MAXQDA 2007

Introduction

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Support, Distribution

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Welcome to MAXQDA

Welcome to the community of **MAX**QDA users! With **MAX**QDA 2007 you have the newest version of the text analysis software that has proven itself indispensable to social researchers for over 15 years. This short manual offers you a quick and uncomplicated introduction to the program. Only the basic functions of the program will be described here; for more information please see the comprehensive manual that is automatically installed with the program.

Before you continue, we would like to offer you three suggestions:

First of all, register yourself as a user of **MAX**QDA as soon as possible. This can be done at www.maxqda.com. In this way you will stay informed about current developments and updates.

Second, visit the MAXQDA website regularly. There you can find articles and all kinds of information about MAXQDA, as well as a user forum.

Third, don't forget to backup your data on external media. Qualitative research is very time-intensive work, and losing data because of hard drive problems or viruses can be very annoying, to put it mildly.

We wish you much enjoyment working with MAXQDA, and would be happy to receive any feedback from you (info@maxqda.com).

Installation and Registration of MAXQDA

If you have **MAX**QDA Version 2 installed, we recommend that you uninstall it and use only MAXQDA 2007. **MAX**QDA 2007 recognizes the file format used in version 2, but the opposite is not the case. Thus, although it will not do any harm to have both versions installed, it will not help you and could cause confusion.

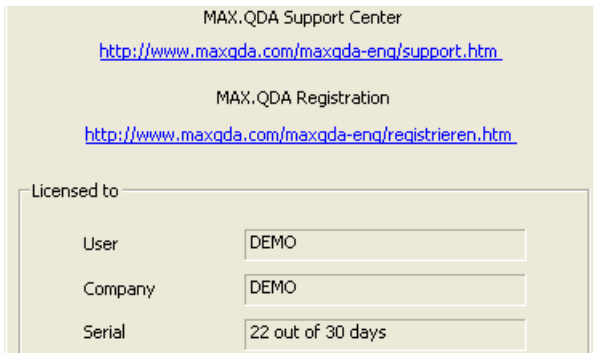How to install **MAX**QDA 2007 from CD-ROM:

1. Put the **MAX**QDA CD-ROM in your CD-ROM drive. In Windows the CD will normally start automatically. If it does not, go to Windows Explorer, select the CD-ROM drive and double-click on "Launch.exe".

2. The CD-Browser will appear. Select the option "Install Full Version".

3. The setup program will now start. Wait until it has loaded and the setup program appears on your screen. Then follow the Install-Shield instructions. Be sure to enter the case-sensitive registration code correctly.

Please register your software after the successful installation. The CD-browser offers the option REGISTER NOW. Simply click on it and you will be connected to the online registration on **MAX**QDA's website. As a registered user you may use the support service and you will regularly receive information about improvements and updates.

In the help menu ("?") you will also find links to the registration and support center. Click INFO to get to these links. Your product ID, which you need in order to get support, is listed there as well.

Fig. 1: Registering using the info dialog box in the "?" help menu

The setup procedure copies some sample data (four text documents named interview1.rtf through interview4.rtf) and a sample project (MediaProject.mx2) to the **MAX**QDA folder on your hard drive.

Documentation and Help

This booklet is an introduction to **MAX**QDA 2007, designed to get you using **MAX**QDA quickly. It provides short step-by-step descriptions of the

functions available in **MAX**QDA. In addition to reading this short intro-duction, you have the options of viewing a detailed tutorial and referring to the comprehensive 250-page manual accompanying the program. This manual gives you detailed information about how the different functions and procedures of the program work. It is written in PDF-format, and is copied automatically to your hard drive during the installation of **MAX**-QDA 2007. You will find it in the installation folder you selected (default: C:\Program Files\MAXqda3\Manuals\Eng\).

To view the **MAX**QDA manual you need Adobe Acrobat Reader. If Acrobat Reader is not installed on your PC, you can download the program from the Adobe website at www.adobe.com.

To read the **MAX**QDA manual choose the help option "?" from the menu bar, and then select MAX MANUAL. The manual will be displayed, with the Table of Contents in the left pane of Acrobat Reader, provided that the bookmarks are activated. Simply click on a chapter's name to bring the chapter into the right window.

Pressing Ctrl+F will start the search function. You can type in a word or string and Acrobat Reader will search the entire text and display the text passage where your search term has been found.

The MAXQDA Tutorial

The tutorial is also available from **MAX**QDA's website (www.max-qda.com); clicking on TUTORIAL in the "?" help menu will link you to the website. The tutorial gives you a step-by-step introduction and helps you to quickly understand the basics of **MAX**QDA.

The Introduction Booklet

A PDF version of this introduction is also contained on your CD-ROM. Thus, if you need additional copies, simply print out the PDF-file. You can also click on the option MAX INTRO in **MAX**QDA's help menu.

The PDF-version is in color, so printing on a color printer will give you bet-ter results.

1.   Starting the Program for the First Time

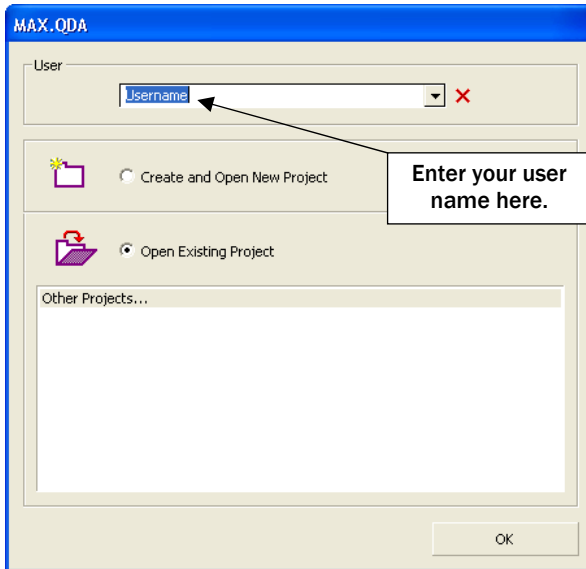When you start **MAX**QDA 2007 for the first time, the screen depicted in

Fig. 2: Starting MAXQDA

You can enter a user name in the text field shown above. This is useful when several people work together on a project, as the program will keep track of who has created or applied each code and who has written each memo in the project. The drop-down list contains a list of the user names registered in the project.

The figure above shows that **MAX**QDA offers two options:

- ❑ Create and open a new project, or
- ❑ Open an existing project.

MAXQDA works with so called "projects" as Excel does with .xls workbooks or Word does with .doc text files. Normally a project in **MAX**QDA contains a set of texts (divided in different text groups), codes, memos, attributes and other data. A project is the "unit of analysis" and is stored in one file.

When installing **MAX**QDA a sample project ("MediaProject.mx2") is cop-
ied automatically to your hard disk. In the following section we will start
from scratch rather than refer to that project.

First you will learn how to create a new project: Choose CREATE AND OPEN
NEW PROJECT from the dialog box and then type a name for the project of
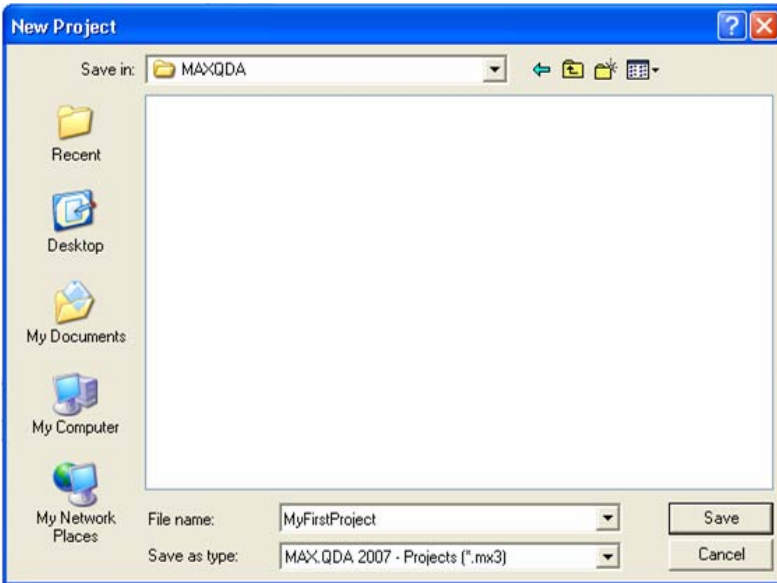your choice into the text box (for example "MyFirstProject").

Fig. 3: Creating a new project

MAXQDA now creates the new project. When starting Windows Explorer
you will see that a new file "MyFirstProject.mx2" appears in the list of files
in the folder you selected in the NEW PROJECT dialog box. This file (with the
extension .mx2) is a container for all text files, codes, memos and attrib-
utes of your project.

**To repeat: one project = one file. You should back up this .mx3 file
regularly not only on your hard drive but also to an external device
such as a CD-ROM or USB memory stick.**

MAXQDA saves all your work automatically. It is not necessary to click
"Save" or "Save as" as you are used with Word or other software. If your

system crashes, normally your **MAX**QDA project file will be kept on the level of your last working steps.

Anytime you want to create a project simply select the NEW PROJECT option from the PROJECT menu. You may define as many projects as you like; there is no limit to the number of projects you can create.

Projects created with previous versions of **MAX**QDA can be opened as well, by choosing the file type "MAX.QDA Projects (*.m2k)" or "MAX.QDA 2 Projects (*.mx2). The project will be automatically converted into the new format and saved as an .mx3 file.

2.   The Desktop

This chapter is an introduction to **MAX**QDA basics. Let's begin by taking a look at the **MAX**QDA desktop. The menu bar is located directly below the title bar. This menu bar contains pull-down menus for commands associated with "Project," "Edit," and so on. The main tool bar, directly below the menu bar, contains buttons for quick access to frequently used commands. The coding tool bar, underneath or to the right of the main tool bar, offers functions for coding text segments. A "screen tip" or "tool tip," seen when you pass the mouse cursor over a button, identifies each button on the bars.
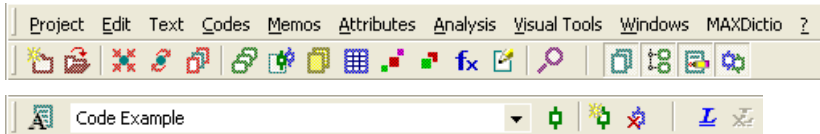

Fig. 4: Menu bar and tool bars

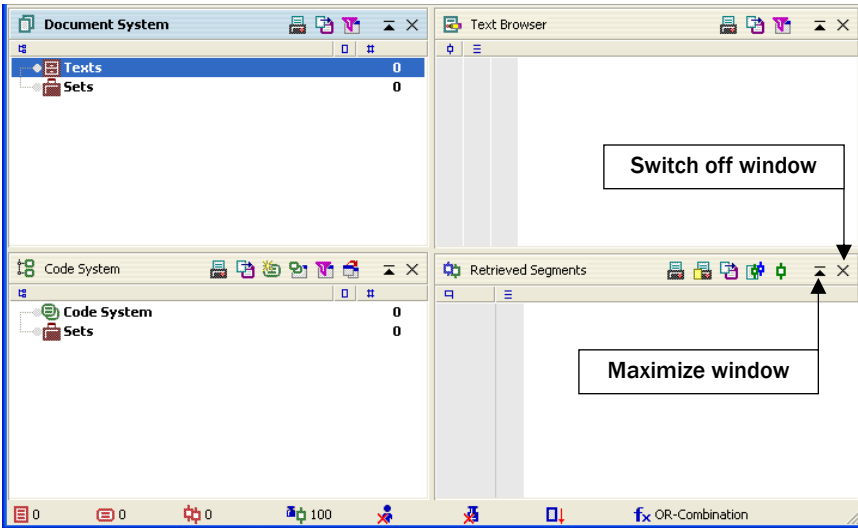The four main windows of **MAX**QDA are located beneath the tool bars:

Fig. 5: The four main windows of **MAX**QDA

- ❑ DOCUMENT SYSTEM contains a list of all texts and text groups.

- ❑ CODE SYSTEM contains the codes, i.e. the category system.

- ❑ TEXT BROWSER is the window where most of the work is done, such as marking text segments and attaching codes, editing text and writing memos.

- ❑ RETRIEVED SEGMENTS contains a collection of coded segments, the results of a text retrieval procedure.

The four windows may be switched on and off independently. Thus you can find the appropriate arrangement for the different tasks you want to carry out.

The four windows may be opened or closed in three different ways:

1. Select the WINDOWS option in the menu bar.
2. Click the buttons in the tool bar.
3. Click the CLOSE (x) button in the upper-right corner of a window.

Windows can also be maximized to full screen by clicking the Maximize button in the upper-right corner of the window.
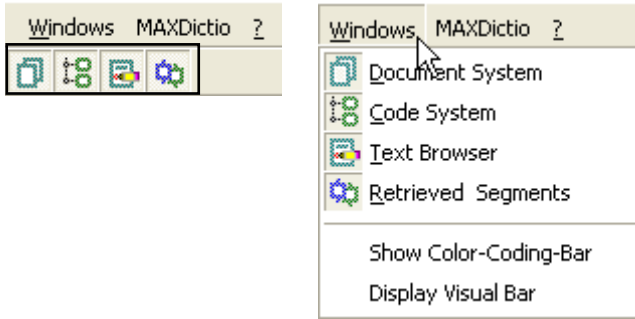
Fig. 6: Opening and closing the four windows

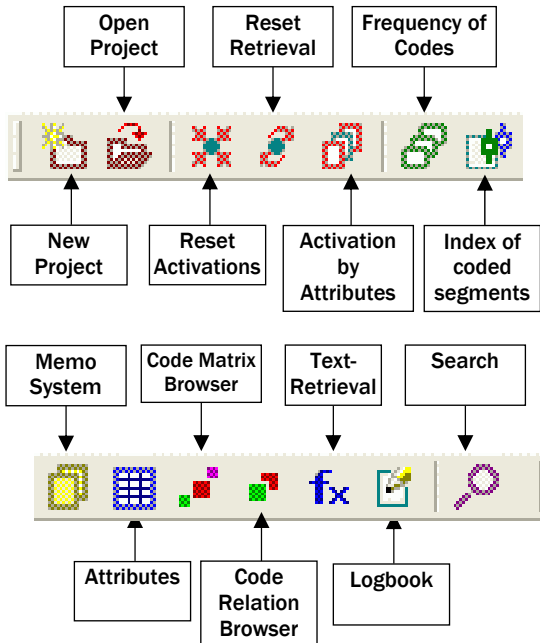The buttons located on the tool bar under the menu bar have the following functions:

Fig. 7: Overview of the buttons in the tool bar

3.   The Document System

The DOCUMENT SYSTEM in **MAX**QDA is like a big container that holds together all the text documents of your project. The DOCUMENT SYSTEM is highly flexible; you may add new documents and remove documents whenever you want. **MAX**QDA only imports texts formatted in Rich Text Format (RTF). A text may contain all kinds of objects, e.g. graphics, photographs, Word tables etc.

The DOCUMENT SYSTEM of **MAX**QDA behaves similar to the Windows Explorer. When starting your work with **MAX**QDA you will only find the root level in the DOCUMENT SYSTEM. You can then import texts and attach them to the root level or you can create text groups in order to better organize your data. Text groups are treated like folders in Windows Explorer but the DOCUMENT SYSTEM allows only a one-level hierarchy; that means you can not create subfolders of a text group.

How to create a text group:

1.   Open the DOCUMENT SYSTEM window.
2.   Right-click on TEXT GROUPS.
3.   Select NEW TEXT GROUP from the shortcut menu.
4.   Type in a name for the new text group, for instance "interviews".

In our example we have created a second text group named "articles" and a third one named "documents".
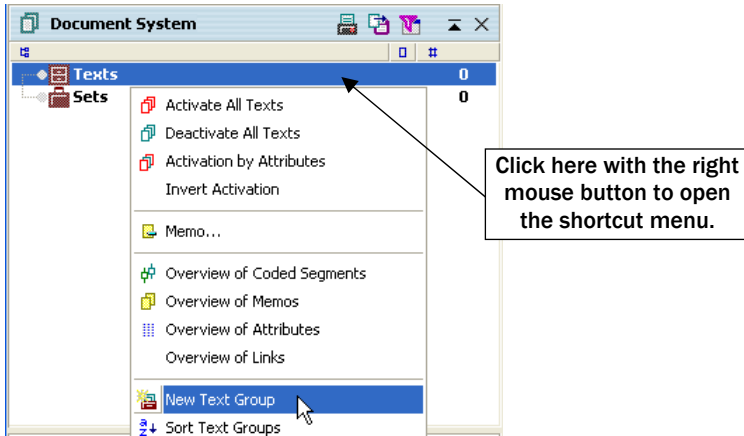
Fig. 8: Creating a new text group

In the DOCUMENT SYSTEM all text groups are symbolized by a special icon (open index card box). Later on, in the course of your research and data analysis, whenever you want to work with a text group click on the text group's name with the right mouse button and select an option from the shortcut menu. The shortcut menu offers, for instance, options for importing and removing text documents.

Fig. 9: Working with text groups

Importing your First Text

In this section you will learn how to import text documents. Importing text files into **MAX**QDA is easy and intuitive. The easiest way is to select one or more files in Windows Explorer and drag them (with the mouse) into the DOCUMENT SYSTEM.

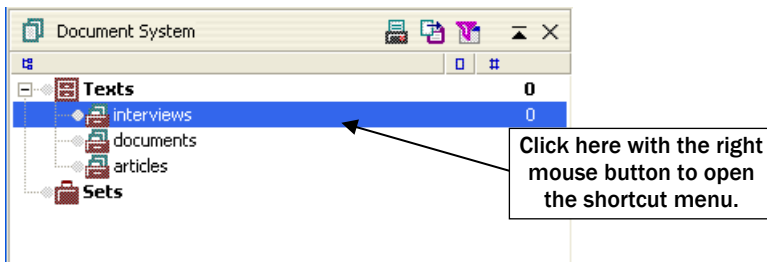During the program installation some sample texts have been copied to the **MAX**QDA folder. We will now import two of these texts, named "interview1.rtf" and "interview2.rtf". The following figure shows the DOCUMENT SYSTEM after the import.
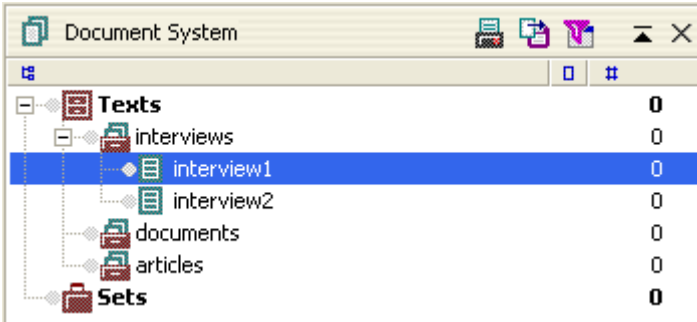
Fig. 10: Working with the DOCUMENT SYSTEM

Alternatively to importing with drag-and-drop you can make use of the context menus that pop-up when you click on the symbols in **MAX**QDA's DOCUMENT SYSTEM.

