# xtem — TEX-Menu for X Window System

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We developed a user interface that allows you to prepare documents using TEX/LATEX more comfortably: xtem. With xtem you can edit and format at the same time, you can use a spell check and preview your layout, and you can do many other things. A list of all possibilities that are available is given in Figure 1 and may also be seen from Table 1.

The program is written in Tcl and has been developed on a SUN SPARC 10 under Solaris 2.6/x86. By now xtem is installed on several other computer platforms: Linux, IBM RS6000/AIX, SGI Indigo, SGI Challenge, SGI Irix, Sun OS4, Sun SPARC10 Solaris 2.5, DEC 3000, DEC 5000/Ultrix, HP Apollo Domain/HP-UX, HP 9000/HP-UX. At least one installation was done in using Open Windows 3.0 in place of X11R4/5. Thus xtem can be expected to be implementable without problems on other Unix-computers.

xtem allows for **different languages**: Calling the program the user can decide which language to use. Menu and online helps will appear in the chosen language. Right now English and German are available (Figures 1, 2). Further languages can be added easily by providing xtem with pure text files.

xtem is **self explanatory** and easy to use. Without hardly any knowledge of LATEX and the operating system it enables users to edit text, including tables (after only a brief instruction). This is provided by extensive explanations and examples for the LATEX-syntax. LATEX commands can be searched for in an alphabetical list or in lists grouped by contents. Figure 9 shows a window with the syntax description and examples for the footnote commands, all syntax helps are presented using hypertext. During an edit-session you can look at the syntax of a LATEX command and can copy the examples into the text being edited with the known mouse functions.

In addition interactive context sensitive help can be activated by the right mouse button for every field of xtem.

A click with the left mouse button executes a menu function. For every menu item you can select amongst several pre**settings**. Using the middle mouse button (with the cursor on a menu item) a list of available presettings will be displayed. They can be selected by a double click of the left mouse button. Figure 3 shows the available presettings of the TeX settings field.

In this menu you can do all setting concerning TEX runs:

- format selection,

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- memory size (eventually),
- the maximum number of TEX runs (to make consistent cross references etc.; there will be no unnecessary TEX run by checking the .aux-files!),
- setting, whether TEX program run is to be started automatically after the user has saved modifications in the main file / edit file or TEX is not to be started automatically,
- setting for dialog mode or nonstop mode is case of TEX errors, and
- setting, whether the hyphenations done at this TEX run are to be displayed or not.
  You can move this list by simple mouse click into a file containing checked hyphenations (this file is a pure text file and can be edited by the user); at future TEX runs only those hyphenations are displayed, which are not found in this file.
- Furthermore you can set in this menu whether a transcript analyze is to be done automatically after the TEX run or not and in which form.
  This analyze gives a short list of error messages and warnings (including "overfull boxes" and "underfull boxes"). Clicking at on of these error messages creates an edit window into which the file concerned is loaded. The line(s) in which TEX located the error are displayed inversely and the cursor is put as close as possible to the error position (line and column), see figure 4.
  Error analyzing can also be started by clicking at "transcript file ..." in the main menu.

The index preparing program (e.g. `makeindex`) is started automatically after TEX run(s) if necessary (i.e. when the .idx-file has changed during the TEX run). Whether the bibliography preparing program (e.g. `bibtex`) is started automatically (in case of 'undefined references') after TEX run(s) or not can be set by the user in the bibliography setting menu.

Figure 6 shows the menu to select/input directories and files, in addition you can also create new directories with this menu.

Figure 7 shows the presetting of the available **printers**. Specifications for the printer drivers (like TEX zero point, dpi etc.) are automatically set as specified by the TEX administrator. The user can change these options but usually should not do so.

For printing several comfortable features have been developed. You can choose — from a menu that comes up automatically after clicking the print function in the main menu — whether you want to print: "absolute" or "relative", even or odd or all pages, several pages in reduced size on one page, "a5booklet". You can also specify whether the print file should be permanent or temporary and the number of copies (a maximum number is set by the TEX administrator).

In a network there might be many printers available. To find quickly the appropriate printer in the list of printers, you can search selectively. You can reduce the number of printers included in the list of printers by specifying criteria like format of the paper, printer resolution (dpi), location of the printer (Figure 8). The number and the kinds of criteria are set by the TEX administrator in a file of presettings.

These presetting files available for each menu function are designed as "open lists". They can be easily adjusted by the TEX administrator to meet local requirements. All our presetting files are enclosed in the `xtem` installation package.

We designed `xtem` as smart as possible to avoid "conflict situations". For example, when you start a spelling check program that enables you to modify possible mistakes (e.g. ispell), `xtem` makes sure that you do not have an open edit window (started by `xtem`) at the same time. If an edit window is open `xtem` asks whether you want to run the spell check "at you own risk".

| **button** | **left mouse button (execution)** | **middle mouse button (presettings)** |
|---|---|---|
| exit | exit `xtem` | unused |
| help | first information to `xtem` | unused |
| clear text field | clean up the output text field at the bottom | unused |
| reset to defaults | reset to the values given by the TEX administrator | unused |
| unlock (optional) | unlocking of the (automatically) locked buttons (for "hackers" only) | unused |
| cancel | cancel an active program (e.g. `tex` run, `makeindex` run) | unused |
| xtem settings | select another form for execution of commands/programs etc. | unused |
| personal settings | you may save and load your personal (current) settings | unused |
| LaTeX syntax | the (LATEX) syntax helps are presented | unused |
| local news | display informations provided by the TEX administrator | unused |

Table 1: Summary of the facilities of `xtem`.

