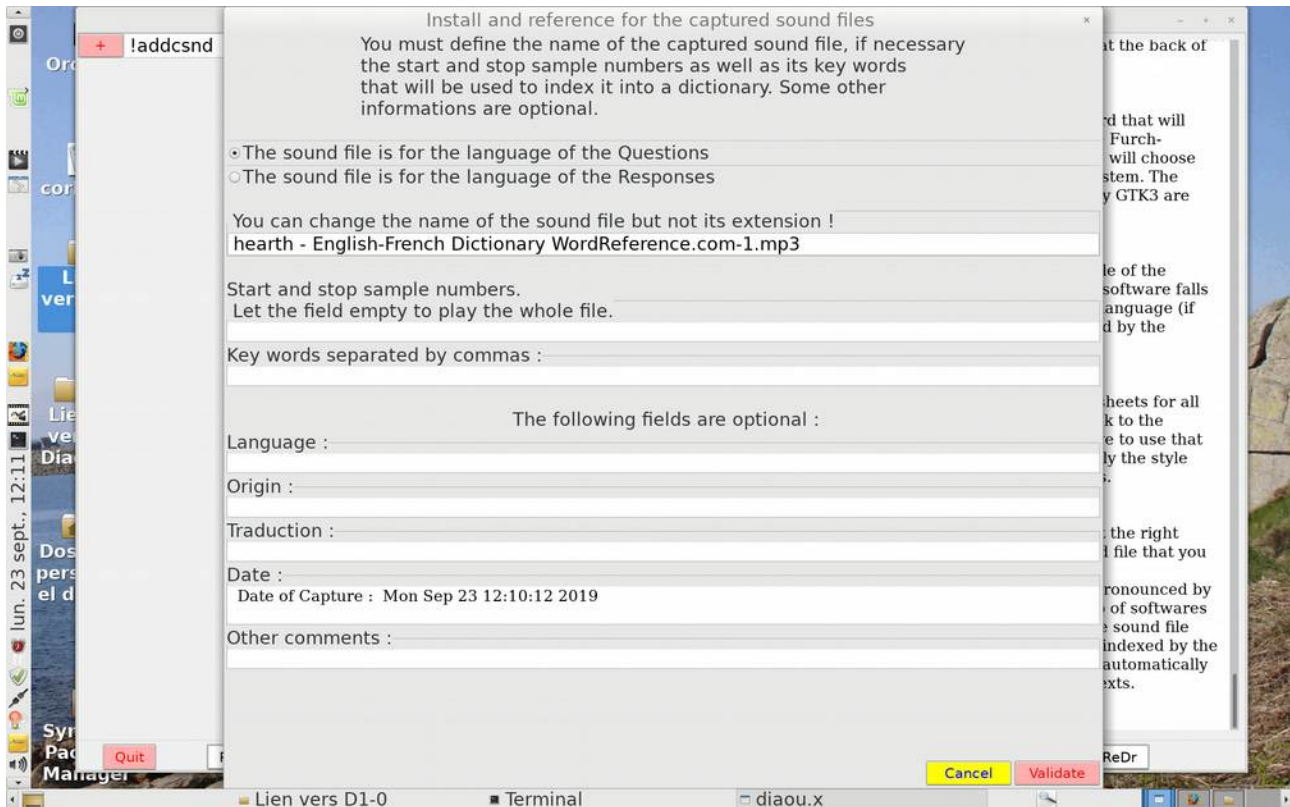

Figure C4 (capt-csnd3.png) Graphic interface to install a captured sound file.

On the graphic interface, as shown in figure C4, you have buttons and fields witch are necessary or simply useful for a correct installation of the captured sound file.

You have first to indicate if the sound file is for the language of the questions or for the language of the responses. For that purpose, select the correct button. On the field below, you have the name of the file but not its path, It can be a very long and complicated name, but you can change that name thought not its extension which is used to play the file. You may also want to read only a part of the sound file. This is possible because on the following field, you can put the numbers of the start and stop samples. However, if the whole file must be read, you can let that field empty.

On the following field you must insert the key-words, that is to say the words that will be used to recall the sound file. If, for example, on a sound file you have a single word, that word will be the key-word. If you have more than one word, for example for a sentence or an irregular verb, you will put also more than a single key-word. Each key-word must be separated from the others by a comma.

A general index of all the key-words associated to the captured sound files is automatically created by the software. Key-words are also associated to the articles of the lessons or of the dictionaries, so, if the software founds a match, it can recall and play the sound file when you are learning a lesson or searching a dictionary.