1. Click on the text group "interviews" (right mouse button).
2. The shortcut menu appears; choose IMPORT TEXT(S).
3. Select the file "interview3.rtf" located in the **MAX**QDA folder "Examples".

MAXQDA imports the text and inserts the text name preceded by a green icon just below the name of the text group.

Opening a Text

In order to work with or edit a text you have to load the text into the TEXT BROWSER window. To open a text you can either:

❑ double-click the text in the DOCUMENT SYSTEM or

❑ move the mouse pointer to the text name in the DOCUMENT SYSTEM and click the right mouse button. The shortcut menu appears. Choose OPEN TEXT.
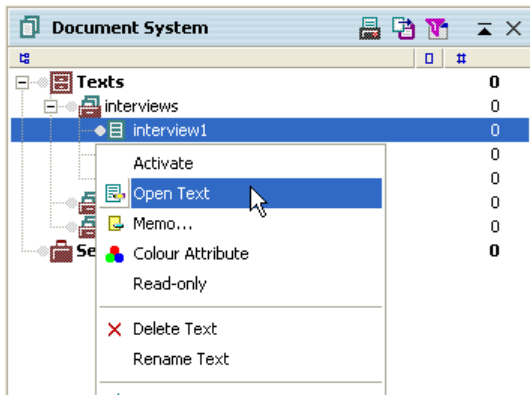
Fig. 11: Opening a text with the right mouse button

In the DOCUMENT SYSTEM the opened text is indicated with a special icon (sheet with pencil). The texts currently active for text retrieval are displayed in a different color (red) and marked by an arrow.
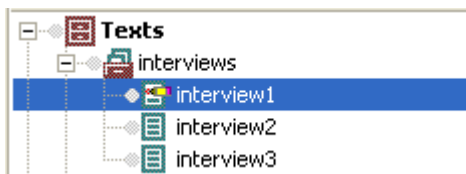
Fig. 12: Icon for opened text

The figure above shows that the text "interview1" is currently opened.

As soon as you have opened a text in this way, the text shows up in the TEXT BROWSER. Now you can start working with your selected text. Two operating modes are available for the TEXT BROWSER:

❑ CODE MODE: allows you to attach codes to selected text passages and to write memos and attach them to lines of text.

❑ EDIT MODE: allows you to edit the text, add or delete text, correct mistakes and mark text passages (with different colors, for instance).

The CODE MODE is active by default when a text is opened in the DOCUMENT SYSTEM. Click the EDIT/CODE MODE button to switch to the EDIT MODE. When working in EDIT MODE a number of features that are probably al-

ready familiar to you from word processing programs are available. You may choose the font type, font size and font color of text as well as formatting characteristics like bold, italics or underline.
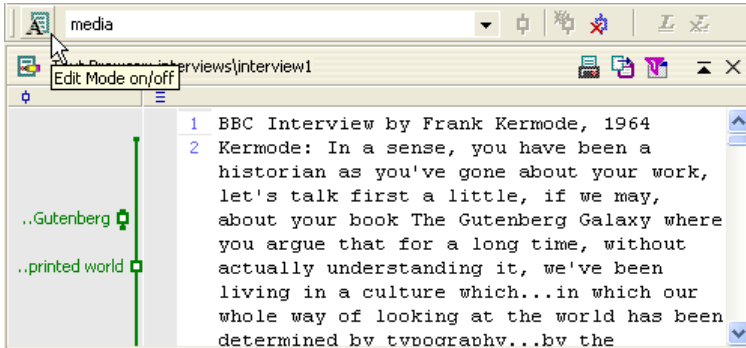
Fig. 13: Switching to EDIT MODE

When you switch back to CODE MODE, the modified text will be saved automatically. The same happens when another text is opened in the DOCUMENT SYSTEM. The formatting buttons and the list of fonts available are only visible when you are in EDIT MODE. Thus, you always know which mode is activated.

Fig. 14: Tool bar in EDIT MODE

Correcting mistakes in the text or adding and removing text passages can only be done using the EDIT MODE. Switch back to CODE MODE when you have completed these tasks, to avoid inadvertently changing your text. Be careful– there is no "undo" function for text editing! Thus, although it is possible to write memos or code text passages in EDIT MODE (see below), you should avoid doing so.

On the left side of the text there is a column with paragraph numbering. RTF texts are divided into a specific number of paragraphs. A paragraph in RTF (and thus also in **MAX**QDA) corresponds to a paragraph in a Word document that has been separated from the previous and following ones by typing "Enter." A paragraph is thus the text between two paragraph markers, which can be seen in Word by choosing the command "Show Paragraph Markers" from Options in the Extras menu.
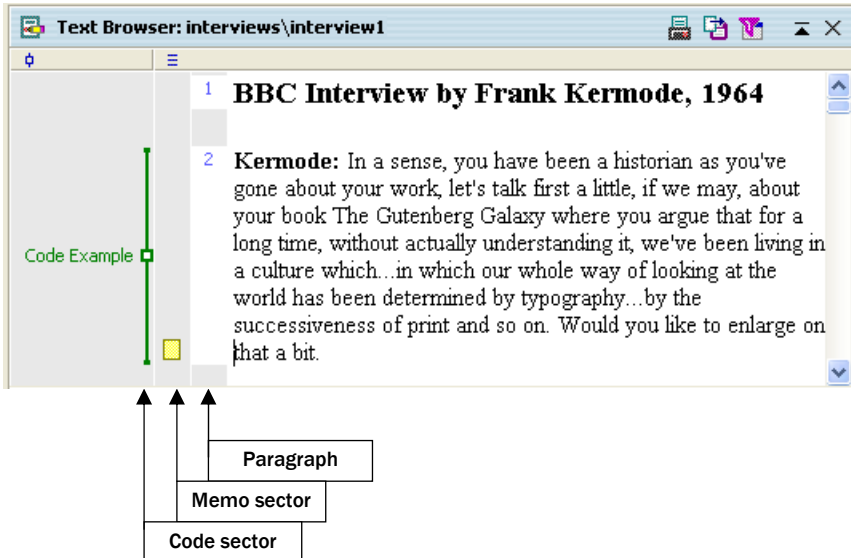
Fig. 15: TEXT BROWSER window

The text memos that you create appear in the light gray column directly to the left of the text. Markings for the coded segments will appear further to the left. The entire gray area can optionally be placed to the right of the text.

Rich Text Format

MAXQDA **only imports text files formatted in Rich Text Format (RTF). All word processing programs offer the option of saving files in RTF.**

If you want to import a doc file from Word, you first have to transform the file into RTF-format. This can easily be achieved by selecting the file type "rich text format (*.rtf) when saving the file in Word.

Attention: Text files to be imported in **MAX**QDA can not simultaneously be opened in Word. Thus, close the file before you start the import procedure.

Fig. 16: Saving a text file in Rich Text Format

You can import any text into **MAX**QDA, no matter where the file is located: on a local drive, a USB memory stick or a remote computer on your network.

The following should be considered when importing RTF-files:

❑ Text formatting, such as bold or italics, is imported.

❑ Text fonts and font size are imported.

❑ Paragraph formatting such as right and left indentation is imported; line spacing, however, is not.

❑ Embedded objects in imported texts are usually ignored. **MAX**-QDA will, however, import objects like pictures and graphics if this option has been selected in the Options menu (PROJECT > OPTIONS).

Although the improved RTF handling capabilities of **MAX**QDA enable the user to import graphics in JPG and GIF format, this capability should be used with some care. **MAX**QDA converts these graphics into bitmaps, and since these formats are highly compressed, when converted they may be quite large. Thus you should only import graphics that are necessary. **MAX**QDA is not a picture archiving program– a single photograph from a modern digital camera can be a few megabytes and including such pictures can slow down the program significantly. OLE objects can also be imported by **MAX**QDA now, as long as the corresponding option has been selected (PROJECT > OPTIONS).

MAXQDA 2007 can work with Word tables without problems, even when the cells of the table contain more than one line.

Creating Texts in MAXQDA

In order to write a new text in **MAX**QDA without using a text processing program like Word, you must first select the option "New Text" from the shortcut menu (either on the root level or with a particular text group). **MAX**QDA automatically gives the text a name, which you can later

change. Double-clicking on the new text will open the empty text in the TEXT BROWSER window.

In order to begin entering text, you must switch to EDIT MODE by clicking on the button on the left in the coding tool bar. Now you can also format the text with the usual formatting options, such as italics, bold, underline, and text color.
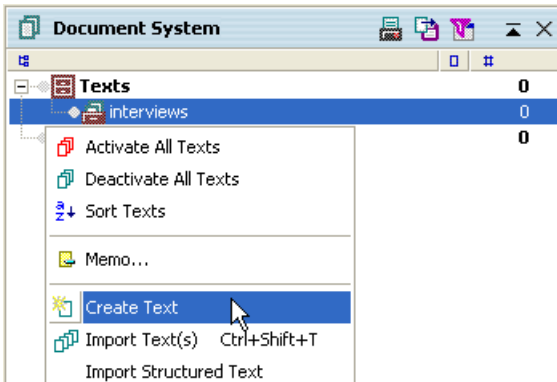
Fig. 17: Creating a text using the shortcut menu

Once the EDIT MODE has been selected, you can also use drag-and-drop or the Windows clipboard to paste text from other applications or from the internet into your text.

A further shortcut CRTL+T offers an easy way to create a text. When you press CRTL+T, **MAX**QDA automatically enters a new text name in the activated text group, opens this new text, switches the EDIT MODE on and positions the cursor at the beginning of the text in the TEXT BROWSER window. Then you can type in text directly or paste text from another application or from the internet.

Tips:

If you want to transcribe an interview that has been recorded in wav or mp3 format you may use the software "f4", a free software developed at Marburg University. In combination with a foot switch you are able to do your transcription in a very fast and convenient way (www.audistranskription.de).

Use the shortcut CRTL+T to automatically create a new text and begin entering text.

Pasting text from the Windows clipboard

The Windows clipboard may also be used to import text into the TEXT BROWSER of **MAX**QDA. When working with Word, Powerpoint, Acrobat etc. you may mark a text passage and drag it (with the mouse) into the TEXT BROWSER. Of course, you have to switch to the Edit mode; otherwise **MAX**QDA would not allow you to import text. Instead of using drag-and-drop, you may also use explicit commands: As usual, text is copied into the clipboard by use of Ctrl+C and pasted by use of Ctrl+V. Alternatively you may (also) use the menu option EDIT > PASTE. In case the text contains objects like photographs, audio or video material you should take into account that these objects require a huge amount of space in your **MAX**QDA project. Thus, setting external links instead of importing the object may be a reasonable alternative.

> **Tip: Text(s) from websites can also be imported by drag-and-drop, but linked graphics and photographs will be lost. If you also want to import these objects, you first have to paste the text into Word and then you may copy it again and paste it to the TEXT BROWSER.**

4.   The Code System

One of the main functions of **MAX**QDA is the assignment of a "code" to text. A code is a string of up to 64 characters, which is assigned to selected segments of text. Codes can be ordered into a hierarchical structure.

The CODE SYSTEM is always available in the window CODE SYSTEM. At the beginning of a project this window is empty except for the CODE SYSTEM button and a green symbol, both of which you can click on. On top of the CODE SYSTEM a toolbar is located that gives you quick access to functions often used.
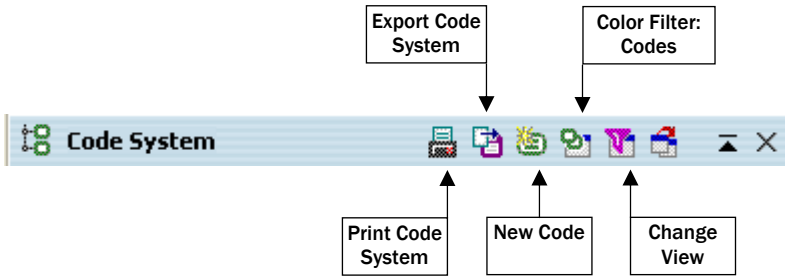
Fig. 18: Toolbar in the CODE SYSTEM

MAXQDA'S CODE SYSTEM has the following characteristics:

- ❑ Codes can be hierarchically structured.

- ❑ The number of codes is unlimited.

- ❑ The hierarchical structure may contain up to ten levels.

- ❑ Codes are assigned a color.

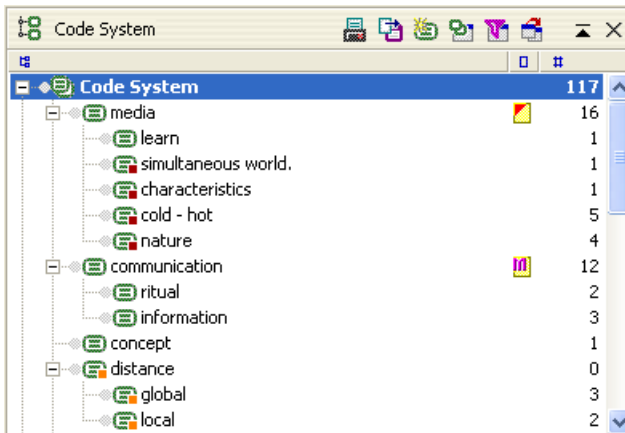- ❑ Codes are assigned an identification number.

Fig. 19: Example of a code hierarchy in the CODE SYSTEM window

The Screen View of the Code System

The CODE SYSTEM is shown as a tree structure on the screen. It looks like the File Folder in Windows Explorer which you are familiar with. A plus or minus sign in front of the code name indicates that a code contains sub-codes. You can expand the subcategories or close them by clicking this button.

When clicking on the Change View button located in the CODE SYSTEM's toolbar the CODE SYSTEM is displayed as a table in Excel style. This table can be sorted according to different criteria (code name, creation date, author etc.) by clicking on the columns header.

Defining a code is like opening a drawer in which you can put any number of text segments. The drawer's label, i.e. the code name, can later be changed without affecting the contents of the drawer. You can also print the CODE SYSTEM or export it.

There are two different menus for working with in the window, one for the highest level of the CODE SYSTEM, and a second for the lower level codes and subcodes. First we will create a code at the highest level:

1. Click on the word "Code System" (on the top of the list in the CODE SYSTEM window) with the right mouse button.
2. Select NEW CODE from the menu and type in the name of your new code.

Example: Define two codes and name the first code "media" and the second one "Code Example".

Newly defined codes are always put at the beginning of the list (at the appropriate level, of course).

To define a subcode, you click the next higher code with the right mouse button and select NEW CODE from the menu.

Example: Click on "media" with the right mouse button and add the new subcodes "cold-hot" and "simultaneous world."
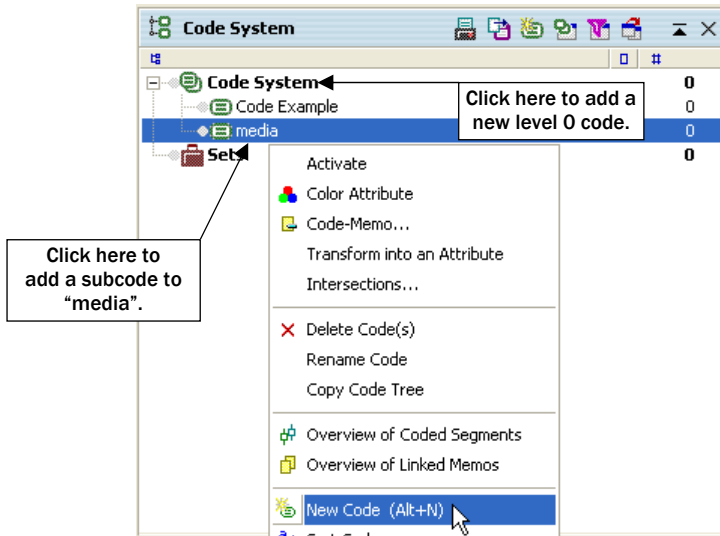
Fig. 20: Adding a new code

As soon as you have selected NEW CODE, the following dialog appears:
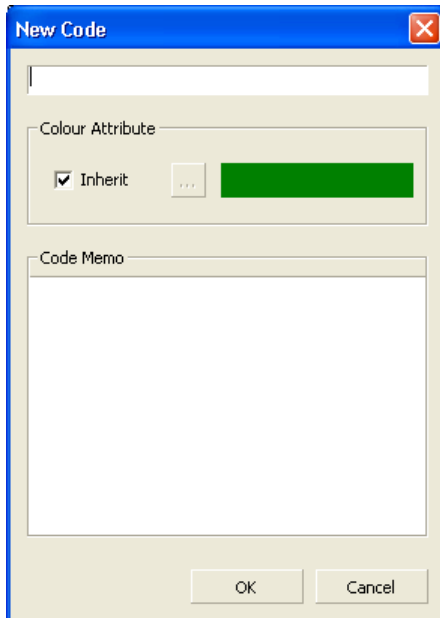

Fig. 21: New Code dialog box

In the upper part of the window, the name of the new code can be entered and a color attribute can be chosen. The lower part of the window allows you to write a code memo, for instance a short summary of the code's definition.

You can also enter a new code by pressing Alt+N. If the new code should be a subcode of an existing code, select the code in the displayed list first, then press Alt+N. This allows you to enter a number of codes quickly, one after the other.

The order of the codes and subcodes in the CODE SYSTEM can easily be changed with the drag-and-drop mouse function. You can also sort them alphabetically by clicking the menu option SORT CODES at the highest as well as every other level. To change a code into the subcode of another code, you must press Shift while dragging the code with the mouse.

> **Tip: The shortcut Alt+N enables you to directly type in a new code.**

Attaching colors to codes

A color attribute can be attached to each code or subcode. You may select a color when creating a code or later on by selecting the option "color attribute" from the code's context menu that pops up when you click on the particular code with the right mouse button.