| **button** | **left mouse button (execution)** | **middle mouse button (presettings)** |
|---|---|---|
| file/directory selection | select/input & change the directory<br>select/input of the main file name<br>select/input a file name for editing | unused |
| edit | call the editor with the displayed file (if you use LaTeX the syntax helps are presented at the same time) | select an editor (`emacs`, `vi`, ...);<br>select whether the editor is to be called in background or in foreground |
| quick&dirty | quick TeX run with the text passed by "mouse grab" and previewing of the result of the TeX run<br>this button can be modified with "Shift": quick TeX run is then done with "edit file" instead of "mouse grab" | unused (is set together wit the TeX format presettings) |
| TeX format etc. | call the program `tex` with the displayed TeX format and the displayed main file | select the format (`tex`, `latex`, `slitex`, ...);<br>eventually select the memory size (`normal/bigtex`);<br>select the max. number of `tex` runs (references!);<br>setting to start TeX run automatically when main file or edit file is modified;<br>setting to nonstop mode or to dialog mode at TeX syntax errors;<br>settings to the display of hyphenations done by a TeX run;<br>settings to the transcript analyze (after TeX run) |
| preview | starts previewing with the displayed main file | select a previewer (`ghostview`, `xdvi`, ...);<br>select whether the previewer is to be called in background or in foreground;<br>setting of the format for preview and printing;<br>if necessary: change the options used by the preview program |
| print | printing the displayed file; starts the "printing menu":<br>you may specify page selection (even/odd pages, pages from ... to ..., 2/4 pages reduced on 1 sheet, `a5booklet`, number of copies, ...;<br>after generating the print file: decide whether file → printer or not;<br>this button can be modified with "Shift": printing is then done directly without call of the "printing menu" | select the combination:<br>printer – printer driver – paper format etc.;<br>setting of the format for preview and printing;<br>reduction of the printer list by means of selection criteria;<br>if necessary: modification of the printer (driver) options |
| clean up | select the file suffixes of the files to be removed;<br>you get a list of file names to be removed;<br>if you click names from this list, these files will not be removed | unused |

Table 1: Summary of the facilities of `xtem` (continued).

| **button** | **left mouse button (execution)** | **middle mouse button (presettings)** |
|---|---|---|
| spelling check (optional) | starts the spelling check program with the displayed file | select the spelling check program and the dictionary (language);<br>if necessary: modify the program option string |
| syntax check (optional) | starts the syntax check program with the displayed file | select the syntax check program and its verbose mode;<br>if necessary: modify the program option string |
| make index (optional) | starts the index preparing program for the displayed file | select the index preparing program;<br>select whether the index preparing program is to be started automatically after TEX run (if necessary) or not;<br>if necessary: modify the program option string |
| bibliography (optional) | starts the bibliography preparing program with the displayed file | select the bibliography preparing program;<br>select whether the bibliography preparing program is to be started automatically after TEX run (if necessary) or not;<br>if necessary: modify the program option string |
| additional programs (optional) | select a program from the list; at our installation there are programs for file converting such as:<br>'German umlaute' expanding → 'TEX' or 'German TEX' convention and vice versa,<br>8 bit ISO Code ↔ IBM PC code,<br>Unix format ↔ DOS format,<br>tabulator expansion, `xfig`, ... | unused |
| protocol file (optional) | display the contents of the indicated protocol file | select the protocol file (....`log`, ....`ilg`, ...);<br>select the mode for displaying (`tla` (= transcript analyze), `cat`, `pg`, `emacs`, `vi`, ...) |

Table 1: Summary of the facilities of `xtem` (continued).

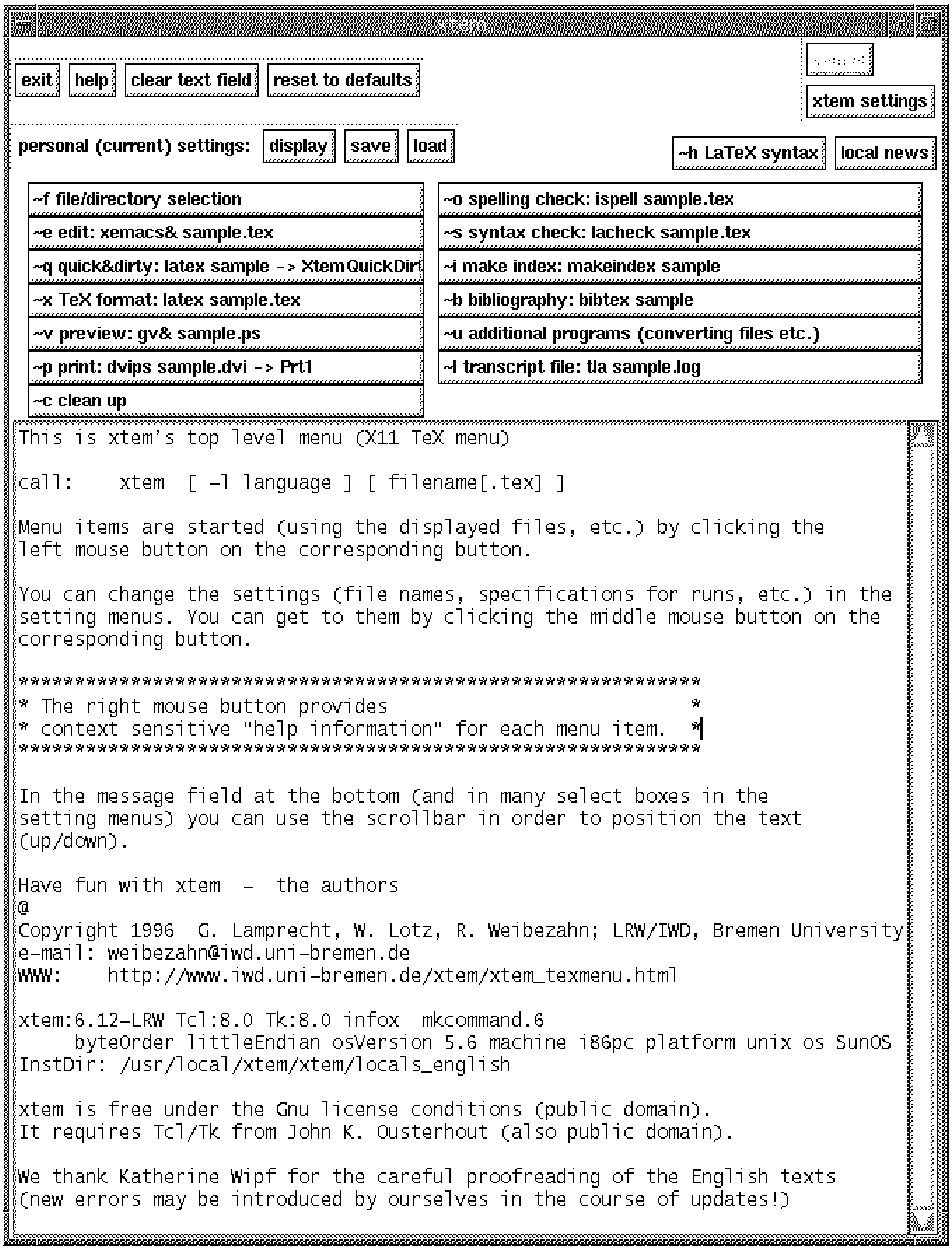


Figure 1: the main menu of `xtem`, after clicking at "help"