All the other fields are optional, language, origin, translation, date (automatically set but can be modified) and additional comments may be useful for you but at present time, the software don't use them.
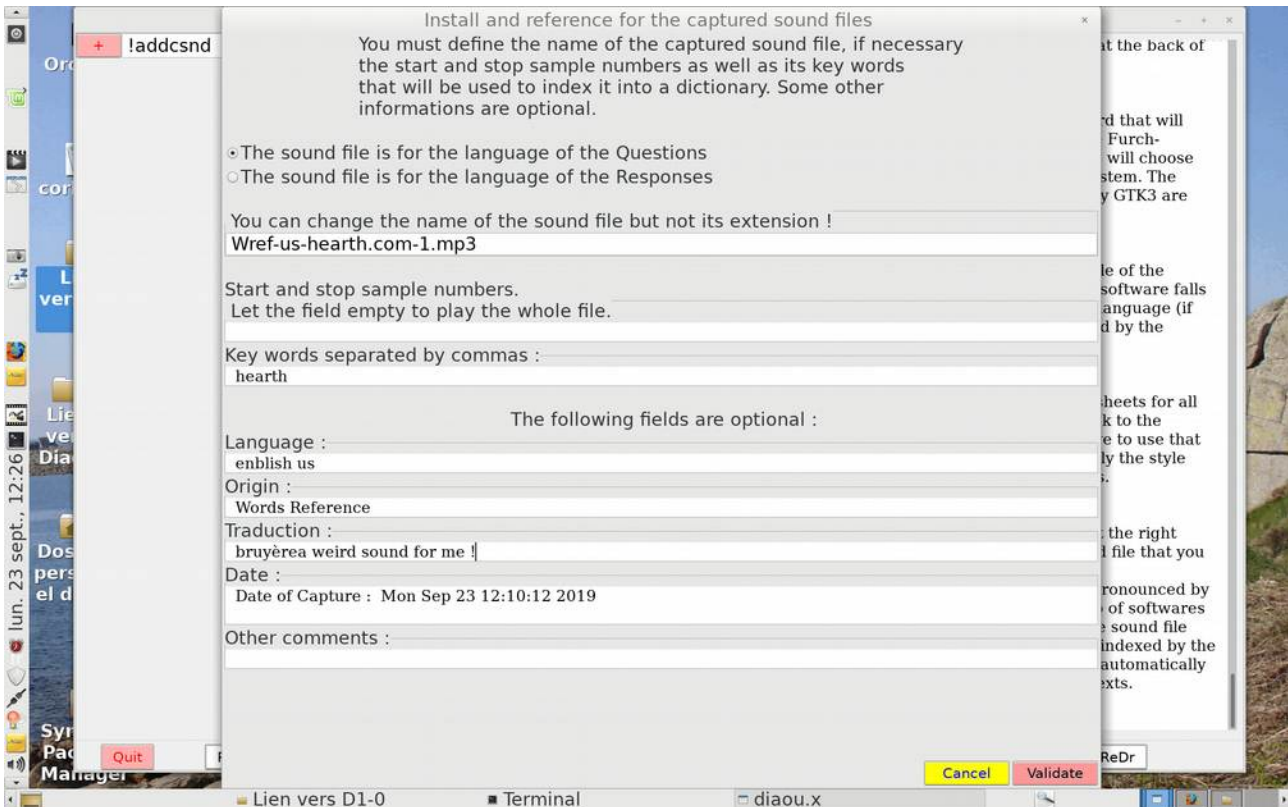
Figure C5 (capt-csnd4.png). This is an example of a completed interface.

Figure C5 is an example of a completed interface. Obviously, you can also add comments in the field dedicated to that purpose. When you have finished, you must validate for your entries to be processed by the software. Then a new window (see figure C6) will appear, just to inform you of the success of your operation but this window also warns you that every thing will only be fully taken into account after a restart of the application.

Figure C6 (capt-csnd5.png). This is just to inform you that your sound file is now registered.

Remark :

In figure C1 we have also the choice "Make a new reference to an already installed sound file". This second choice has very limited capabilities, it supposes that you have in the folders SNDQ or SNDR a sound file and that you want to add new key-words to that file. You cannot, however modify or suppress a reference to that file. That would have been difficult because the same sound file can have more than a single key-word and each key-word can be associated with a different span of the whole file and so have different start and stop sample numbers. For these more difficult purposes you will have to modify the files "SNDQ/sndq.dicqr" or "SNDR/sndr.dicrq" by yourself with the help of a text editor.