In **MAX**QDA the use of colors can play an important role for the analysis. Colors can be chosen from a set of 48 different colors; the users may also create new additional colors on their own. When colors are used in a systematic way they may help you to identify patterns and structures in your data. For instance, a psychologist could associate red colors with aggressive behavior and green colors with friendly and tolerant behavior. Or, to give another example: When analyzing focus groups, different colors can be attached to the different speakers and also to the different topics of the group's discussion. In combination with the visual tools of **MAX**QDA (see section 12) new perspectives of "seeing" an interview are offered then.

When defining subcodes you have the option to inherit the color of the mother code.

Code Memos

Code memos can help you to remember the exact meaning of your codes. It is a good idea to write a short comment when creating a code. Later on you may add a more detailed description or even examples for text passages where the code has been applied

5.   Coding Text

The assignment of codes to text segments in **MAX**QDA is called "coding." The smallest segment of text which can be assigned a code is one character. Of course, one would normally select at least one word to assign a code to.

Any number of codes can be used for the analysis of a text; the number of text segments you code is also unlimited. You can also code overlapping segments of text or code one segment within another code.

Selected segments of a text can be copied from one window to another. This is easily accomplished, as in Windows, with the keyboard combination Ctrl+C or by choosing the COPY option from the EDIT menu.

Coding is possible in different ways, however one must always first select the passage of text with the mouse, as in the following diagram:
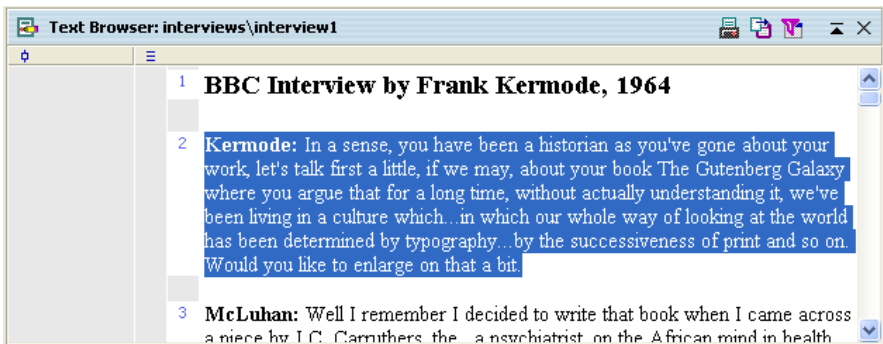
Fig. 22: Selected text segment

MAXQDA offers different ways for coding:

❑ *Classical Coding*: select a text passage and attach an existing code from the CODE SYSTEM

❑ *Free Coding*: this is the typical style of initial coding in Grounded Theory – a new code will be attached to a text passage

❑ *Targeted, selective Coding*: Texts will be scanned for a selected code. When a text passage is found that belongs to the selected code, coding will be performed.

❑ *In-vivo Coding:* The term In-vivo also comes from grounded theory and means that words or terms used by the interviewees are so remarkable, that they should be taken as codes. In-vivo coding adds these terms of the respondents as codes and codes the text passage at the same time.

❑ *Color Coding:* This works like highlighting a text passage in a book with a colored text marker. In MAXQDA four different colors can be used for color coding; red, green, blue or magenta.

The following section describes in detail how these techniques are used. The different options can be chosen from the context menu that pops up when you have selected a text passage and press the right mouse button.

Fig. 23: Context menu of the TEXT BROWSER

1. Classical Coding with the Drag-and-Drop Function

Click on the selected text with the left mouse button and keeping the button pressed, move the mouse pointer to the name of the code in the CODE SYSTEM. Releasing the mouse button then assigns the segment to this code, which you can see in the gray column next to the text in the TEXT BROWSER window.

You may also do it in the reverse way, i.e. drag the code to the selected text passage.
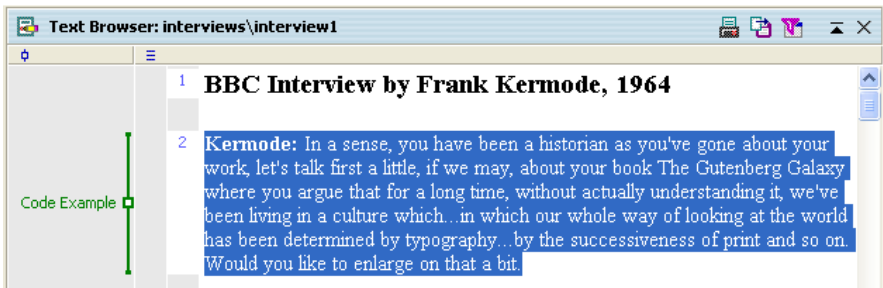
Fig. 24: Coded text and coding symbol

2. Coding with a Code's Drop-Down Menu

Click with the right mouse button on the code in the CODE SYSTEM window to which you want to assign the text. Select CODE from the drop-down menu.

3. Coding with multiple codes simultaneously

Activate the code you want to attach in the CODE SYSTEM. Then, with the right mouse button, click inside the selected text and choose the option "Code with selection".

4. Creating a New Code with Keyboard Shortcuts

An easy way to create a new code, i.e. a code that is not yet listed in the list of codes, is to use the shortcut Ctrl+W. A dialog window will open, and you can type in the name of the new code. The code will be added to the CODE SYSTEM at level 0. If necessary, you can later move the code to another level in the CODE SYSTEM.
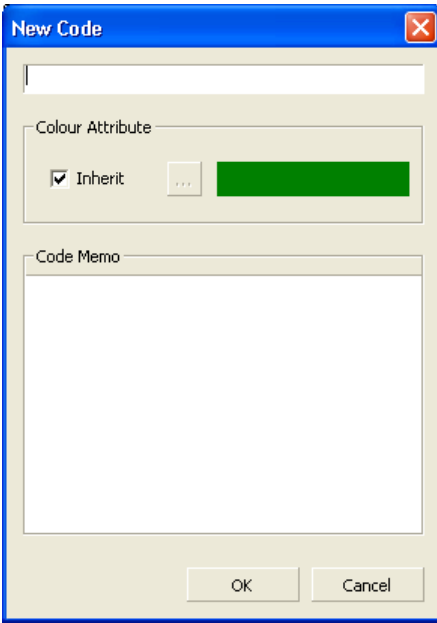
Fig. 25: Dialog box for entering a new code

5. Focussed Coding with the Code Button

At the top of the TEXT BROWSER in the coding tool bar is a list of the codes last used. Whenever you assign a new code to a text, the code is added to the list. By clicking on the button to the right of this list (screen tip: "Code"), you assign the selected text to the code presently in the tool bar. This allows you to assign a text segment to a code which has already been created. In this way, you can search the text for a certain topic and quickly code corresponding passages in the text without each time going through the process of selecting a code.

6. Coding with the In-vivo Coding Button

Another way of coding is with the so-called IN-VIVO CODING. If you, for example, select the word "global village" and then click on the IN-VIVO CODING button in the tool bar, the word "global village" is added to the list of codes as the code for this short text segment. The shortcut Ctrl+I has the same effect.

Fig. 26: Coding with the Quick List and the In-vivo Coding button

When you want to code a whole segment of text with the IN-VIVO CODING function, and not only one or two words, code the one or two words with this function first. Next select the entire text segment (including the word) and click the CODING button (not the IN-VIVO CODING button!). **MAX**QDA expands the coded text segment automatically.
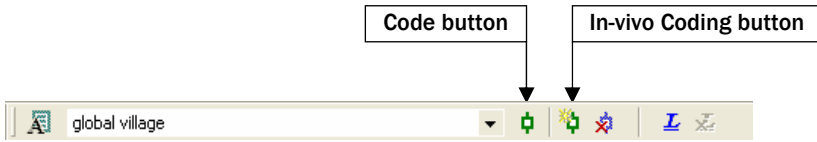
7. Color Coding Text

COLOR CODING TEXT is a technique which is useful especially at the beginning of the analytical process. It is similar to the marking of text in a book with a highlighter. It allows you to mark the passages you find particularly interesting when reading through the text for the first time. Before you decide which codes to use and before you start analyzing your text in categories, this technique lets you keep track of what simply seems important. There are four colors with which you can color code: green, blue, red and magenta.

The purpose of this highlighting function is not simply to change the text's color– you could do this in EDIT MODE by selecting a different font color for a text passage. Not only does the text change background color, but it is also coded with the name of the color. Thus, all the code functions are available to you when you are working with these segments later on. When going through the text a second time, it will be easier to develop your codes and categories from this basis.

How to color code text:

1. Click on the option SHOW COLOR CODING BAR from the WINDOWS menu.

2. Mark the text with your mouse and click on one of the following color coding buttons:

Fig. 27: Color coding bar

The text changes background color and is assigned a code, which you can see from the new code symbol next to the text. If you delete the assignment of a color code, not only is the code removed, but the text is changed back to its original color. The same happens when the color code itself is deleted from the CODE SYSTEM– all the text segments change back to their original color.

The assignment of several color codes to the same text segment is possible, but of course the text can appear in only one color– that of the last code assigned.

Coded Segments of Text

The coding of segments of text corresponds to the pre-computer-age, manually executed "cut-and-paste" procedure, in which one copied passages of text to a folder which would subsequently be assigned a certain name. The smallest unit resulting from this procedure was the folder, which contained the name of the topic, the cut-out passages of text, and information about their origin. The electronic version of this folder is similarly constructed, the smallest unit, however, is obviously not a physical folder but a set of information copied onto a hard drive.

The set of information resulting from the creation of a coded segment includes the following data:

1. The name of the text and the text group to which the code was assigned.
2. The beginning and end points of the segment in the text.
3. The name of the code or subcode to which this segment was assigned.
4. The code's weight score, which is determined by the relevance of the text segment.

The Coding Symbol

You can immediately see the result of assigning a code to a text in the TEXT BROWSER. The code symbol will appear in the gray area to the left (or right) of the text. The standard color for this symbol is green, but another color may be chosen for any code, causing all the coding symbols for this code to appear in this color.
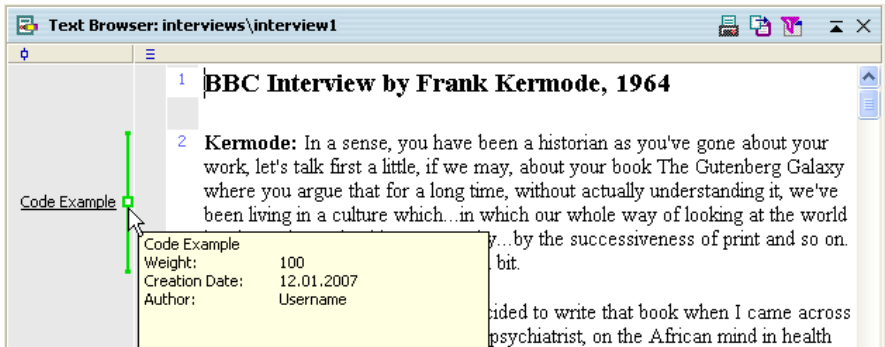
Fig. 28: The screen tip for the coding symbol

When you hold the mouse cursor over a coding symbol a screen tip will appear with information about the code: its weight score, creation date and author. Clicking on the symbol causes the background of the code in the CODE SYSTEM window to become grey, so that you can easily find it.

In **MAX**QDA it is possible to select exactly which coded text segments to display in the TEXT BROWSER. First right-click in the grey codes column. The following menu appears:

Fig. 29: The TEXT BROWSER's context menu

Now you can choose to view specific coded text segments:

- ❏ active codes
- ❏ codes created by a particular user
- ❏ codes with a specific color attribute

These options can be combined in any way; the code symbols can also be faded out altogether. In addition, it is possible to choose which elements of the code screen tips to display: title, author or date.

The dialog window for the visualization of coding stripes also appears when you click on the icon FILTER CODES in the toolbar located on top of the TEXT BROWSER.

Writing a Comment for a Coded Segment

For each coded segment you can make an annotation or a comment. This can be a short summary or just a nickname for this text passage. Comments are displayed in the quick info that appears when you move the mouse over the coding symbol in the coding stripes sector.

When you double-click on the little square in the middle of a coding symbol, a dialog field appears where you may enter your comment.

You can easily see if a comment has been written for a coded segment when you look at the code symbol. Normally the inner part of the little square is in white color, independently of the color of the code symbol. When a comment is attached, the inner square appears in the same color as the outer line of the symbol.

If you import coded segments into MAXMaps, the mapping tool of MAX-QDA, the comments are used as labels. Thus, with regard to the creation of maps and models in later stages of your analysis, writing meaningful comments can be very important.

Undoing the Assignment of a Code to a Segment

Clicking on the small square in the middle of a coding symbol with the right mouse button causes a drop-down menu to appear, with which the coding of the text segment can be removed.
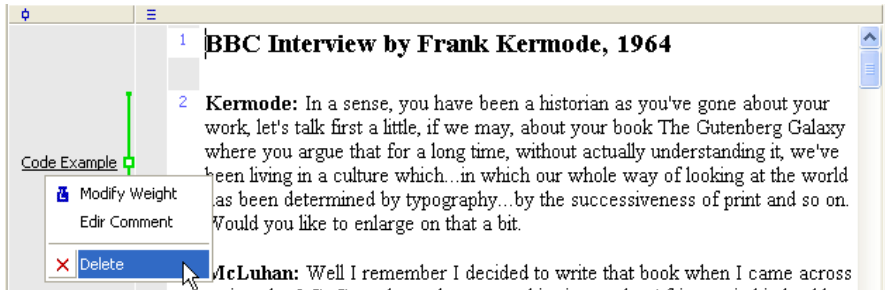
Fig. 30: The code symbol's shortcut menu

Deleting Codes

The CODE SYSTEM can be modified at any time. If a code is no longer needed it can be removed from the list. Simply click on the code with the right mouse button and select the option DELETE CODE. All coded segments that belong to the selected code are removed as well.

Attention: If the selected code owns subcodes they will be deleted, too. The deletion of codes resembles sawing off a branch of a tree. All smaller sub-branches of the branch will be cut off as well.

Changing the Structure of the Code System

You can easily change the structure of your CODE SYSTEM by moving the codes around with the mouse. Just click on the Code, keep the left mouse button pressed, and drag the code to the new position.

Attention: If you want a code to introduce a new subcode lever, you have to press the shift key while moving the code with the mouse.

Copy Parts of the Code Tree

Often it happens that codes own the same subcodes. Let us suppose you have two codes, "attitudes" and "behavior", and you wand to define the subcodes "politics", "family", and "profession" for both of them. MAXQDA saves you from defining these subcodes twice. You start with the definition of the three subcodes; let's say with "attitudes". Next you click on attitude and select the option COPY CODE TREE. Finally you go to "behavior" and choose the option PASTE CODE TREE from the context menu.

This option, to copy parts of the code tree, is particularly useful when working with two or more independent coders. Then you create the coder's name as codes on the top level and define the entire code tree as a sub-tree for both of them. Now you are able to hide all the coding symbols of one particular coder. Thus, the second person can code independently. Later on you switch both of the coders and are able to evaluate where they agree or not.

6.   Memos: Managing your Ideas

In this chapter you will learn how to create, modify, select and filter memos. The MEMO SYSTEM is a tool in **MAX**QDA allowing you to jot down quick notes, to form hypotheses and theories, and to keep track of your ideas. Memos are different from text documents. They are not data, but rather ideas originating from the researcher and will often be modified and integrated during the process of data analysis. In some methodological approaches memos play an outstanding role, as in Anselm Strauss' Grounded Theory, where they have an important function in theory development. Strauss differentiates between different types of memos such as theoretical notes and code notes. To support this differentiation between the different kinds of memos, **MAX**QDA offers more than 10 different memo types with different icons.

MAXQDA offers different types of memos: text memos, code memos, memos for the entire project, for text groups and for each text document. Text memos can be attached to text lines like post-it notes.

If you wish to create "free memos" that are not attached either to a particular text nor to a particular code, you can create a dummy text ("free memos") in the DOCUMENT SYSTEM and attach memos there.

A memo may have a considerable length– 64 kB or up to about 30 pages are allowed.

Memos in the Document System

The first option to create a memo concerns the DOCUMENT SYSTEM. Here you may write a memo about your project ("project memo"), about a text

group or a particular text. Such a text memo can, for instance, keep information about the interview situation or other meta information. It is also the right place to manage a short summary.

Other standardized information, like age, gender, family status etc. should be defined as attributes/variables and not be written into a memo since they can be used as selection criteria only if they have the status of variables. To create a memo in the DOCUMENT SYSTEM click, with the right mouse button, on the symbol where you want to attach it and select the option MEMO from the context menu. The memo dialog box appears.
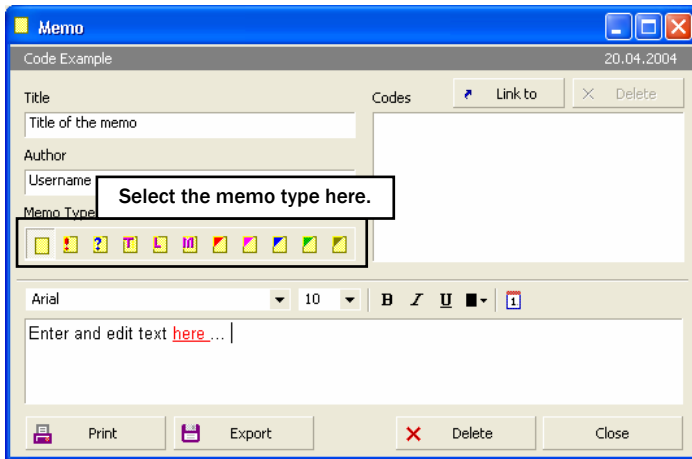
Fig. 31: The memo dialog box

All memos in **MAX**QDA have the same entry form. You may give the memo a title and indicate the author, if desired (if none is chosen, **MAX-**QDA automatically enters the user name of the current user). The date is set automatically by **MAX**QDA. Type your text into the text window in the lower part of the dialog box. Then you can select among ten different symbols, for instance a "T" symbol can stand for theoretical memos, an "M" for methodological ones, and a "?" for a question that is still open and requires more data collection. Of course, you can define the meaning of the memo symbols according to your needs.

Like the text documents, the memos are in Rich Text Format, which means you can use different fonts and font formatting, sizes, and colors. The Windows clipboard may be used to insert and copy text (by selecting text and

using the EDIT menu, or by pressing Ctrl+C to copy text into the clipboard and pressing Ctrl+V to insert the clipboard text into the memo). You can also use the drag-and-drop function to copy text to or from the text memo.