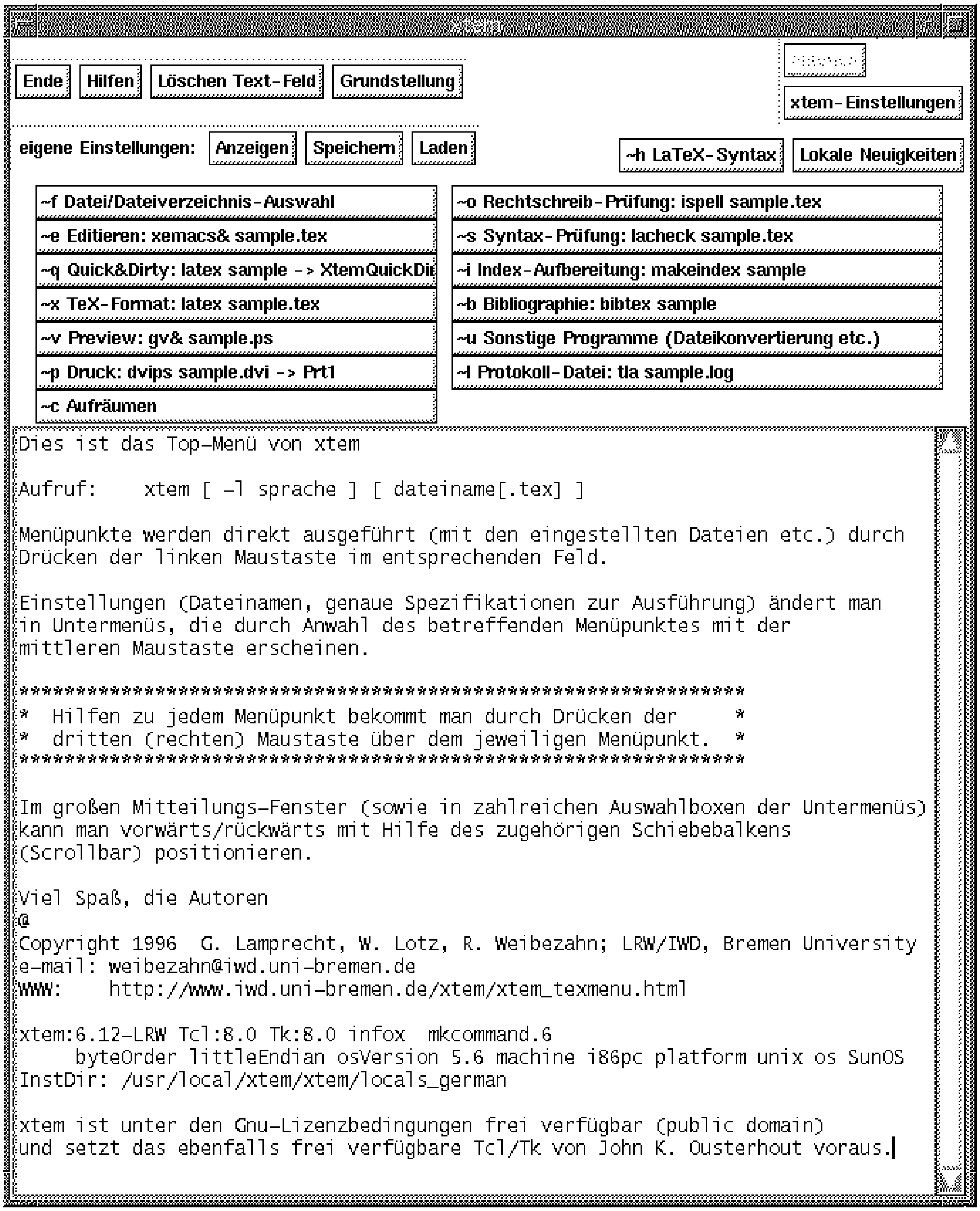


Figure 2: the main menu of `xtem` in German mode

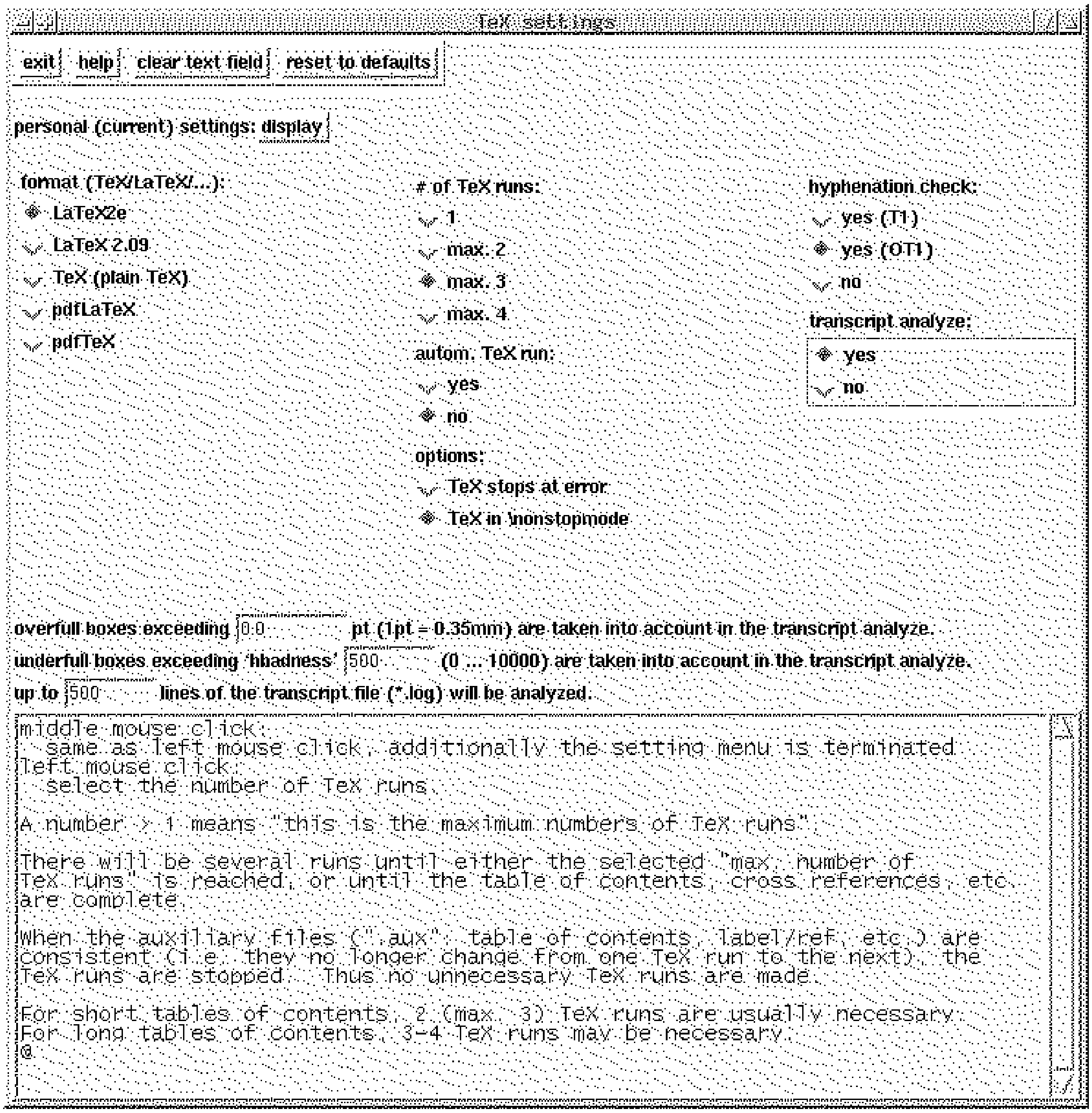


Figure 3: the TEX settings menu, after demanding helps to the "number of TeX runs" (right mouse click at "# of TeX runs").
If necessary (i.e. if the setting file `texsiz.vst` has more than one entry), in this menu automatically one more select box is generated in which you can select the TEX memory size.

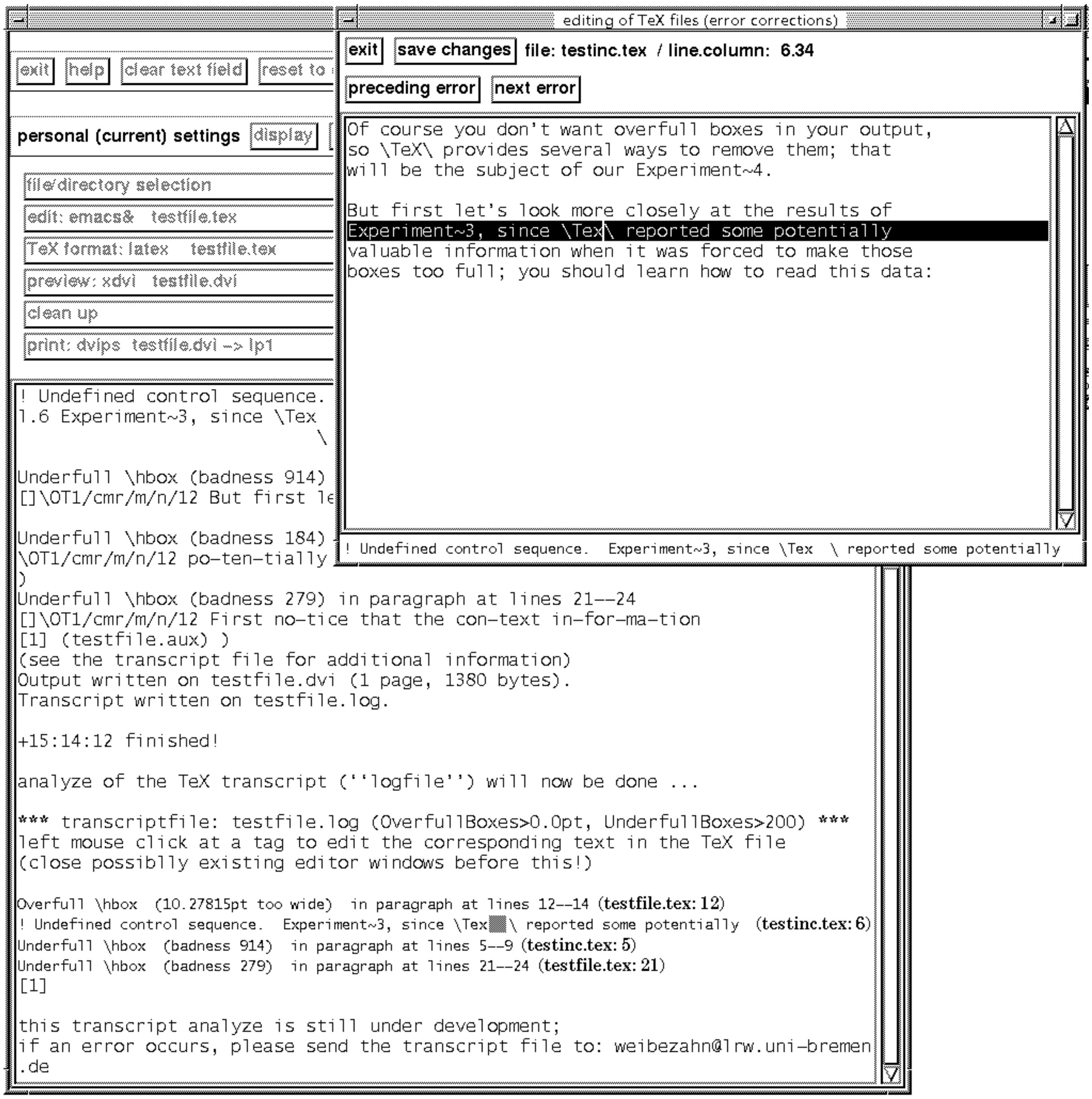


Figure 4: Analyze of the transcript file was done after the LaTeX run (see TeX settings menu, figure 3) and the second of the generated errors/warnings was clicked at. By this the editor window was opened and filled with the text-file: the erroneous line is inverted and the cursor is positioned at the error position. Take into aspect that a value of 200 was set in the TeX settings menu for the underfull boxes to be taken into account!