When you have finished your memo, click on the button "Close window". If you look at the DOCUMENT SYSTEM again, you can see that a memo symbol is now displayed just beside the object where you have created the memo. If you move the mouse over the symbol a quickinfo showing the memo title, author, creation date, and the first lines of the memo appears. To open the memo again, simply double-click on the symbol. For all objects displayed in the DOCUMENT SYSTEM only one memo can be written. The reason for that restriction is to keep the DOCUMENT SYSTEM clearly structured. If you need more memos you can make use of the memo option in the TEXT BROWSER window.

Text Memos

In the TEXT BROWSER you can attach as many memos as you like. To create a text memo do the following:

1. Move the mouse pointer onto the memo column immediately to the left of the text and double-click where you want to post your memo.
2. The memo dialog box appears.
3. Give the memo a title and indicate the author, if desired (if none is chosen, MAXQDA automatically enters the user name of the current user). The date is set automatically by MAXQDA. Type your text into the text window in the lower part of the dialog box. Select a memo symbol; if you should not do so a simple yellow post-it symbol will be used.
4. Click on the CLOSE button when your text entry is complete. MAX-QDA will then return to the TEXT BROWSER. At the place where you double-clicked to attach a memo a little yellow icon will now appear.

Whenever you click on one of these memo icons the memo entry form will again open and you will be able to modify the memo or insert new text.

Fig. 32: The memo icon

Code Memos

In the CODE SYSTEM you can attach a code memo to all codes and subcodes. These code memos are useful for keeping code definitions and examples for applying the code.

Code memos will be attached in the same way as memos in the DOCUMENT SYSTEM: Click with the right mouse button on the code (or subcode) where you want to attach th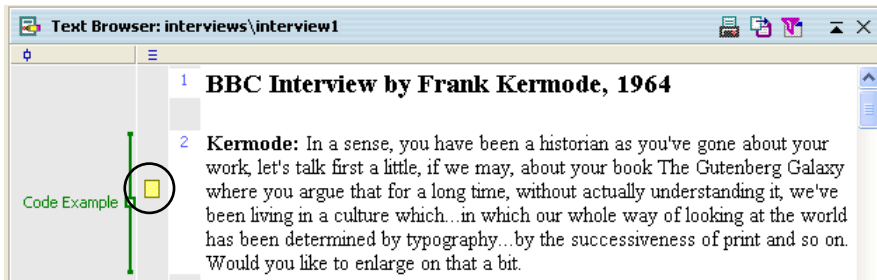e memo. Select "Memo" from the context menu and type in your code definition into the memo entry form. You may also copy examples from the TEXT BROWSER into the memo. Click the CLOSE button to finish your work.

Memo system

The **MAX**QDA MEMO SYSTEM, an option in the MEMOS menu, makes it possible to work with all your memos at the same time. It allows you, for instance, to filter memos according to different criteria. The MEMO SYSTEM is also started when you click on the symbol in the main tool bar.

Fig. 33: The memo icon

Each line of(in?) the Overview of memos represents a memo. If the memo is a text memo and you click on the line in the Overview Table, the text opens in the TEXT BROWSER exactly at the position of the particular memo.

You may sort the Overview Table according to different criteria like text, memo symbol, author, creation date, etc. The only thing you have to do is to click on the corresponding header column. The "Preview" column shows the first words or sentence of the memo. To search for a word in that column, click on the column header with the right mouse button, select search and enter the search string. For searching strings not starting at the beginning of the preview, enter a "*" followed by the particular string. The Preview column only shows the very first part of the memo. If you need to search the entire memo text you should start the lexical search procedure that offers, among others, the option to search in memos.

Double clicking on a memo line in the Overview Table opens the memo. Thus, you can add text or modify what you have already written.

The toolbar on top of the Overview Table gives you quick access to export functions: You may export the memos in rich text format or as an easily comprehensible listing in html format.
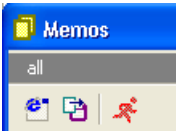
Fig. 34: The toolbar on top of the Overview Table

These two export functions will include the whole memo text. If you only want to export the Overview Table as you see it, you may select all by pressing Ctrl+A, copy it to the Windows clipboard by use of Ctrl+C and insert it into Excel by use of Ctrl+V.

7. Retrieving Coded Segments

The process of finding previously coded segments and collecting them into a list of results is usually referred to as text retrieval. The principal behind **MAX**QDA's text retrieval is simple: **for each activated text, the text segments of the activated codes will be collected in the RETRIEVED SEGMENTS window**. All you need to know to start a retrieval procedure is how texts and codes can be activated for retrieval.

Activating Text Documents

As you already know, all your texts and text groups are displayed in the DOCUMENT SYSTEM. **The names and icons of active texts are displayed in red, deactivated texts are green**. To activate a particular text you may choose between two alternatives:

1. Click on the text name using the right mouse button. Then select ACTIVATE from the shortcut menu or,
2. Holding the Ctrl key pressed, click on the text name(s) using the left mouse button. You may already be familiar with this way of selecting files in Windows Explorer.

Now the text is activated and the text name appears in red. It would be inconvenient to activate each single text separately if you wanted to work with all the texts in one text group. **MAX**QDA also enables the activation of all text documents of a text group and even of all texts listed in the DOCUMENT SYSTEM with one single command.
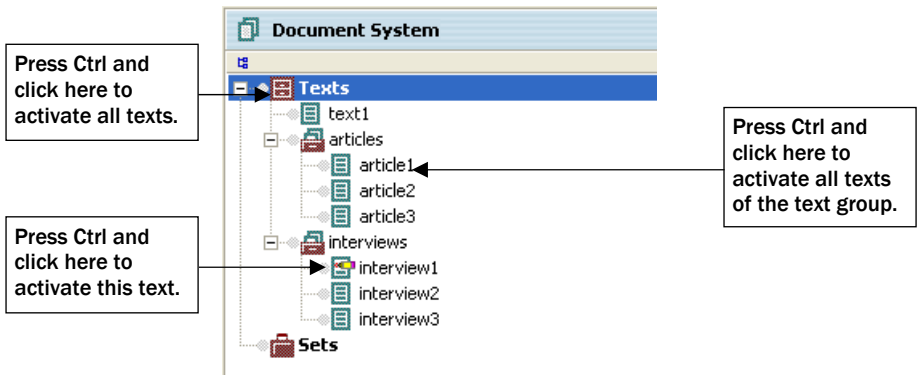

Fig. 35: Activating text documents at different levels of the DOCUMENT SYSTEM

Activating Codes

The activation of codes follows the same principle as the activation of text documents:

❑ To activate one code, click on the code using the right mouse button and select ACTIVATE from the shortcut menu economical

❑ To activate several codes at once, hold down the Ctrl key and se-
lect the codes with the left mouse button.

Similar to the activation of texts in the DOCUMENT SYSTEM, the colors of the
codes show when they are activated: red signifies an activated, green an
deactivated code.

At the bottom of the **MAX**QDA window there is a status bar which lists,
from the left, the total number of texts and codes that are currently active,
and the number of coded segments that have been retrieved.
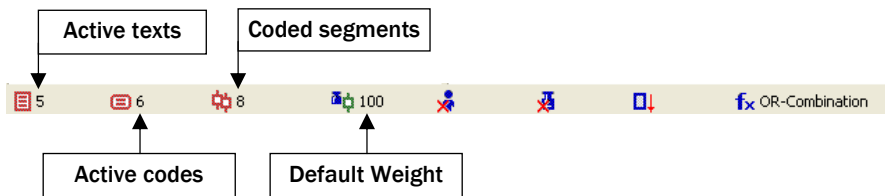
Fig. 36: **MAX**QDA's status bar

The next icon (symbolized by the child figure) tells you if subcodes are in-
cluded or not, the following icon (symbolized by the paper-weight) tells you
if the weight score option is switched on or off, and the sixth icon shows
you how the retrieved segments are sorted, whether according to weight
score, text, or code. The last icon provides information concerning the cho-
sen retrieval strategy (see the next chapter).

The Window Retrieved Segments

All of the coded segments retrieved through the selection or activation of
certain texts and codes are shown in the RETRIEVED SEGMENTS window.

Fig. 37: List of coded text segments in the RETRIEVED SEGMENTS window

To the left of each text segment you can see from which text and paragraph the segment originates, and which code was assigned to it.

When you click anywhere on this box the original text from which this segment was taken, at the position of the segment in the text, will be opened in the TEXT BROWSER window.
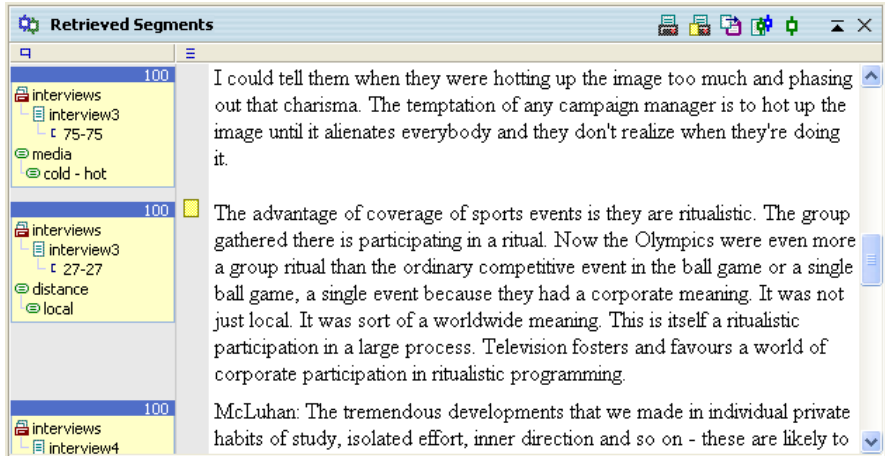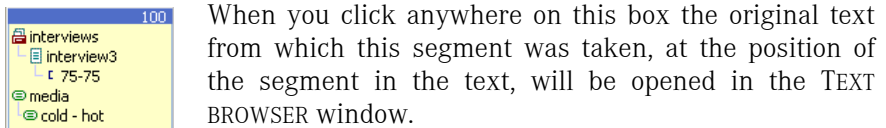
Fig. 38: Text information box

In the example above, the following information is given: the segment was taken from paragraph 75 of the text "interview3" from the text group "interviews". It was assigned the subcode "cold - hot" of the code "media".

You can search for text segments which have been assigned more than one code. For example, you could search in a group of interviews for the places where the respondents spoke about their "Personal Motivation" and their "Qualifications." More about this in the next chapter.

Tip: Activate texts and codes with the shortcut Ctrl + left mouse button.

A toolbar is located on top of the window RETRIEVED SEGMENTS. Here you have direct access to functions often used, like "Print Retrieved Segments" or "Print Retrieved Segments with Memos". You can also switch to the

OVERVIEW OF RETRIEVED SEGMENTS, a new kind of display offered in **MAX**-QDA 2007.
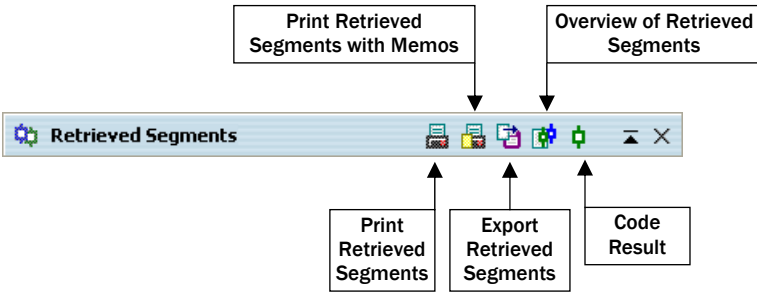
Fig. 39: The toolbar in the RETRIEVED SEGMENTS' Window

Overview of Retrieved Segments

This display combines a list view and a detailed view of the retrieved segments. In the upper half of the window the text of the segment currently selected in the lower part of the window is displayed. The lower part works in the same way as in the other overview tables of **MAX**QDA. Clicking on the column's header will result in sorting the table corresponding to the values of the selected column. You may also switch the different columns on and off. Just right-click on the column's header and select "switch off" to hide the corresponding column. This kind of display makes it easy to browse through retrieval results. Just click on a line in the table and then read the segment listed in the upper part of the window.

Coded Segments

Retrieved Segments   9 Coded Segments

McLuhan: The tremendous developments that we made in individual private habits of study, isolated effort, inner direction and so on 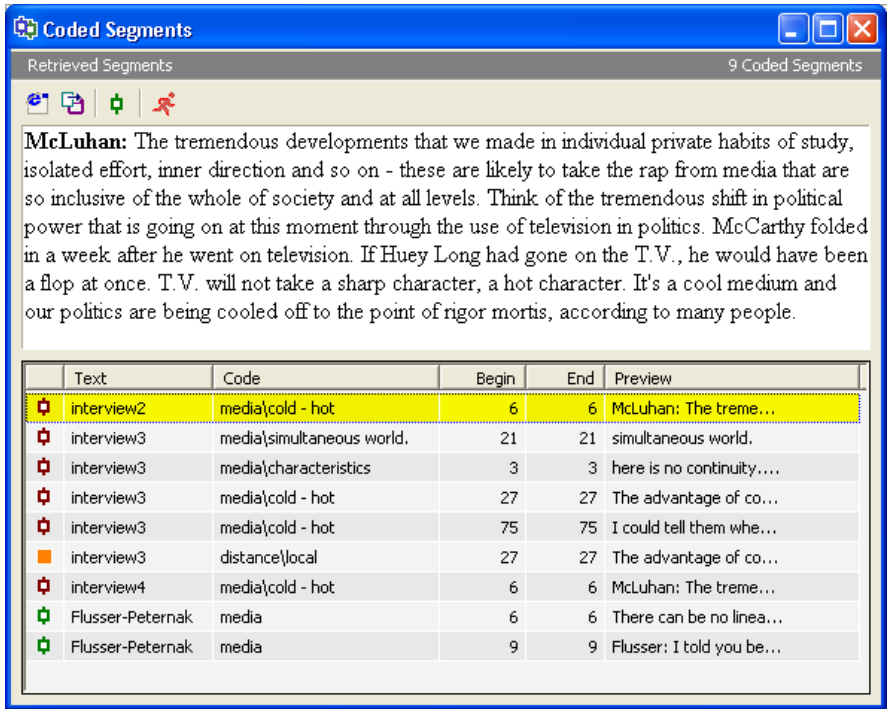- these are likely to take the rap from media that are so inclusive of the whole of society and at all levels. Think of the tremendous shift in political power that is going on at this moment through the use of television in politics. McCarthy folded in a week after he went on television. If Huey Long had gone on the T.V., he would have been a flop at once. T.V. will not take a sharp character, a hot character. It's a cool medium and our politics are being cooled off to the point of rigor mortis, according to many people.

	Text	Code	Begin	End	Preview
	interview2	media\cold - hot	6	6	McLuhan: The treme…
	interview3	media\simultaneous world.	21	21	simultaneous world.
	interview3	media\characteristics	3	3	here is no continuity….
	interview3	media\cold - hot	27	27	The advantage of co…
	interview3	media\cold - hot	75	75	I could tell them whe…
	interview3	distance\local	27	27	The advantage of co…
	interview4	media\cold - hot	6	6	McLuhan: The treme…
	Flusser-Peternak	media	6	6	There can be no linea…
	Flusser-Peternak	media	9	9	Flusser: I told you be…

Fig. 40: The table of retrieved segments

Export Retrieved Segments and Display Html Table

You may export the whole list of retrieved segment to Word, Excel, or an Internet Browser. Also, you may export not only the list view, but also the whole text of all retrieved segments together with the information about the segment's origin. This can be done by selecting the menu option "Codes > Export Retrieved Segments" from the main menu or by clicking on the corresponding symbol in the toolbar of the RETRIEVED SEGMENTS window. In this case a file in rich text format will be saved. You may open the file later on in your word processing program.

If you only want to export the list of segments and not the texts itself, the fastest way is to click on the button "Export" located in the toolbar of the Overview table.

Very useful is the display of the retrieved segments as an html table. This export function is also available as a button in the table's toolbar. The html

table will be shown directly in your internet browser. You may also save the html file and open it in Excel.
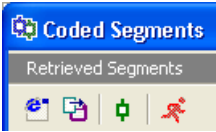

Fig. 41: Toolbar of the Overview table RETRIEVED SEGMENTS

> Tip: Use the button "Reset Activation" in the main toolbar of MAXQDA to deactivate all texts and all codes at the same time. If your CODE SYSTEM owns many codes, it is a good idea to click this button before starting to activate texts because you don't need to scroll down the CODE SYSTEM to see if codes are still activated that you won't include in your next text retrieval.

8. Text links

It is possible to link texts or positions in texts with the help of text links. Text links are used in the same way as hyperlinks on the internet; they link two texts or positions in texts together. Clicking on one text link causes the corresponding text link to be loaded.

In **MAX**QDA text segments that are either both in the same text or in different texts can be linked. To link texts at least a single character from a text in the TEXT BROWSER window must be selected– normally a word or more is selected.

Text segments are linked as follows:

1. The first text segment is selected with the mouse and the blue TEXT LINK symbol in the codes toolbar is clicked. The selected text now appears blue and underlined. Instead of clicking on the symbol TEXT LINK you may also select the option "Insert text link" from the context menu.
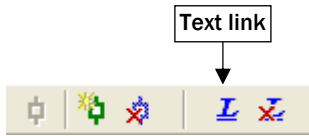
Fig. 42: Button for text links

2. The second text segment is then selected. This segment can be either in the same text or in another text. One can as before select a single character, a word or several words.

3. Clicking on the TEXT LINK symbol for a second time will then create the second link.

If after the first step, the user decides against creating the link or wants to change the text selected, again clicking on the TEXT LINK symbol unselects the previous text.
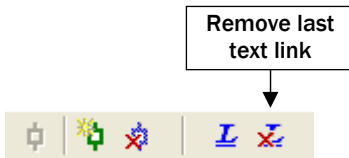

Fig. 43: Button to remove last text link

Text links appear in the TEXT BROWSER in blue and underlined. Holding the mouse cursor over the text causes a screen tip to appear with information about the linked text segment: the name of the text and the actual text selected when the text link was made.
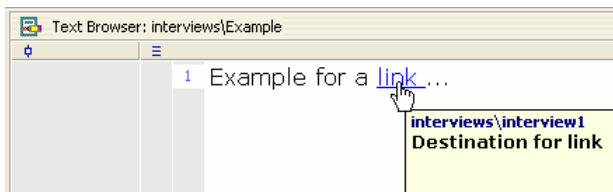

Fig. 44: A blue, underlined text link with the corresponding screen tip

For this reason it is sometimes a good idea to select not only a word but rather a whole sentence or paragraph as the link.