Figure 5: According to the settings (see TEX settings menu, figure 3) after the LATEX run the hyphenations are looked for. 10 hyphenations are found, 5 of them are displayed; the other hyphenations were formerly inlcuded in a file with "hyphenations already checked to be correct". The hyphenations currently displayed can easily be added to this file by clicking at "yes". If necessary the user can directly edit this file.

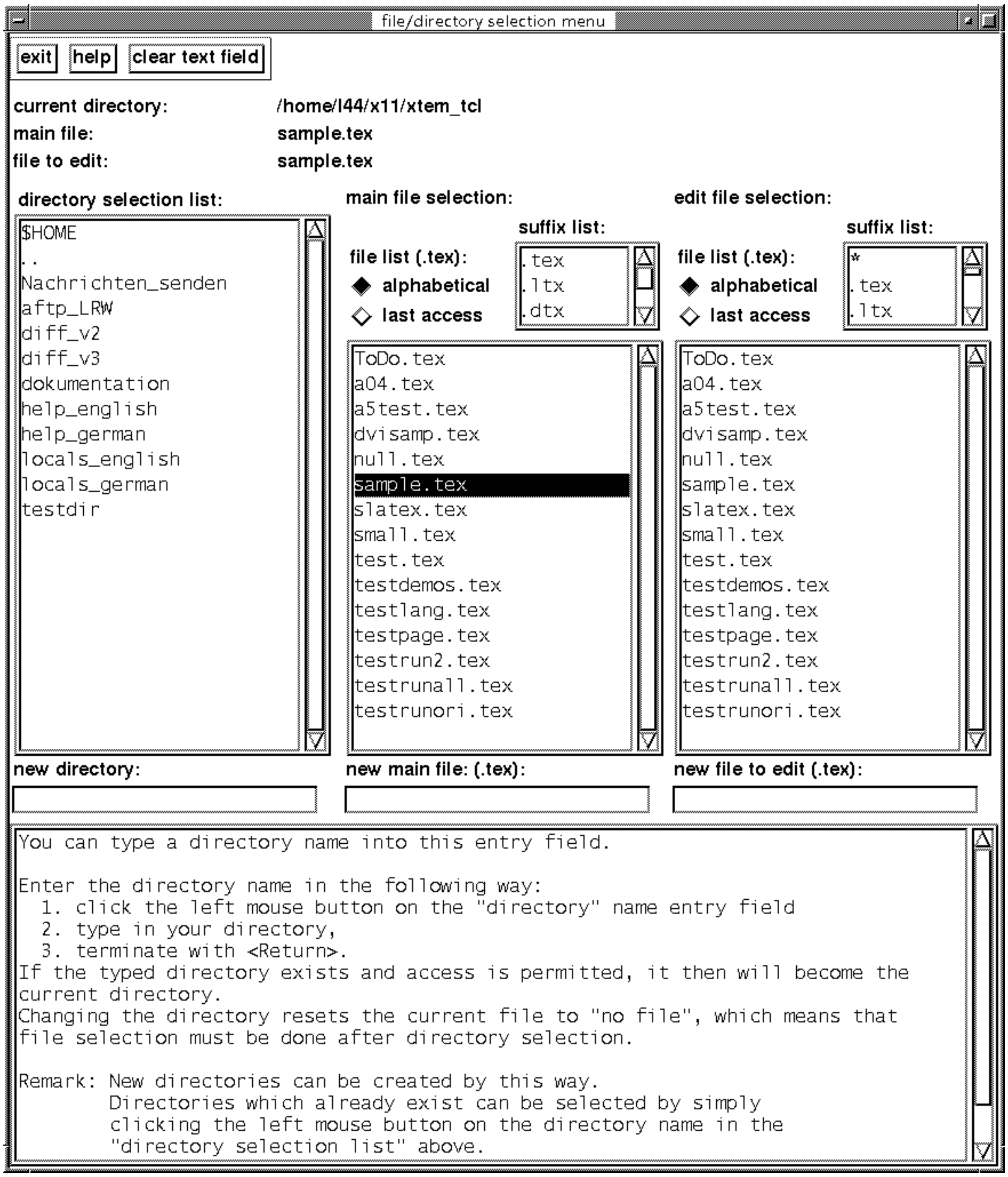


Figure 6: the menu for the selection of files and directories, after demanding helps to input a new directory (right mouse click at "new directory").

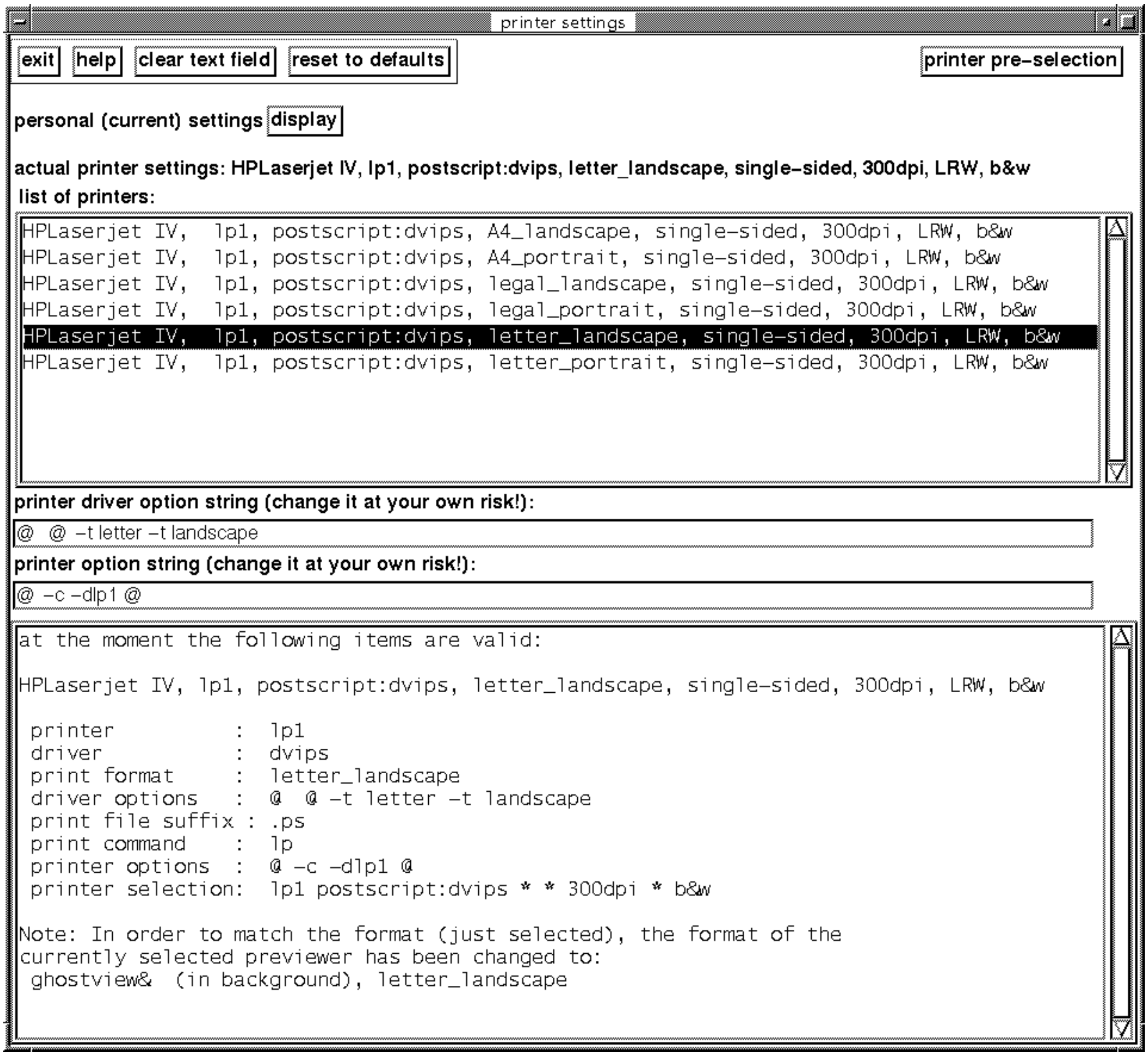


Figure 7: the printer settings menu, after selection of printer `lp1` with postscript/printer driver `dvips` and format landscape (the format was set for the previewer automatically too).

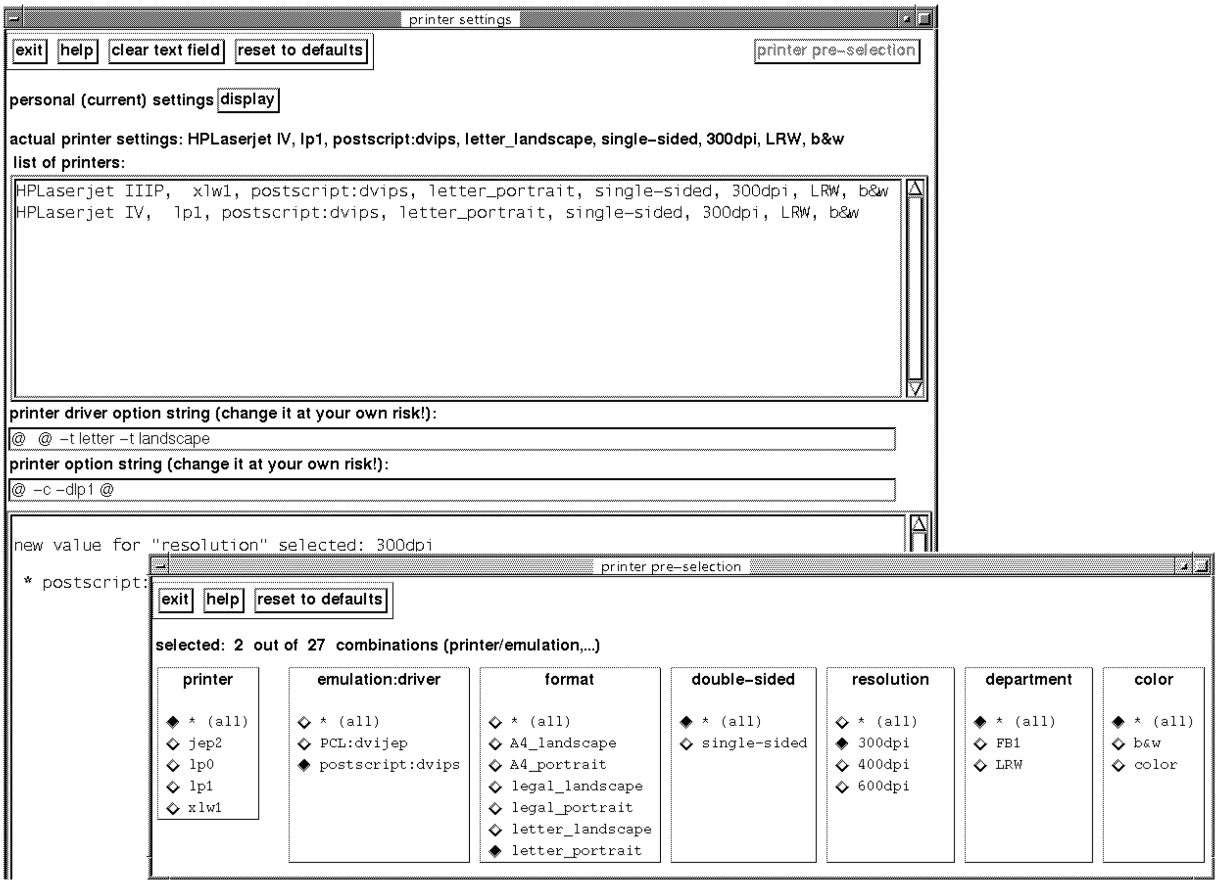


Figure 8: the printer pre-selection menu, after selection of postscript, letter_portrait and 300dpi.