Simply clicking on a text link allows one to jump from the text link in the TEXT BROWSER to the linked text. The text containing the link appears, at the position of the linked text segment.

To delete a text link, click on the link with the right mouse button and choose DELETE LINK from the shortcut menu.

Similar to the OVERVIEW OF MEMOS, the OVERVIEW OF CODED SEGMENTS and the OVERVIEW OF ATTRIBUTES, **MAX**QDA offers an OVERVIEW OF LINKS. In the same way as the OVERVIEW OF CODED SEGMENTS, this table can be produced for the whole project, a particular text group, or a particular text. The table OVERVIEW OF LINKS displays each link with its anchor and target. A click on a line of the overviews causes **MAX**QDA to load the text into the TEXT BROWSER and jump exactly to the location of the corresponding link. The OVERVIEW OF LINKS can be exported or displayed as an html table.

> Tip: If you like to link more than two text passages, just create another link immediately beside your first link that combines text passage #1 and #2, then connect this link with the third text passage.

9. Managing Attributes

MAXQDA allows you to link a set of attributes (variables) to each document. These attributes are managed as a table, a rectangular data matrix, in the same way as variables in statistical programs like SPSS. The attributes table allows you to save, for instance, the socio-demographic data of your interviewees or data concerning the interview. You could also evaluate interviews concerning a particular topic and store the results as attributes.

MAXQDA 2007 differentiates between two "views" of your data: the "variable view" and the "data view". The variable view displays a list of your variables. This is also the place to create new variables. The data view displays the data matrix that is organized like an Excel worksheet.

All attributes have to be created before you can enter attribute values. To do this open the list of attributes by clicking ATTRIBUTES in the upper menu bar.

When you open the attributes dialog box for the first time the table is not empty – as you would probably expect – since **MAX**QDA has already automatically created internal attributes or "system fields." These attributes contain the name of the text group for each text, the name of the text, the creation date, and the number of coded text passages. A total of seven variables have already been defined. Later on you may identify these variables because of their red symbol listed in the first column of the table. A symbol located in the toolbar of the LIST OF ATTRIBUTES allows you to create new attributes. Another symbol offers to switch to the data view. The column named "to be displayed" allows you to select the attributes to be displayed in the data view. If you work with many attributes the data view may be a bit confusing. Thus, the opportunity to select only the attributes currently needed can be very helpful.

	Textgroup	Textname	Number of Coded Segments	theory	copy	year
☰	articles	communication theories	5	1	yes	
☰	articles	McLuhan and senses	24	2	no	
☰	articles	global hopes	12	2	no	
☰	interviews	interview1	12	2	yes	1967
☰	interviews	interview2	7	1	no	1969
☰	interviews	interview3	8	1	yes	1980
☰	interviews	interview4	32	2	no	
☰	interviews	Flusser-Peternak	3	1	no	
☰	documents	literature	6	2	yes	
☰	documents	new references	8	2	yes	

Fig. 45: LIST OF ATTRIBUTES

Creating New Attributes

To create a new attribute, click on the appropriate symbol in the toolbar. Then enter a name for the new attribute in the text box and choose the appropriate attribute type.
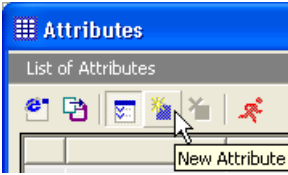
Fig. 46: Symbol for creating a new attribute

Five types of attributes are available in **MAX**QDA:

- ❏ String (text)
- ❏ Date/time
- ❏ Integer
- ❏ Boolean
- ❏ Floating point number

For instance, if you want to define an attribute named "gender" with the values "m" (for male) and "f" (for female), the attribute type "String" would be appropriate. **Be aware that the attribute type can not be changed later on.**

In this way you can create as many attributes as you like. All attributes are held in the attributes table, which has as many rows as texts have been imported into the DOCUMENT SYSTEM, and as many columns as attributes. Thus, the number of cells of the data matrix is: (number of texts) * (number of attributes). The matrix can easily be exported to SPSS or Excel for statistical calculations.

Data Entry

To enter an attribute value for a text you need to switch to the "data view" either by the symbol located in the toolbar of the "variable view" or, in case you have not opened the "list of attributes" before, by clicking the menu option ATTRIBUTES > EDIT. Also, a symbol for quick access is located in the main toolbar.

Fig. 47: Symbol for opening the list of attributes

A table similar to a spreadsheet appears. (How to manage tables in **MAX-**QDA is explained in more detail in chapter 14.) The "data view" always

displays the attributes of all texts listed in the DOCUMENT SYSTEM and the set of attributes selected as "to be displayed" in the "List of attributes".

	Textgroup	Textname	Number of Coded Segments	theory	copy	year
≡	articles	communication theories	5	1	yes	
≡	articles	McLuhan and senses	24	2	no	
≡	articles	global hopes	12	2	no	
≡	interviews	interview1	12	2	yes	1967
≡	interviews	interview2	7	1	no	1969
≡	interviews	interview3	8	1	yes	1980
≡	interviews	interview4	32	2	no	

Fig. 48: Symbol for opening the list of attributes

The first row contains the names of the attributes as the column headers. When right-clicking a header in the table a shortcut menu appears. Here you may search for particular attribute values (e.g. numbers or strings), or you may decide to switch off the attribute. To enter a value for a particular attribute, simply double-click on the appropriate cell. For example, if you had created an attribute "gender" and wanted to enter a value for the third text, you would double-click on the cell in the third row of the column "Gender" and enter "m" for a male or "w" in the case of a female respondent.

Rather than requiring you to enter a list of possible values for an attribute when multiple texts have the same attribute value, **MAX**QDA automatically places all values previously entered for a particular attribute in a drop-down list. You can open the drop-down list by clicking on the right corner of the cell. Thus, whenever you later double-click on a cell in the column "gender," the list will become available and you will be able to select the appropriate value without having to type it in again.

Fig. 49: A drop-down list in the attributes window

This is particularly useful if attribute values consist of longer strings such as names, towns, professions, etc. New values entered are inserted into the drop-down list in alphabetical order.

Attribute values may also be used as selection criteria for lexical searches and text retrievals (see chapter 10). Take the example of a researcher who is doing a study of unemployment in the general population, but who is then interested in the motives of women over the age of 40 for going back to work. Supposing that she had defined the attributes "gender" and "age," she could then filter the text documents according to these criteria.

The values of the attributes of each text document can be inspected by right-clicking on the text name in the DOCUMENT SYSTEM window and choosing OVERVIEW OF ATTRIBUTES from the shortcut menu.

Data Export and Import

MAXQDA offers different ways to export and import data. The little toolbar located on top of the table ATTRIBUTES allows you to export your data either as an html or txt file. The html file is displayed immediately, and can be saved and then opened in Excel, Word, or statistics programs. The txt file is written in "tab-delimited format", a common exchange format that can easily be imported into SPSS or Excel in order to continue with statistical analysis.

The same Export function is also available from the main menu when you click on the option ATTRIBUTES > EXPORT DATA MATRIX. To import this data into SPSS, you only need to choose FILE > TEXT DATA. An SPSS "import-assistant" will then guide through the six steps of data import. You only

have to modify two preselected options, one is to indicate that the first row contains the variable names and the second change is that only a tab stop separates the variables.

In SPSS versions 10 to 13 all variable names are limited to eight characters. Variable names exceeding this limit are cut. Special characters like "/", "?" or blanks are not allowed and cause SPSS to give a new sequential name to the variable.

The import of a data matrix into **MAX**QDA is done in a similar way. First you need to save your data in SPSS or Excel as a txt file. The first and second variable have to be named "textgroup" and "textname". These variables are needed to link the text in **MAX**QDA to the data of the variable matrix. Otherwise it would not be possible to identify the text where the data belongs. To import the data matrix select "Attributes > Import" from the main menu.

10. Using Attribute Values to Select Documents

In Chapter 6 you learned how to activate text documents manually. **MAX**QDA also provides automatic activation of text documents. In this case the texts are activated through the selection of the value of one or several attributes. The attributes of a text determine if the text will be selected for retrieval or not. Given, for example, that three attributes "gender," "age" and "education" have been created, you would then be able to select from your data bank only men over the age of 55 with a college degree and activate the documents linked to these persons for a lexical search or text retrieval.

In **MAX**QDA, selection criteria like these can only be formulated in a formalized way using the procedure ACTIVATION BY ATTRIBUTES. The syntax for the procedure is quite similar to that of programs like SPSS.

Since ACTIVATION BY ATTRIBUTES is a function that includes all text documents of a project, the function has to be called at the highest level ("root") in the DOCUMENT SYSTEM. Here you will find the option ACTIVATION BY ATTRIBUTES in the shortcut menu.
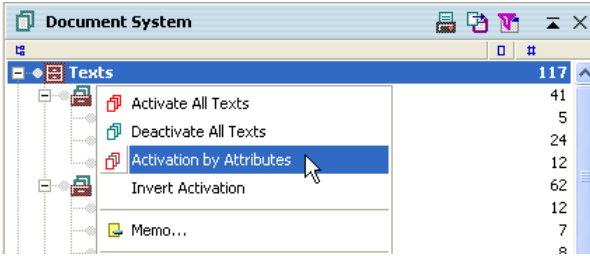
Fig. 50: Starting ACTIVATION BY ATTRIBUTES from the shortcut menu

Another way to call the function is to click on the ACTIVATION BY ATTRIB-UTES button in **MAX**QDA's tool bar.
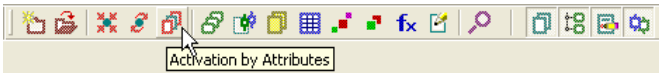

Fig. 51: Starting the ACTIVATION BY ATTRIBUTES with the tool bar button

If there are texts which are currently activated, you should first deactivate them by clicking the RESET ACTIVATIONS button in the tool bar next to the ACTIVATION BY ATTRIBUTES button.
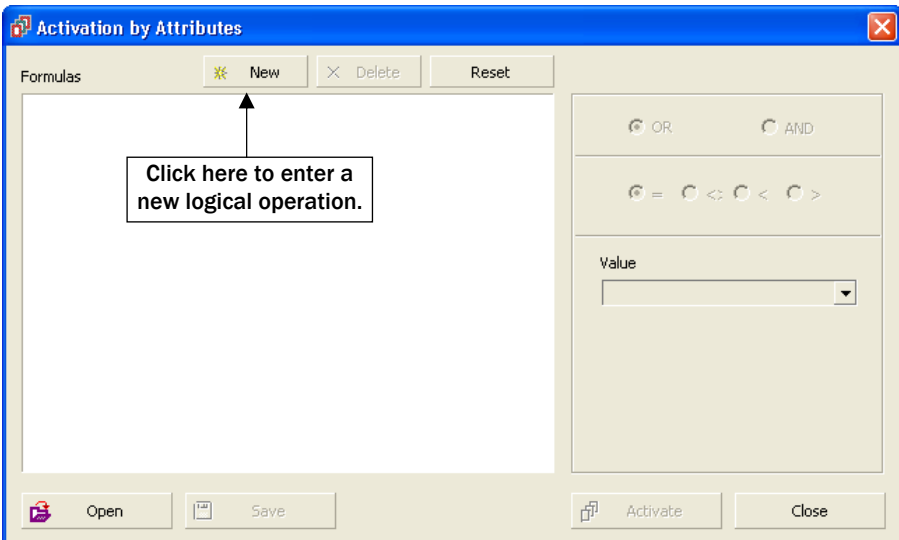

Fig. 52: The ACTIVATION BY ATTRIBUTES dialog box

All logical operations must be formulated as follows:

Attribute Operator Value

If you had entered the strings "m" (male) and "f" (female) as possible values for the attribute "Gender", then you would choose all females with the formula:

Gender = f

Actually, it is unnecessary to type in the value "f" or "m". In the dialog field "Value" there is a pick list containing all the possible values of that particular attribute. Clicking on the little triangle in the right corner of the dialog field opens this list.

Example: In the evaluation of the opinion poll of the Shell Youth Study 2001, the individual reports had already been coded. The attribute "Criticism" was used to input whether or not each individual report had expressed criticism of the study: "Y" if it had, and "N" if not.

In order to now examine only the people who had expressed criticism, one would enter the following formula in the formula box:

Criticism = Y

To do this:

1. Click the NEW button.
2. Select "Criticism" from the list of attributes.

You will then see the following appear in the formula box

[Criticism] =

You can then enter a value in the text box on the right in the ACTIVATION BY ATTRIBUTES dialog box. For this example, enter "Y."

Please note: MAXQDA **is case sensitive.**

Since the logical operator " = " is most often used, **MAX**QDA enters it automatically. You can however also choose another logical operator from the list, which will then replace the equal sign.

The logical operators mean the following:

=   the formula is true when the attribute has the value entered.

<>   the formula is true when the attribute does not have the value entered.

<   the formula is true when the attribute has a value smaller than the value entered.

>   the formula is true when the attribute has a value greater than the value entered.

In our example we wanted to select only those people who had expressed criticism, i.e. those for whom this attribute has the value "Y." Thus the equal sign remains the operator.

When numerical attributes are used, **MAX**QDA automatically enters "0" as the default for the value.

Results of the Activation by Attributes

Once a formula has been entered correctly, click the "Activate" button. You will be able to see which texts meet the conditions of the formula, and are therefore activated, in the DOCUMENT SYSTEM window. The activated names of the texts will be colored red, as usual, and a little arrow will be placed in front of the text.

In the status bar at the bottom of your screen you can see how many texts meet the conditions of the formula.

A text retrieval is carried out at the same time, **if codes are active**. That is, those text segments coded with an active code and contained in the texts that meet the conditions of the formula are displayed in the RETRIEVED SEGMENTS window.

Complex Logical Functions

You can also construct a formula combining several simple formulas with the logical operators AND and OR. The basic unit of such a formula remains the formula in its simple form:

Attribute	Operator	Value

Any number of these simple formulas can be combined with the logical operators AND and OR.

In our previous example we selected all people in the study who had expressed criticism with the formula "Criticism = Y." If we then want to select only the women who had expressed criticism, we would have to add a second criterion. We would formulate this with the attribute "Gender" and

the value "f." This gives us the second formula "Gender = f", which we can then combine with the previous formula by means of the logical operator AND. This is accomplished in exactly the same way as with the first simple formula:

❑ Click the NEW button

❑ Select "Gender" from the list of attributes

The following appears in the formula box:

> [Gender] =

❑ Type "f" in the value dialog box or choose "f" from the drop-down list

MAXQDA automatically selects the logical operator OR. To include AND in your formula instead click on the AND button. The logical operator in the ACTIVATION BY ATTRIBUTES window will then change.

In this manner you can combine as many logical conditions in your search as you wish. Once the formula is complete click on ACTIVATE, as usual.

The logical operator AND and OR have the following effect on the activation process. A combination of the simple formulas with OR causes the entire formula to be evaluated as true for any code or segment for which at least one of the simple formulas is true. Thus, in the above example, if you chose the logical operator OR, giving the formula "Criticism = Y OR Gender = f", the formula would not only be true for the people who had expressed criticism, but also for all women. Thus, the desired results of our search would not be obtained by using OR. We would need to use the operator AND to search for the women who had expressed criticism. The correctly entered formula would appear in the ACTIVATION BY ATTRIBUTES window as follows:
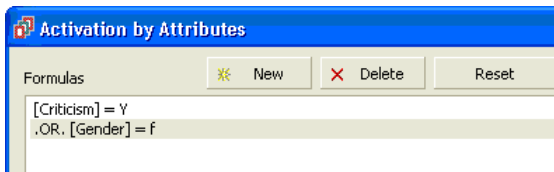

Fig. 53: A complex formula

Removing Simple Formulas

Any of the simple formulas you included in your complex formula can be deleted:

❑   Click on the line you want to delete.

❑   Click on the DELETE button.

11. Complex Methods of Text Retrieval

This chapter is about the more complex retrieval options offered by **MAX-QDA**, achieved through the logical combination of several codes. These options are accessible from the ANALYSIS menu in the main menu bar as well as from the shortcut menu accessible by pressing the right mouse button in the grey area on the left side of the RETRIEVED SEGMENTS window. You can also simply click on the TEXT RETRIEVAL button.
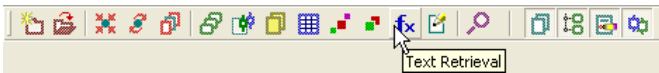
Fig. 54: TEXT RETRIEVAL **button**

The Text Retrieval dialog box offers a choice between nine different logical combinations or "functions". In addition it is possible to retrieve codes by simply activating certain codes, which has the effect of an OR function.
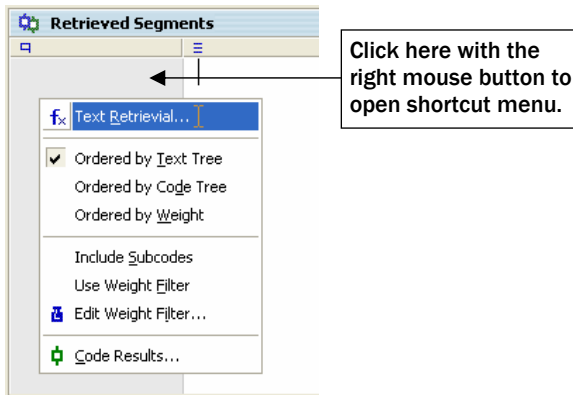
Fig. 55: Shortcut menu for text retrieval functions

The text retrieval dialog box is set up as follows:

❑   the desired function is chosen from the drop-down menu at the top of the window

❑   the area on the right shows how the selected function works

❑   the sections A, B and C allow a selection of additional codes and parameters, which are necessary for the particular function used
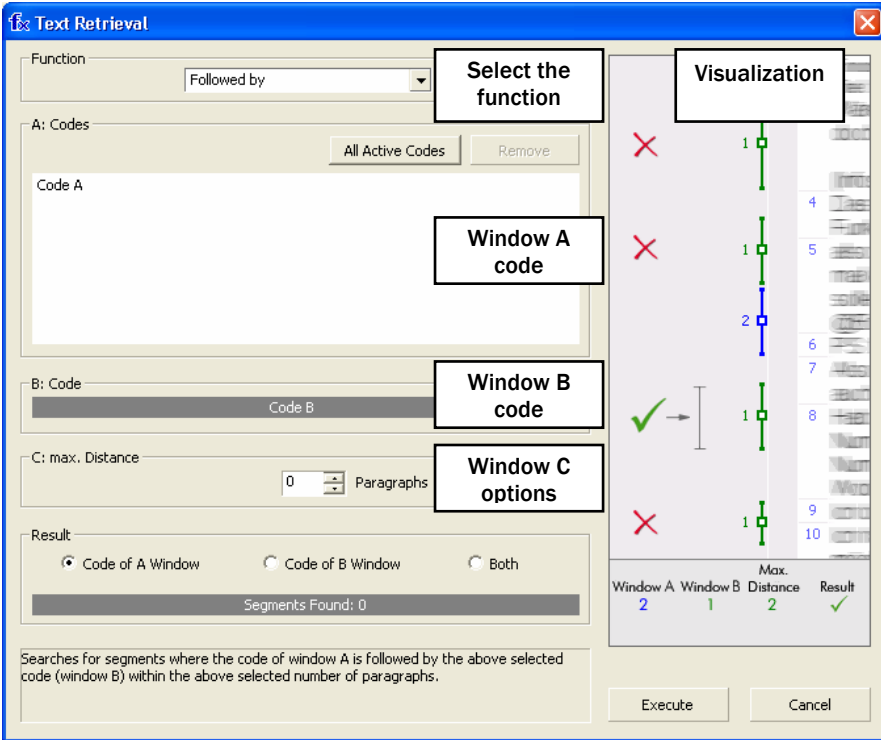
Fig. 56: The dialog box for complex text retrievals

The codes used for the retrieval are shown in section A. It is necessary to first activate the required codes. Then pressing the ALL ACTIVE CODES button will place these codes in section A. The functions

❑ intersection and

❑ overlapping

do not require any other parameters. Clicking on EXECUTE starts the text retrieval.