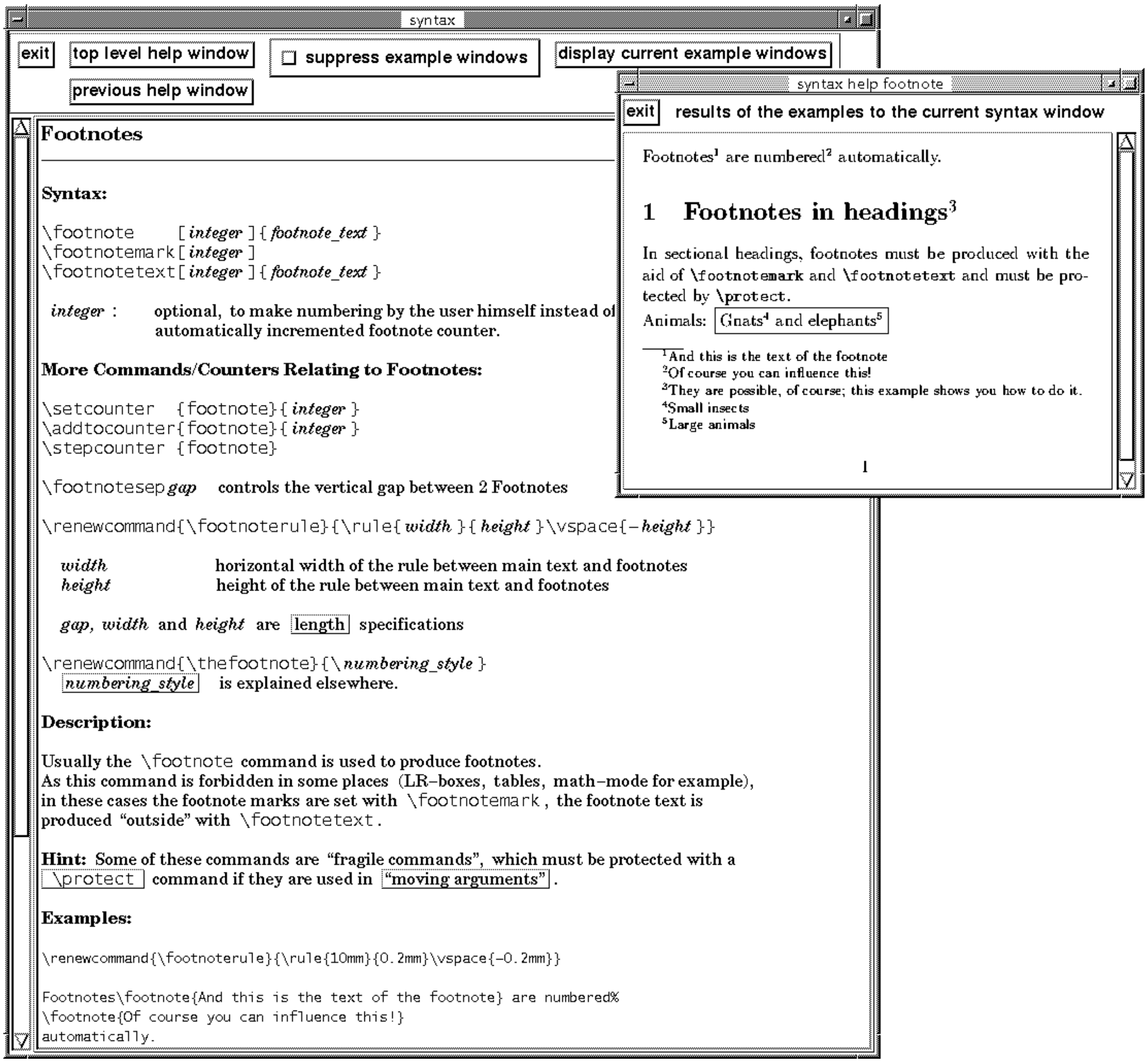


Figure 9: the LaTeX syntax helps.