Sections B and C will be active for more complex functions. Section B contains the "Quick List," a list of codes which are to be combined with those in Section A. In Fig. 38, for example, a test is being carried out to see if there are text segments coded with the code in section A followed by segments coded with the code listed in window B. In window C the maximum distance in terms of paragraphs can be determined.

You can choose a code from the Quick List by clicking on the "..." button in Section B. If the desired code is not in the Quick List you can transfer it to the Quick List by simply clicking on the code or subcode in the CODE SYS- TEM window.

The current function is shown at the bottom of the **MAX**QDA window in the status bar.

Fig. 57: Information about the chosen function shown in the status bar

A summary of the 10 logical functions enabling complex retrievals is given in the following table:

Function	Description
OR-Combination	Lists segments coded with any of the active codes.
Intersection ("small picture")	Finds text coded with **all** of the codes in section A (small picture). The only text retrieved is that which is coded with all of these codes.
Intersection (set)	Only lists those text passages where a **minimum of x codes** of the codes listed in section A are present. The only text retrieved is that which is coded with these x codes.
Overlapping ("big picture")	Finds text coded with **all** of the codes in section A. Here, the whole overlapping area (big picture), the text coded with any of the codes, is retrieved.
Only one code	Only text segments containing **exactly one** of the codes in section A is retrieved.
Only this code	Similar to "Only one code," but only for the code selected in section B. Only lists text segments where the code in section B but none of the codes in section A is present.
If inside	Text segments, that are coded with the code in section A and which are completely contained within a segment coded with the code in section B, are retrieved. Alternatively, larger section B segments are retrieved. Multiple codes can be selected in section A.
If outside	If text segments coded with codes listed in section A are completely outside of segments coded with the code of section B, the segments are retrieved.

Followed by	If text segments coded with the code(s) in section A are followed by text segments coded with the code in window B within a distance of x paragraphs, the segment will be retrieved.
Near	If the code in section A and the code in section B are within a distance of x paragraphs, then the segment will be retrieved.

Please note: if you don't see any text segments in the RETRIEVED SEGMENTS window, it could be because an undesired logical function is active. Furthermore, complex text retrievals will only retrieve text segments from texts that have been activated. A more detailed description of the functions can be found in the reference manual.

12. Visual Tools

MAXQDA offers a variety of innovative visual tools. The most prominent of them is **MAX**Maps, which is described in detail in a separate manual. Moreover, tools for case-oriented and cross-case visualizations are offered.

Case-oriented visualizations display elements and characteristics of an interesting case as a table, diagram, or concept map. Two new case-oriented visualizations are now integrated into **MAX**QDA 2007: TEXTPORTRAIT and CODELINE.

Three different kinds of cross-case visualization are part of **MAX**QDA: the CODE MATRIX BROWSER, the CODE RELATIONS BROWSER, and the TEXT COMPARISON CHART (TCC).

All five visual tools can be started via the main menu option "Visual tools". Both of the case-oriented tools are also integrated, as an option, into the context menu in the DOCUMENT SYSTEM that pops up when clicking on a text name.

Additionally, a new toolbar for Visual tools can be displayed (switch the bar on in the menu option "Windows").

Fig. 58: Visual Toolbar with icons for all visual tools

The Codeline

CODELINE is a visual function that displays as a sequential view of its coded segments. The picture is quite similar as a score of a piece of music. The X-axis displays the paragraphs of the text, starting with §1 and ending with the last § of the particular text. The Y-axis displays the codes. The cells of the CODELINE matrix are filled with a colored symbol, if the code has been assigned to the paragraph.

The CODELINE picture offers a fast and comprehensible view of the codes assigned to a text. The diagram is interactive; each paragraph is just one click away. As soon as you click on a symbol in a cell of the matrix the text passage shows up in MAXQDA's TEXT BROWSER. On the right side of the toolbar you will find a sliding switch, allowing you to scroll the diagram to the right but without moving the code names of the Y-axis. The code names are fixed, thus you are also able to see what has been coded for the paragraphs located at the end of the text.
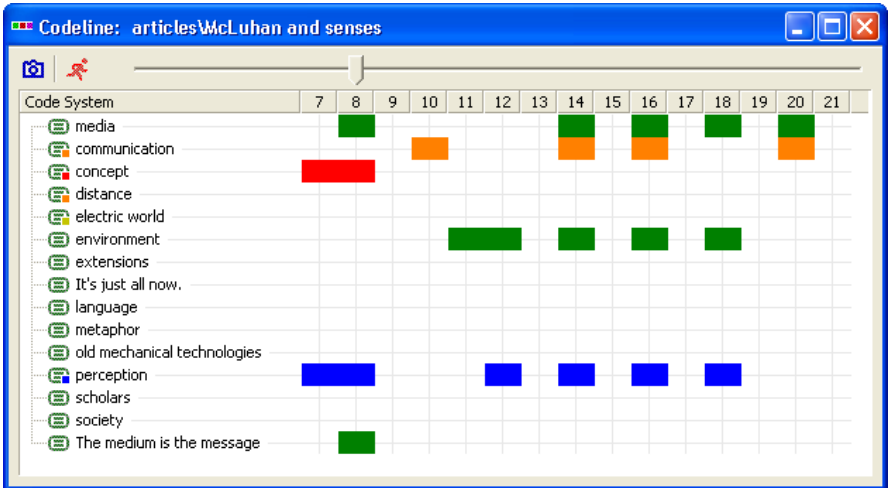

Fig. 59: Example of a CODELINE diagram (excerpt)

When analyzing focus groups the Codelline can be very helpful. The best way is to define the different speakers as codes and assign these codes to the paragraphs where the person talks. Now the CODELINE makes it easy to identify the sequence of speakers. One can immediately recognize the relation between subjects and speakers, and also where someone is silent.

Try to use the CODELINE: Click on a text of your choice by use of the right mouse button and create a CODELINE diagram – you will find this option in the context menu of every text.

The TextPortrait

TEXTPORTRAIT is an innovative tool that displays the codes associated with a single text. The basic principle of TEXTPORTRAIT is a bit more complicated than the one from CODELINE. The content of a single document will be visualized starting with the first paragraph of the document and ending with the last. The color attributes of the codes associated with the text will be displayed in a matrix with 1.200 little squares (arranged in 30 rows, each one with 40 squares).

Fig. 60: Example of a TEXTPORTRAIT diagram

The representation starts with the first square on the left in the first line, and ends with the last square on the right of the last line. The picture is set up in the same way as a television screen, where an electronic stripe goes along the screen from left to right. All the 1.200 squares are divided up according to the share of the coded segments. If a text would have only one segment coded with a blue code, then the TEXTPORTRAIT would be totally in blue. If this segment would have been coded with two codes, red and blue, then TEXTPORTRAIT would consist of 600 blue and 600 red squares. If two segments would have been coded (again with red and blue codes) and the first segment would be twice as extensive as the second, then the picture would start with 800 hundred red squares followed by 400 blue squares.

Thus, TEXTPORTRAIT displays the structure of texts in terms of codes as a colorful picture. This helps to immediately identify the ground shade of a text, for instance if emotions have been coded with meaningful colors (aggressive= red, tolerant= green, and so on).

Try out the TEXTPORTRAIT: Select a text of your choice in the DOCUMENT SYSTEM, click on the text with the right mouse button and choose the option TEXTPORTRAIT. Of course, meaningful results can only be obtained if a sensible assignment of colors to codes has been carried out.

Code Matrix Browser

The CODE MATRIX BROWSER (CMB) offers the user a completely new way of visualizing which codes have been assigned to which texts. The matrix gives the user an overview of how many text segments from each text have been assigned a specific code, and this for each existing code.

The CODE MATRIX BROWSER can be opened in the following ways:

- ❑ by choosing the option Code Matrix Browser from the Visual Tools menu
- ❑ by pressing Ctrl+B
- ❑ by clicking on the CMB button (beside the text retrieval button)

Fig. 61: Button for the CODE MATRIX BROWSER

Before the user opens the CODE MATRIX BROWSER, he or she must first decide whether to display all or only the activated texts in the matrix. Usually it makes sense to choose only the activated texts, since the matrix has the purpose of comparing the frequency of particular, usually thematically related, codes. Otherwise, if the DOCUMENT SYSTEM contains many texts, a huge matrix is produced in which it may be difficult to find exactly the results you are looking for.
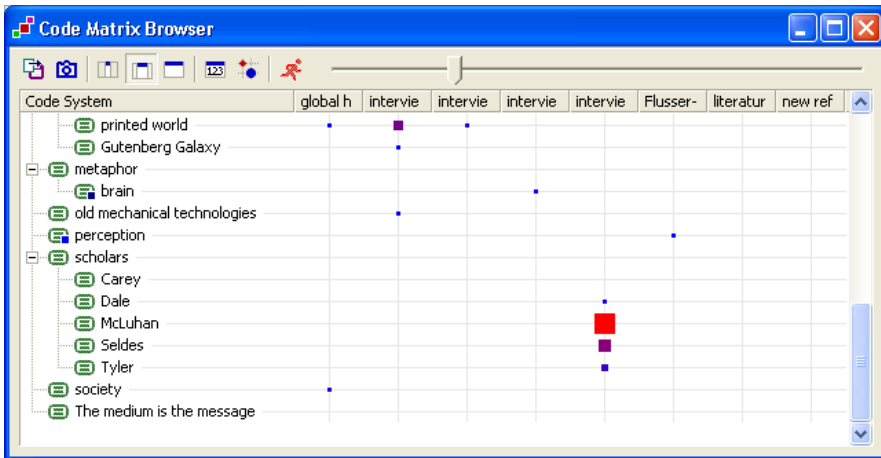

Fig. 62: The CODE MATRIX BROWSER

The size and color of the nodes in the matrix show how many text segments have been assigned each particular code and subcode. The larger the node, the greater the number of text segments that were assigned this code or category in this text.

If the user moves the mouse cursor over a node, a screen tip appears:

Fig. 63: A screen tip in the CODE MATRIX BROWSER

The name of the text, the code or subcode, and the number of text segments assigned the code are shown in the box.

The text names in the column headers can be displayed in three ways:

1. without the actual names

2.   shortened; only the first eight characters are displayed

3.   as complete names

The number of texts which can be displayed as columns in the matrix depends on the setting. In most cases it is sufficient to use short text names, in which case only the beginning of the text name is shown, which is nevertheless enough for you to recognize the text. If in doubt, you can take a look at the screen tip where the full text name is displayed. If necessary, the width of the columns can be adjusted by shifting the lines between column headers.

The codes are displayed in the CMB in the same way as in the CODE SYS-TEM: in a tree structure similar to that of files in Windows Explorer. Sub-codes can be collapsed in the usual way, by clicking the "-" symbol.

The text segments which have been assigned a particular code can be called up immediately by double-clicking the node. The relevant text is then activated and the text segments appear in the RETRIEVED SEGMENTS window. It is possible to keep the CMB open, allowing one to easily view the contents of different nodes.

In order to save the current view of the CMB, for a publication or a presentation, you may save the CMB window as a graphic file. This can be done by clicking on the symbol "snapshot" in the CMB toolbar. You can then paste the graphic file into a Powerpoint or Word document and thus incorporate the CMB display into a paper or presentation.

The Code Relations Browser

A tool similar to the CMB is the CODE RELATIONS BROWSER (CRB). The CRB is a visualization of the relations between codes. A table shows how many text segments any two codes are attached to. The representation is similar to the Code Matrix Browser, but in this case the little squares stand for the number of co-occurrences of codes.

A new option of **MAX**QDA 2007 is the option to display not only co-occurrences of codes but also proximities. The user may define the maximal distance of codes and **MAX**QDA will find locations in the selected documents where this happens.

This function is described, in detail, in the extended version of the manual available in **MAX**QDA's help menu.

Text Comparison Chart

This visual tool performs cross-case comparisons – it is something like a mixture of CODELINE and TEXTPORTRAIT; that means it works with the colors that have been associated with codes. The selection of texts is done – like usual – by activation.

The rows of the TEXT COMPARISON CHART correspond to cases (texts) and the columns to paragraphs. The diagram starts with paragraph #1 and ends with the last paragraph number existing in one of the selected texts. The first line of the TCC is a representation of the first text in the list. Whenever a code has been assigned to a paragraph, the color of the particular code is displayed in the cell corresponding to this paragraph. If several codes have been assigned to the same paragraph, the space of the cell is divided according to the size of the coded segments. Thus, a cell may be empty (no coding occurred), monochrome (only one code has been applied) or filled with stripes in different colors.
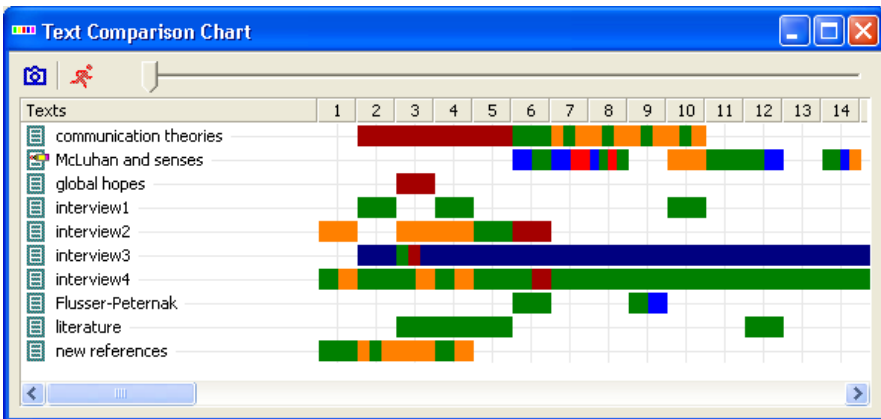
Fig. 64: TEXT COMPARISON CHART

Similar to the TEXTPORTRAIT, this kind of display requires that colors have been associated to codes in a meaningful way. If you have not made use of colors the TCC only shows which paragraphs have been coded and which ones have not.

The symbols in the cells of the matrix are interactive. Clicking on a symbol in a particular cell focuses the text in the DOCUMENT SYSTEM; double-

clicking opens the Text in **MAX**QDA's TEXT BROWSER and positions to the corresponding paragraph.

The slide switch located in the toolbar of the TCC enables scrolling of the diagram.

13. Buildings Text Sets and Code Sets

For certain analytical tasks it is useful to be able to bring texts from different text groups together. This is possible in **MAX**QDA; such a collection of primary texts is called a text set. A text set does not contain the texts themselves, but rather tags or references to the texts.

A text set is formed in the following manner:

1. Activate the texts you want to include in the text set.
2. Click with the right mouse button on SETS in the DOCUMENT SYSTEM window.
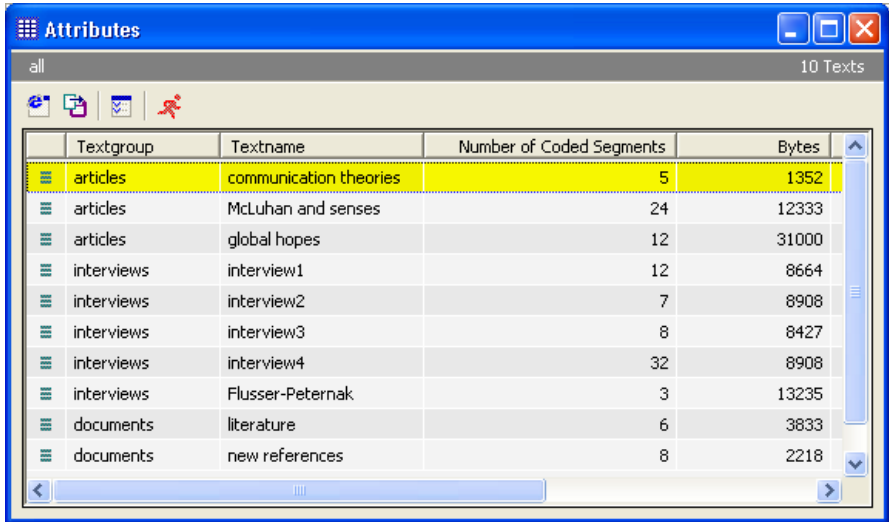3. Select NEW SET.
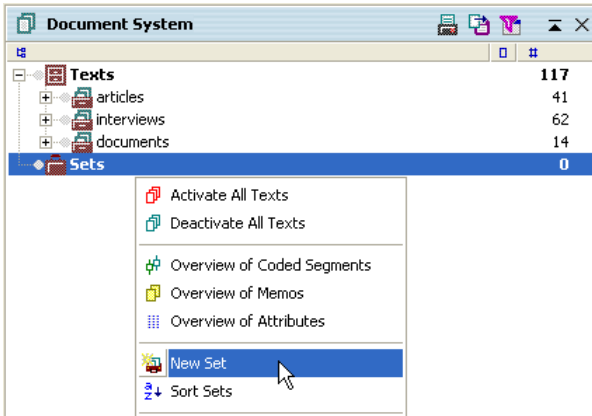
Fig. 65: Forming a new text set

MAXQDA then forms a new set with the name "Set 1". You can click on the name with the right mouse button and choose a name which is more appropriate. Text sets are handled like text groups; they allow you to acti-

vate all the texts in a text set at the same time and use all the options for working with text groups (Codes, Memos and Attributes).

Individual texts can be deleted from a text set or placed in another text set. The easiest way is to use the drag-and drop function.

When you want to analyze a certain selection of primary texts, using a text set is very practical method, avoiding a more complicated selection procedure. Forming a text set is also an easy way to save the results of a complex activation process.

Similar to text sets a collection of codes can be formed. This is called a code set and can be helpful when working frequently with the same subset of codes. Code sets are also formed by activation:

1. Activate the codes you want to include in the code set.
2. Click with the right mouse button on SETS in the CODE SYSTEM window.
3. Select NEW SET.

14. Managing Tables

Many procedures in **MAX**QDA work with tables like those of a spreadsheet program such as Microsoft Excel.

Fig. 66 shows the table of attributes that appears if you select the option EDIT from the ATTRIBUTES menu. Like most of **MAX**QDA's tables, the Attribute table owns a little toolbar on top of the window.

The attribute names are displayed in the column headers. Some attributes appear in black, some in blue. The black ones are the "internal attributes" of **MAX**QDA, so-called "system fields." These are:

❑ Textgroup - contains the name of the text group.

❑ Textname - contains the text name.

❑ Author – the user who imported the text

❑ Creation Date - the creation/import date of the text.

❑ Number of Coded Segments - the number of coded segments in the text.

❑ Number of memos - the number of memos belonging to the text.

Fig. 66: Working with attributes in a table

For later use in statistical programs like SPSS the attributes "Textname" and "Textgroup" are written as one word. The width of each column in the table can be modified simply by dragging the little line between two columns headers. When you double-click on the line separating two headers (the mouse pointer will change into a special symbol for this function), **MAX**QDA will give the column its optimum width, as determined by the longest string found in that particular column.

Usually the tables have a little toolbar containing icons that offer fast access to functions like "export as rich text file" or "display as html table". The symbol is available in all of the tables; it closes the window.

The sequence of the columns in the window can be chosen by the user. Simply click on the column header of the column you want to move, hold down the left mouse button and drag the column to the new location.

When you click on any header with the right instead of the left mouse button a shortcut menu appears. There you find an option to switch off the

column. The "Select Fields" option in the shortcut menu opens a list of all of the fields allowing you to view them or switch them off individually.

Tables are easily sorted according to the attribute values of a particular attribute by clicking on the attribute's column header. The table will be sorted in ascending order. Clicking again changes the sort sequence to descending order. A little triangle indicates the sort attribute and the selected sequence order.

Fig. 67: Sorting a table according to the number of coded segments

Tables in **MAX**QDA have editable and non-editable columns. The internal attributes, the "system fields," cannot be edited. Thus if you wanted to rename a text document, assign it to another text group or remove it from the list, you would not be able to do that in the Attributes table. Such modifications can only be done in the DOCUMENT SYSTEM window.

Columns with headers written in blue can be edited. Simply double-click on the cell of the table where you want to type in a new value.

The entire table or part of it can be copied to the Windows clipboard and inserted into other programs such as Word, Excel or Powerpoint. To copy into the clipboard press Ctrl+C, to insert (or "paste") from the clipboard into an Word or other document press Ctrl+V.

Table rows are selected as in Excel. To select a single row simply click on it, and to select multiple rows press the Ctrl key and click on the rows with the left mouse button. To select an area of the table click on the first row, then press the Shift key and click on the last row you want to copy.

Selected rows are highlighted in yellow. When you insert them into Excel (by use of Ctrl+V or EDIT > PASTE) the table shows up with the original column headers. In Word the imported table will look different– the different cells of the table are spaced with tab stops and at the end of each row a "Return" keystroke is inserted.

In **MAX**QDA, a search function for tables allows you to search for values or strings in selected columns of a table. Click with the right mouse button on the column header where you want to search, choose SEARCH from the pull-down menu and type in the value or string. **MAX**QDA will automatically go to the first row where the search string was found. If you search for strings that are located inside of a word or multiple words, you have to enter a leading star followed by your string, e.g. "*lary" to find "Hillary".

15. Text Search

The TEXT SEARCH functions allow you to carry out lexical searches in your text documents. Lexical searches can be done without prior coding of the material. Thus text searches are a way of exploring your texts without spending a great deal of time segmenting and coding text.

You can search

- ❑ in your text documents

- ❑ in your memos

- ❑ in the text passages currently displayed in the RETRIEVED SEGMENTS window

By limiting the scope of the text search to the currently active texts, you can search in a single document or particular text group. You may also restrict the search to texts in function of their attribute values.

To start the text search procedure click on the menu option ANALYSIS and then LEXICAL SEARCH or click on the SEARCH button in the **MAX**QDA tool bar.
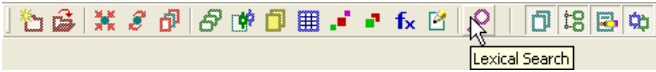

Lexical Search

Fig. 68: The Lexical SEARCH button

The Search Menu

The lexical search dialog box appears (Fig. 69).

When the dialog box first comes up the left pane is empty. Click NEW to enter the word or string (called the "search string") that you want to find. You can specify that you want **MAX**QDA to match the case, or that you want to find only whole words. To do the second you would click the FIND ONLY WHOLE WORDS check box.
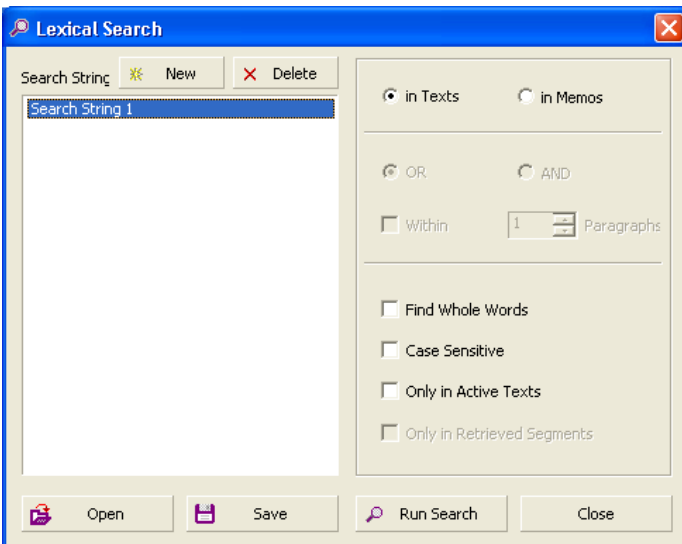

Fig. 69: The search dialog box

Click the DELETE button to remove search strings from the list. You can also modify your search strings at any time by clicking on them.

In the right pane of the dialog box, a couple of options for the search procedure are available:

in Texts or in Memos	Search in your text documents and/or in your memos.
Find Whole Words	Search only for words which are exactly the same as the search string. For example, if you search for "teach," the string "teacher" will not be included in the search results. If you turn this function off, "teach" would also give you the strings "teacher" or "teaching" as results.
Case Sensitive	Search only for strings in which the same letters are capitalized as in the search string.
Only in Active Texts	Search only in activated texts. If no texts are activated there will of course be no results.
Only in RETRIEVED Segments	Search for the string only in the text in the RETRIEVED SEGMENTS window.
Or/And Combination	For searches with more than one search string. With OR checked: search for texts containing only one of the search strings. With AND checked: search for texts containing all of the search terms (the amount of text within which they must be found can be specified).
Within x Paragraphs	For searches for texts containing more than one search string (AND is checked). The search strings must be found within x number of paragraphs.

Click the RUN SEARCH button to start the search.

Searches can be saved. Click on SAVE, enter the name and click on SAVE again. This creates a Search file with the file extension ".sea" which you can open and modify later.

Search Results

The results of a search are displayed in Fig. 70.

Fig. 70: Search results

In the toolbar located on top of the window the following functions are available:

❑ Exporting the results of the lexical search (html format)

❑ Exporting the results of the lexical search (rich text format)

❑ Coding of results with a new code or a code of the CODE SYSTEM

❑ Options for the export and code procedures

The table of search results is handled in the same way as other tables in **MAX**QDA: clicking on any one column header will sort the table according to this criterion. For instance, clicking on "Text" will have the effect of sorting the table in the alphabetical order of the text names.

The entire table or parts of it can be copied to the Windows clipboard (by pressing Ctrl+C).

Beneath the window's title bar you can see how many texts contain the search string, and how many times the search string appears in the texts. Clicking on a result opens the corresponding text at the position of the highlighted search string.

Exporting Search Results

The table of search results also offers the possibility of exporting the results by clicking on the EXPORT button on the bottom left of the dialog box. The file format is as usual RTF. The document will be formatted as follows: each search result consists of the name of the text group and text, the number of the paragraph in which the search string was found, and the search string itself. The length of the retrieved text must be specified beforehand, by clicking on "Options". In most cases you will want to select the option PARAGRAPH and not ONLY SEARCH STRING. Otherwise only the search string is written to the export file.
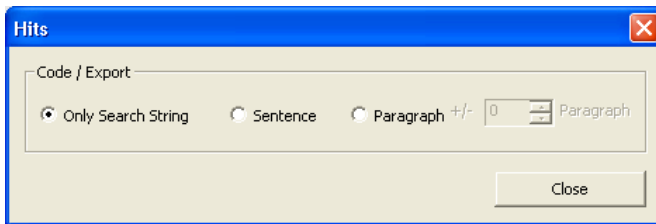

Fig. 71: Options for exporting the search result

You can select how many paragraphs will be retrieved:

Only search string: Only the search string will be written to the export file.

Sentence: Only the sentence surrounding the "hit" will be written.

Paragraph = 0. Only the paragraph which contains the search string will be listed. If the string occurs in the paragraph more than one time, the paragraph will still be listed only once, although the string will be highlighted wherever it occurs.

Paragraph +/- x. The paragraph which contains the string will be listed, as well as x numbers of paragraphs before and after this paragraph.

Automatic Coding

MAXQDA provides to code the research results automatically. You may define a new code or use a code that is already part of your CODE SYSTEM. To code the results displayed in the table, you only need to click on the button "Code". A dialog window opens.
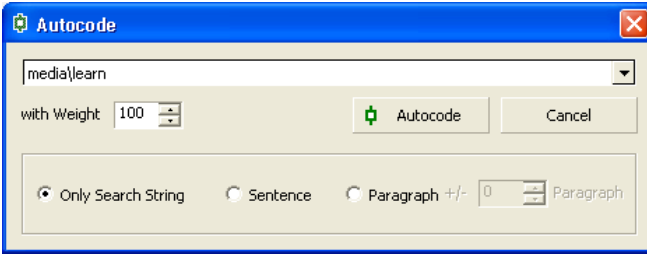
Fig. 72: Autocode options

Here you may

❑ Select a code from the quick list (if your favorite code is not displayed here, just click the code in your CODE SYSTEM)

❑ Choose the size of the segment to be coded (only the search string, sentence, the whole paragraph, or even more)

❑ Assign a weight factor to the coded segments

As soon as you click on the AUTOCODE button **MAX**QDA will start the coding procedure. If more than one hit is located in the same segment, this segment will of course only be coded once.

16. Organizing Teamwork

Like Word or Excel and most of the PC software, **MAX**QDA is a software designed to work on a single computer; that means it is not possible that several users work at the same time with the same text. This is possible in read-only mode, but not when modifying or adding data. Thus, it is necessary to think about the organization of teamwork.

MAXQDA makes teamwork easy. A project can be separated into parts allowing team members to work individually on different computers on the same project. Depending on the project and how the members of the research team work together, there are three basic ways to manage this:

Type A teamwork. Team members work individually with the same "master version" of the project, the same .mx3 file. The work that each can accomplish is limited to the analysis of the data that can be done without

changing this master version, this .mx3 file. Changes to the master version itself are carried out consecutively and not simultaneously.

Type B teamwork. Team members work with identical texts, but they can code the texts and add memos at the same time, thus creating different .mx3 files. These changes are later incorporated into a central project file using **MAX**QDA's export and import functions.

Type C teamwork. Team members work with parts of projects that may be entirely different, or may have some common texts or codes. These parts are later combined with **MAX**QDA's merge function to form the completed project. Existing texts, codes, memos and attributes in one part are kept, and new ones from another part are added.

We will now go into some more detail and give you some examples of these forms of teamwork.

Type A Teamwork

To understand how **MAX**QDA makes teamwork possible, it is necessary to take a look at how projects are saved. In **MAX**QDA 2007 projects are saved as files with the extension .mx3.

An .mx2 file contains all:

- ❑ texts
- ❑ codes
- ❑ memos
- ❑ attributes
- ❑ coded segments
- ❑ text links
- ❑ maps (created with **MAX**Maps)

The file does not contain:

- ❑ saved search runs
- ❑ saved logical formulas of the ACTIVATION BY ATTRIBUTES procedure
- ❑ exported files, for instance attribute tables or memo tables
- ❑ files linked with "external links"
- ❑ external pictures and graphics used by **MAX**Maps

Since in this form of teamwork the main .mx3 file is only changed by one person at a time, the work that team members do simultaneously is limited to the changes not saved in the .mx3 file. Thus team members perform online searches, text retrievals and other kinds of analysis with the master version. But they cannot carry out coding and memo procedures simulta-

neously on the main .mx3 file. Team members are able to read from the data but not to write to it. This is simply because only one master version of the data set exists. More than one team member cannot code a single text at the same time. They can analyze the data but they cannot create new codes or subcodes, new memos or attributes. If more coding needs to be carried out in a project, this work is performed on the master version. Other analysis by other team members will have to wait until they receive the new master version of the project.

For example, supposing that all research group members are working with the same text base, the process of data analysis could proceed as follows:

1. Person A, B and C start with the same text base.
2. Person A codes a text on PC 1.
3. Person A writes a **MAX**QDA project file.
4. Person B and C import this project file to PC 2 and PC 3.
5. Person B codes a text on PC 2.
6. Person B writes a **MAX**QDA project file.
7. Person A and C import this project file to PC 1 and PC 3.

Whenever such a project file is opened on another PC, the whole study will be imported; the DOCUMENT SYSTEM and the CODE SYSTEM will be constructed in exactly the same way as they were at the moment when the Project file was written.

In the above example all three persons would be able to perform text retrievals and lexical searches on the project after importing the project at phase 4, but at phase 5 only person B could code a text, and person A and person C would have to wait until phase 7 to continue their work.

This way of interchanging data in a research team is especially recommended at the beginning of the research process. All texts can first be imported into **MAX**QDA on the same PC. Then the project file is given to the other members of the team. Organizing teamwork in this way guarantees that all team members have in fact the same text groups and the same texts in exactly the same format.

All **MAX**QDA files can easily be exchanged by team members by using external media, by sending the files over the internet or by distributing them in an internal network. When sent over the internet as an email attachment or made available on a server for download, it is necessary to

compress the .mx2 file with a file compression tool like WinZip. Otherwise it is possible that the file will change when being downloaded or sent and can no longer be opened by **MAX**QDA. Project files in **MAX**QDA are upwards but not downwards compatible, that is, project files saved in the older version (.m2k) can be read by this version of **MAX**QDA, but a project file saved as an .mx2 file cannot be read by the older version.

Type B Teamwork

In this form of teamwork, team members are able to code texts and add memos at the same time. It is possible for the members of a team to divide up their work. For example, team member A will code text no. 1 through 5, team member B text no. 6 through 10, and team member C text no. 11 through 15. In this way, different .mx3 project files are created. These files are then combined using **MAX**QDA's export and import functions. This type of teamwork is more complicated than Type A, since different versions of the data exist at the same time. This means that a couple of rules have to be defined and followed strictly by all members of the research team.

Team members export and import the codes and memos assigned to a text or text group. In order for this to work, the particular text (group) must be exactly the same in the exporting and importing .mx3 file. More precisely: the number of paragraphs and the text itself have to be the same, but not the font type, font size and color. Thus it does not matter if a text is formatted in Courier 12 instead of Times Roman 10. Nor does it matter what other texts the project file contains, or the order in which exporting and importing is done, or even that the CODE SYSTEM be identical. (Of course the same codes should be used by all members of a research team. It would be rather confusing if different people would work with different category systems.)

For example, imagine that you have analyzed a text called Interview2, assigning codes and memos to it. If you have done this on PC 1, how does your colleague, working on PC 2, get the result? In this case it does not make sense to exchange the entire project. The codes and memos have to be exported at the level of a single text. In **MAX**QDA this is quite easy to do:

Click with the right mouse button on the particular text or text group (in the following example "BBC3-Interview seldes/McLuhan") in the DOCUMENT SYSTEM window, and select EXPORT TEAMWORK.
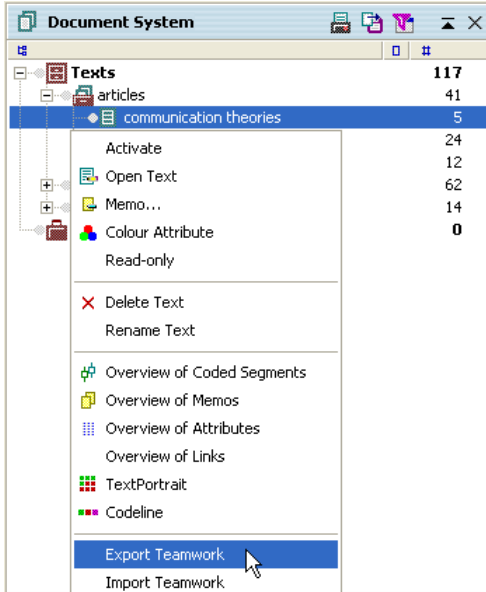

Fig. 73: Selecting EXPORT TEAMWORK

MAXQDA will then copy all coded segments and memos assigned to this text to an exchange file with the same name as the text in the DOCUMENT SYSTEM.