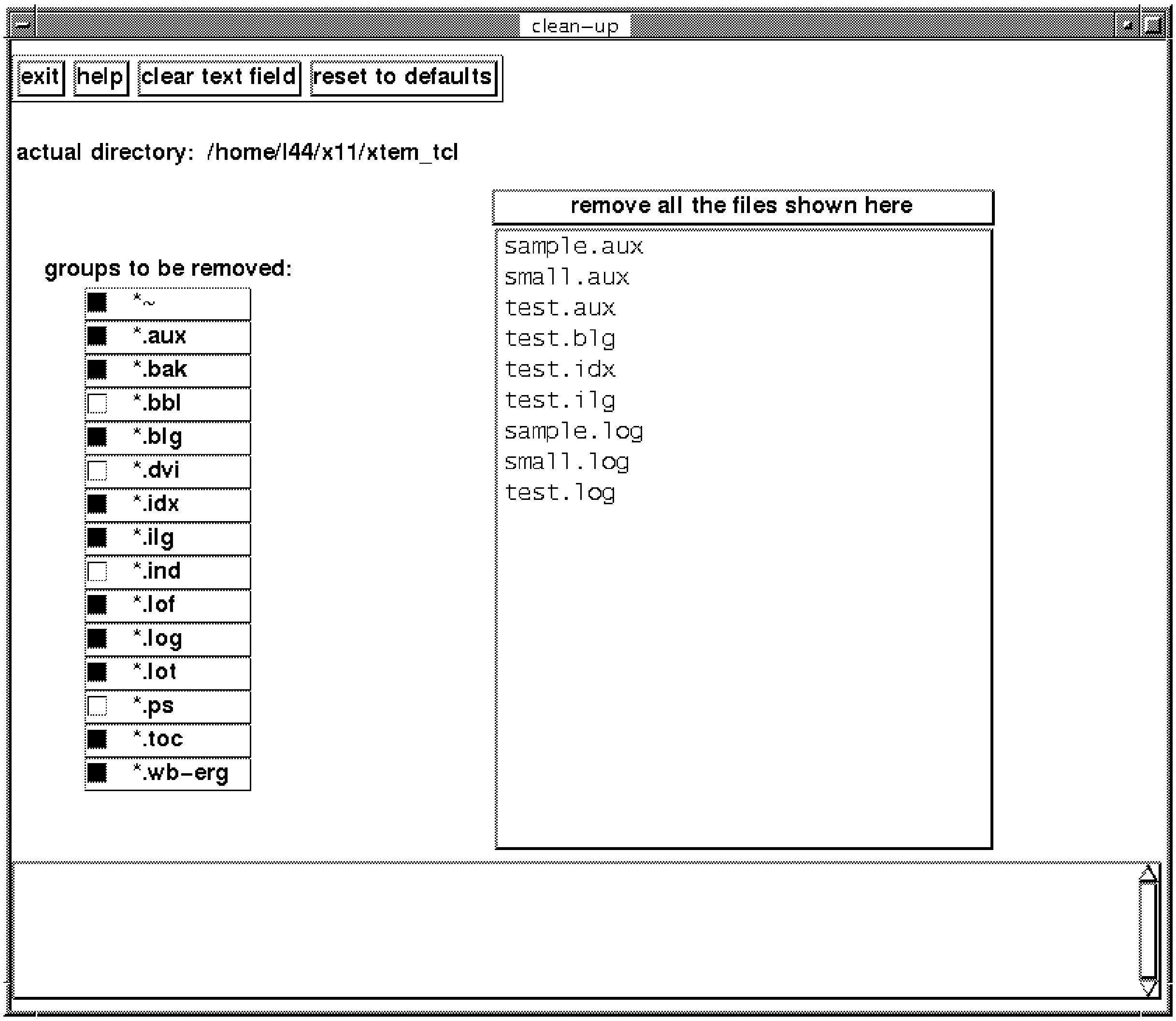


Figure 10: clean up.

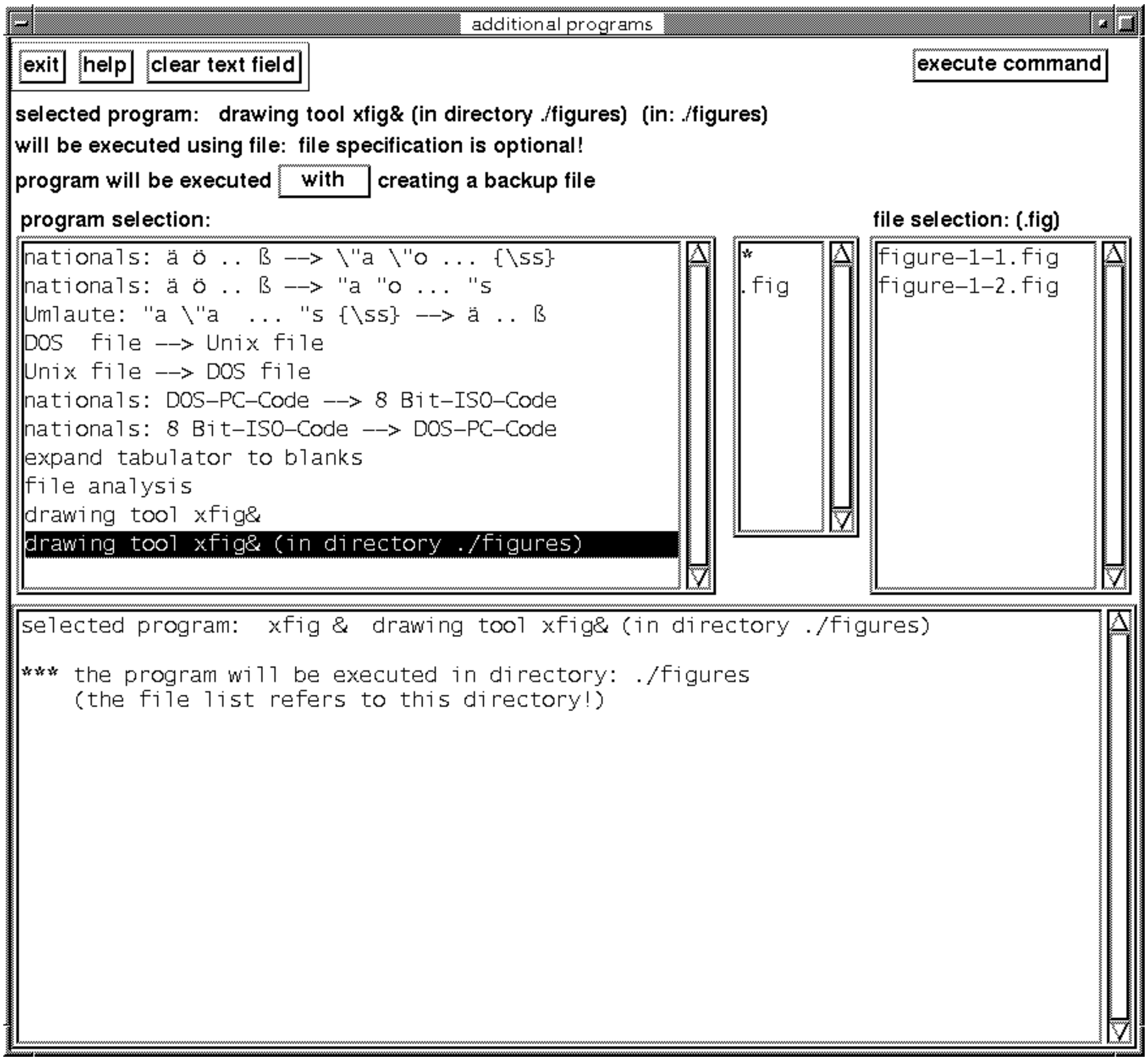


Figure 11: the menu for execution of additional auxiliary programs

## Acknowledgment

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## Basis for the use of `xtem`:

- Hardware: X11 screen (black&white or colour),
  keyboard, 3 button mouse.
- Software:
  - Unix system,
  - Tcl version 7.6, 8.0 or 8.1 with Tk by J. Ousterhout and TclX (extended Tcl) by Mark Diekhans and Karl Lehenbauer
    (public domain, available by `aftp` — see `xtem/README`).
- Application software:
  - `xtem` available under GNU licence conditions
  - from: `aftp` server of IWD: `ftp.iwd.uni-bremen.de`
    (login as `anonymous` with RFC conform e-mail address for password).
  - files: `/pub/tex/xtem/xtem_texmenu_7ger.ps.gz` (German description)
    `/pub/tex/xtem/xtem_texmenu_7eng.ps.gz` ((this) English description)
    `/pub/tex/xtem/xtem_texmenu.7.00.tar.gz` (or version newer than 7.00)
  - or via WWW: `http://ftp.iwd.uni-bremen.de/xtem/xtem_texmenu.html`
  - from the `aftp` server of IWD or via the WWW-page you can also get `xtem` running with older Tcl (Tcl 7.3 – Tcl 7.5)