MAXQDA automatically adds the file extension "mex" (= Max EXchange).

The EXPORT TEAMWORK procedure always exports all codes and memos assigned to a selected text. It does not matter if the codes are active or not. Thus it is not possible to export only selected codes or subcodes. Exchange files (.mex files) can be sent by e-mail to other team members. It is recommended that you compress a .mex file before sending it as an attachment. **MAX**QDA lets you use the EXPORT TEAMWORK function for text groups and text sets. To do this, right click on the text group or set and then click on EXPORT TEAMWORK.
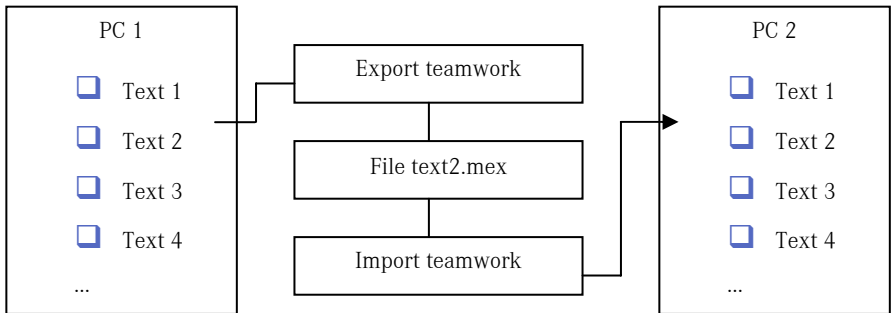
Fig. 74: Exporting and importing codes and memos

Import Teamwork

The exported file can be imported in a **MAX**QDA project on another PC given that the same text with the same text structure is present in the DOCUMENT SYSTEM. This works in the same way as EXPORT TEAMWORK. On this PC, right click on the text name in the DOCUMENT SYSTEM. Then choose IMPORT TEAMWORK and choose the appropriate file in the dialog box.

Remember: It is absolutely essential that the text into which the codes and memos are imported contains exactly the same text with exactly the same structure as the text from which the codes were exported.

The following occurs when codes are imported by **MAX**QDA:

- ❑ All codes existing before the import procedure remain the same.

- ❑ Text segments which were assigned to a code with the same name as an already existing code in the importing file are added to this code.

- ❑ Codes that are not found in the CODE SYSTEM will be created. The same happens with subcodes.

- ❑ Already existing coded segments will be ignored to avoid the double-coding of a text passage.

It is strongly recommended to request an import protocol to be written. If you select this option MAXQDA will write a protocol file and open it immediately when the import procedure has been completed. Moreover, to make sure that the import procedure was carried out correctly, it is recommended that you open the file and check the codes.

Type C Teamwork

The third form of teamwork possible in **MAX**QDA is accomplished by merging two projects. Here team members can work relatively independently. All texts, codes, memos, attributes and attribute values that are not present in the project are added from the other project; those already existing are ignored so that they are not duplicated. The procedure is called MERGE PROJECTS and causes a selected project to be added to an opened project:

1. Open the larger of the two projects you want to merge.
2. Click on the menu option PROJECT and choose MERGE PROJECTS from the menu.
3. Select the project file that you want to add in the dialog box.

Project A and Project B must have different project names. **MAX**QDA then starts the merging procedure, which for larger projects may take up to ten minutes.

The merge function is then carried out in the following manner:

❑ All text groups and text documents of Project B are inserted in the DOCUMENT SYSTEM of Project A.

❑ All memos of Project B are inserted in the LIST OF MEMOS of Project A.

❑ All the codes of the two Projects are merged. If a code or subcode does not exist in the LIST OF CODES of Project A, this code is created and inserted in its place in the list.

❑ All attributes and attribute values are merged.

17. MAXDICTIO – Add-on Module

MAXQDA users have repeatedly asked for a tool which would allow them to make an index of the words used in a text, and so have access to an additional explorative aid for the evaluation of the text. As a dictionary and content analysis module, **MAX**Dictio makes it easy to explore the vocabulary used in a text as well as to find out which words can be found in which text passages or texts. **MAX**Dictio also enables users to analyse the

differences in the vocabulary of the various texts of one project, e.g. the vocabulary used by your interviewees.

After the installation you will see in the familiar **MAX**QDA interface that the program has been supplemented by the option **MAX**Dictio next to the "?" in the menu bar.

Clicking on **MAX**Dictio opens a drop-down menu and you can select one of the options.
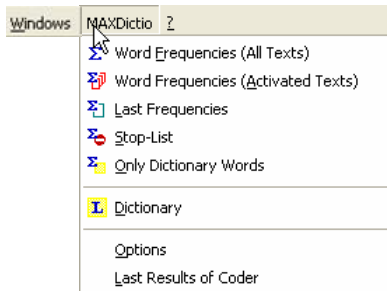

Fig. 75: Starting MAX Dictio

Besides the vocabulary functions, the **MAX**Dictio module offers a number of techniques which have their origin in the field of classical quantitative content analysis. **MAX**Dictio does not intend to try to compete with software for quantitative content analysis, but rather aims at utilising these techniques for qualitative data analysis and providing these as an additional set of methods in a manageable form.

MAXDictio provides the following functions:

❑ Word frequency analyses in the whole text or in marked passages

❑ Word frequency analyses in text groups or in text sets which have been assembled based on textual criteria

❑ Free definition of text units (whereby these may overlap)

❑ Editing of texts and their assignment to text units, which is possible throughout the process

❑ Exportability of the results of the frequency analysis to Office programs (such as Excel or Word) and to SPSS, also by using the Windows clipboard

- Index of selected words of one or more texts

- Possibility of jumping from an index entry to the text passage in which it is found

- Limitation of the analysis with Go-lists (which contain a list of the words that are to be analyzed) and Stop-lists (which contain a list of those words that are to be excluded from the analysis)

- Selective analysis by predetermined criteria, such as the value of socio-demographic variables, and filtering by numeric data

- Formation of word-based dictionaries

- Transfer of words from the word frequency table into the dictionary (simply by clicking on them)

- Export and import of dictionaries from Office programs (e.g. from Excel)

- Coding on the basis of word-based dictionaries

- Results of the coder as editable and sortable Excel-like table

- Further processing of the results in SPSS and Excel

- Creation of a validation file for the verification of codes

- Total integration in the functionality of **MAX**QDA which provides convenient functions such as keyword-in-context or the automatic coding of text passages

The simplest function in **MAX**Dictio determines the vocabulary of all texts of a current project.

This function can be accessed by

- either selecting the option WORD FREQUENCIES (ALL TEXTS) in the **MAX**Dictio menu

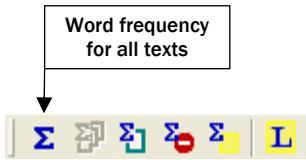- or just clicking on the corresponding quick button in the tool bar.

Fig. 76: Button for starting the word frequency function

Depending on the size of the project, it may take some time for **MAX**Dictio to work through the material text by text, as each word must be isolated, transferred into a list and counted.

What is a word in **MAX**Dictio? A word is, as explained above, any sequence of letters between two delimiters. Delimiters can be spaces, tabs or punctuation marks. For example, "work." as the last word of a sentence would be delimited by a space on its left and by a period on its right.

Before starting the analysis, you should decide which characters are to act as delimiters. This option is set in the menu **MAX**Dictio > OPTIONS.
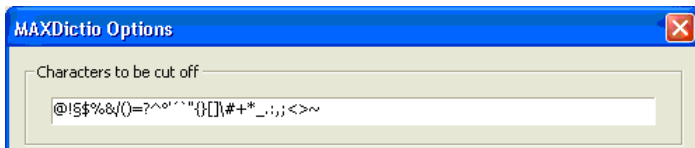
Fig. 77: Selecting delimiters

In the field "Delimiting Characters" in the dialogue box all delimiting characters should be typed in. Usually these are the punctuation marks:

! " ' ( ) , . : ; ?

The table of results for the word frequency function looks as follows:
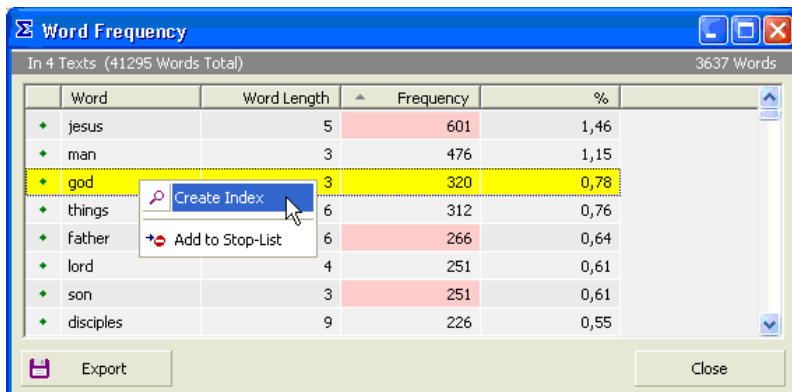
Fig. 78: Results of word frequency count

The above table contains the following information:

1. The number of analyzed texts (top left, here = 4)
2. The total number of counted and separated words (i.e. "tokens", here = 41,295)
3. The number of different words in the texts (i.e. "types", here = 3,637)
4. The first column enables you to quickly exclude a word, to add it to the "stop-list". Double-clicking on it changes its status. Words are initially on the "go-list". The depicted symbol is then green. When double-clicked, it changes into a red stop sign.
5. In the next column are the words, such as they appear in the text. Whether the capitalization of words is displayed or not depends on the selected option (in the Options-menu).
6. The third column contains the word length counted in characters.
7. The fourth column contains the absolute frequency of each word in the searched texts.
8. The fifth column contains the ratio of the each word's frequency to "tokens", i.e. the total number of counted words in all texts, expressed as a percentage. In our example the word "jesus" was counted 601 times, which is 1.46 percent of the total of 41,295 words.

You have the following possibilities for handling the table:

❑ An alphabetical list in ascending order is generated by clicking on the column title "Word".

❑ By clicking on the column header "Word" with the right mouse button, a shortcut menu can be opened which contains, among others, the option Search. This option opens a dialog box in which you can type the desired word.

❑ A list of all positions of a word in the text can be created by clicking on the word with the right mouse button and selecting the option Create index in the shortcut menu.

❑ By double-clicking on a word it can be added to the active stop-list.

For each word in the list of word frequencies, an index of the positions in the text where the words are found can be created. Click on the desired word with the right mouse button; then select the function CREATE INDEX from the shortcut menu (see illustration below).

Fig. 79: Shortcut menu in the word frequency table

In the illustration above, the word "god" was selected, which appeared exactly 320 times in the 4 texts.

The index which was created above appears as follows:

Fig. 80: List of all occurrences of a word in the texts

In the bar at the top of the window, the number of texts in which the word has been found is listed, as well as how many times the word appears altogether, the "hits".

The "Text" column in the table indicates the name of the text group and of the text in which the word has been found. In the column to the right the search item (here: "god") is listed and in the third column the number of the relevant paragraph in the text is shown.

This table can be sorted according to the data in each of the columns, just like in other tables in **MAX**QDA, either in ascending or in descending order. Clicking once on the column title will sort the table by that column. By clicking on the column title with the right mouse button you can open the shortcut menu, which, among other options, offers a search within this column.

It is possible to limit the vocabulary analysis to activated texts. To analyse the vocabulary of one particular text, only this one text must be activated. If more texts or a text group are to be analysed, these texts must be activated. With the help of the LOGICAL ACTIVATION function in **MAX**QDA, vocabulary analysis for certain groups of interviews can be carried out. This function is called up by

❑ either selecting the option WORD FREQUENCIES (ACTIVATED TEXTS) from the menu

❑ or by clicking on the appropriate button in the toolbar.
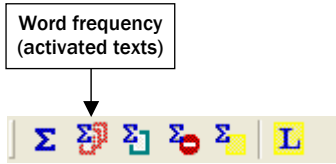
Word frequency (activated texts)

Fig. 81: Button for word frequency in activated texts

Similar to when using the function WORD FREQUENCIES (ALL TEXTS), a certain amount of time may pass before all texts have been worked through. The time needed is proportional to the amount of selected material which must be processed. Again, all words are isolated, transferred into a list and counted. The results are displayed in a table as seen above, in this case only for the activated texts.

MAXDictio enables you to set up Stop-lists. A "stop-list" is a collection of "uninteresting" words, such as definite and indefinite articles, conjunctions and numerals. Such words are usually sources of irritation when analysing a text. For that reason, it is advisable to exclude them from the analysis. MAXDictio allows you to create as many stop-lists as you like, as well as to edit and manage them. Words which are in a stop-list will automatically be excluded from the search results table.

To create a stop-list, you can either call up the option STOP-LIST in the MAXDictio menu or click on the button in the MAXDictio tool bar.
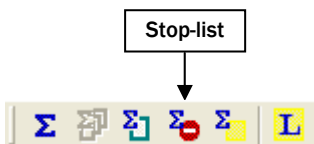
Stop-list

Fig. 82: Button for stop-lists

There are two different ways of adding words to a stop-list:

❑ First, you can enter them manually by clicking on the button NEW at the top of the stop-words window and then typing in the word.

❑ Second, you can select words from a word frequency list and add them to a stop-list by double-clicking on them. You can thus avoid having to type these words in. It is also possible to transfer several words into a stop-list at once. To do so, mark all desired words

(Ctrl key & left mouse button). Then click on one of the words with the right mouse button and select the option ADD TO STOP-LIST.

The words in a stop-list are automatically listed in alphabetical order. This order is pre-set and cannot be modified.

Besides its vocabulary functions, the **MAX**Dictio module has a function enabling coding using word-based dictionaries.

There are two ways of accessing the **MAX**Dictio dictionary-function:

❑ through the menu MAXDICTIO and the option DICTIONARY

❑ through the button in the **MAX**Dictio tool bar

A dictionary consists of categories and a list of search items which are allocated to each category.

A dictionary in **MAX**Dictio can contain any number of categories. Exactly one list of search items belongs to each category. The number of search items is not limited.

To add a new category, click on the button NEW in the left window containing the list of all defined categories. Then a new category title can be entered. The title is not restricted to a certain length or form. It can also consist of several words, such as "old-age pension". The title of a category can be modified later without this having an effect on the dictionary itself.
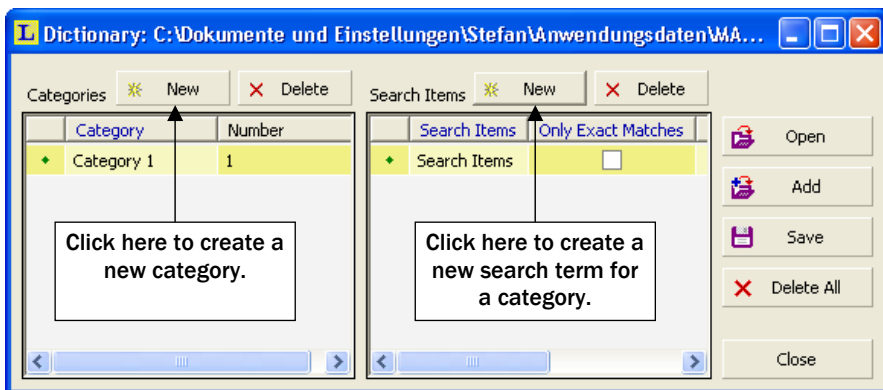

Fig. 83: Setting up a dictionary

Initially, when clicking on NEW, **MAX**Dictio will add a category named "Category #". Here the character # stands for the sequential number of the category in the existing category system. This means that it always begins with "Category 1".

To add words belonging to a category, select the required category by clicking on it with the left mouse button. Then click on NEW in the Search Items window. Now it is possible to enter a new search item.

Each category and each word belonging to a category can be turned on or off individually for the analysis. The procedure is the same as with the categories. The symbol next to each word indicates its state: green=on, red X=off. Initially, each category (or word) is "on", as indicated by a small green icon. Double-clicking on the icon it will change into a red X. This indicates that the category (or word) will not be considered in the analysis.

Dictionaries may be saved and different dictionaries may be combined into one dictionary.

The **MAX**Dictio coder automatically codes the texts on the basis of an active dictionary. It is important to understand that the term "coding" in **MAX**Dictio has a different meaning than the usual qualitative coding of text segments in **MAX**QDA. Normally, coding in **MAX**QDA means that a text segment is assigned a code or subcode in the LIST OF CODES. The coding process in **MAX**Dictio is no such assignment of codes to text sections, but rather the quantitative analysis of one or more texts on the basis of the categories and search items in a dictionary.

Thus the coding process of the coder corresponds to the approach in quantitative content analysis, in which the actual text is redundant and is substituted by counts of words and categories. To clarify this: in **MAX**QDA, qualitative coding would mean, when coding the bible, for instance, to select a text section and then assign the code "Apostle > Peter" to it. Then, by later activating this code, the corresponding passage could be found again. When working with the **MAX**Dictio coder, you would define the category "Apostle" with "Peter" as an attributed search item. Each time the coder finds the search item, the frequency of the word and of the category is increased by one.

The result of such an analysis of the material with **MAX**Dictio is a matrix which contains the frequencies of the categories.

The **MAX**Dictio coder offers a variety of options that are described in the extended manual that is installed together with the program.

18. Appendix: List of Keyboard Shortcuts

The following shortcuts are available in **MAX**QDA.

Ctrl + W	When text has been selected in the TEXT BROWSER, causes a dialog box to appear, in which the user can enter a new code.
Ctrl + I	In-vivo codes the selected word or words in the TEXT BROWSER.
Ctrl + Q	Codes the selected text in the TEXT BROWSER with the code that is visible in the coding tool bar.
Ctrl + L	Creates a new text link in the TEXT BROWSER, meaning that text passages are linked to one another with a hyperlink.
Ctrl + M	Creates a new memo for the selected text in the DOCUMENT SYSTEM (works only if the DOCUMENT SYSTEM is focused).
Ctrl + T	Creates a new text in the DOCUMENT SYSTEM, opening the text in the TEXT BROWSER. The TEXT BROWSER is set to EDIT MODE, and the cursor is positioned at the beginning of the text.
Alt + N	Creates a new code in the CODE SYSTEM.
Ctrl + V	Creates a new attribute in the attribute table, when the Attribute Manager is open.
Ctrl + B	Opens the CODE MATRIX BROWSER.
Ctrl + O	Opens the CODE RELATIONS BROWSER.