ATLAS.ti® The Knowledge Workbench

V5.0 User's Guide and Reference

connect

collect

code

observe

analyze

explore

Visual Qualitative Data Analysis & Knowledge Management
in Education, Business, Administration & Research.

User's Manual for ATLAS.ti 5.0, 2nd Edition -Berlin, June 2004.

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Contents

Introduction 2

What's New in ATLAS.ti 5.0 10

Main Concepts 25

Introduction

ATLAS.ti is a powerful workbench for the qualitative analysis of large bodies of textual, graphical, audio, and video data. It offers a variety of tools for accomplishing the tasks associated with any systematic approach to unstructured data, e.g., data that cannot be meaningfully analyzed by formal, statistical approaches. In the course of such a *qualitative analysis*, ATLAS.ti helps you to explore the complex phenomena hidden in your data. For coping with the inherent complexity of the tasks and the data, ATLAS.ti offers a powerful and intuitive environment that keeps you focused on the analyzed materials. It offers tools to manage, extract, compare, explore, and reassemble meaningful pieces from large amounts of data in creative, flexible, yet systematic ways.

(Not a) Foreword

When I asked Anselm Strauss back in 1996 to contribute a foreword to the manual of the first version of ATLAS.ti, I was extremely happy he agreed. As I have no idea how his attitude and his decision would be today, I decided not to include the original foreword, except for the following quotation which, I promise, will remain true for some time to come: "… the program author makes no claims whatever to having produced a program that will perform miracles for your research – you still have to have the ideas and the gifts to do exceptional research."

So then, after all these years of developing the current release, still no miracles? Even with the help of a team of developers, business experts, designers, technical writers, and patient users? No miracles? True. But on the other hand, something has grown that we can be proud of. A versatile tool, still not perfect, but state-of-the-art, and still close to the needs of the people we have been serving with our development for more than a decade.

Thomas Muhr, Scientific Software Development, Berlin, 2004

An Anselm Strauss Website:
http://www.ucsf.edu/anselmstrauss/index.html

The VISE Principle

The main principles of the ATLAS.ti philosophy are best encapsulated by the acronym VISE, which stands for *Visualization*, *Integration*, *Serendipity*, and *Exploration*.

Visualization

The visualization component of the program means directly supports the way human beings (this includes researchers!) think, plan, and approach solutions in creative, yet systematic ways.

Tools are offered to visualize complex properties and relations between the objects accumulated during the process of eliciting meaning and structure from the analyzed data.

The *object-oriented* design of ATLAS.ti seeks to keep the necessary operations close to the data to which they are applied. The visual approach of the interface keeps you focused on the data, and quite often the functions you need are just a few mouse clicks away.

Integration

Another fundamental design aspect of the software is to integrate all pieces that comprise a project, in order not to lose sight of the whole when going into detail.

Therefore, all relevant entities are stored in a container, the so-called "Hermeneutic Unit (HU)." Like the spider in its web, the HU keeps all data within reach. Loading a project with hundreds of files is merely a matter of opening a single HU.

Version 5 further strengthens the idea of integration as it allows the inclusion of a larger variety of data types into the analysis. Rich Text documents including Excel™, PowerPoint™, and other "embedded objects" can now be analyzed as easy as plain text was in the earlier versions of ATLAS.ti.

Serendipity

Webster:

Main Entry: ***ser·en·dip·i·ty***
Pronunciation: `-'di-p&-tE`
Function: noun

Webster's Dictionary defines the word "serendipity" as "a seeming gift for making fortunate discoveries accidentally". Other translations are: fortunate accidents, lucky discoveries. In the context of information systems, one should add: To find something without having searched for it.

Etymology: from its possession by the heroes of the Persian fairy tale The Three Princes of Serendip ***:*** *the faculty or phenomenon of finding valuable or agreeable things not sought for*

The term "serendipity" can be equated with an intuitive approach to data. A typical operation relying on the serendipity effect is "browsing". This information-seeking method is a genuine human activity: When you spend a day in the local library (or on the World Wide Web), you often start with searching for particular books (or key words). But after a short while, you typically find yourself increasingly engaged in browsing through books that were not exactly what you originally had in mind.

Examples of tools and procedures ATLAS.ti offers for exploiting the concept of serendipity are the Object Managers, the Object Explorer, the interactive margin area, full text search, and the hypertext functionality.

Exploration

Frankly, we added this term because needed an "e" to make for a nicer acronym! -)

Seriously, though: *exploration* is closely related to the above principles. Through an exploratory, yet systematic approach to your data (as opposed to a mere "bureaucratic" handling), it is assumed that especially constructive activities like theory building will be of great benefit. The entire program’s concept, including the process of getting acquainted with its particular idiosyncrasies, is particularly conducive to an exploratory, discovery-oriented approach.

Areas of Application

ATLAS.ti serves as a powerful utility for qualitative analysis, particularly of larger bodies of textual, graphical, audio, and video data. The content or subject matter of these materials is in no way limited to any one particular field of scientific or scholarly investigation.

Its emphasis is on qualitative, rather than quantitative, analysis, i.e., determining the elements that comprise the primary data material and interpreting their meaning. A related term would be “knowledge management,” which emphasizes the transformation of data into useful knowledge.

ATLAS.ti can be of great help in any field where this kind of "soft data" analysis is carried out. While ATLAS.ti was originally designed with the social scientist in mind, it has been put to use in areas that we had not anticipated. These areas include psychology, literature, medicine, software engineering, quality control, criminology, administration, text linguistics, stylistics, knowledge elicitation, history, geography, theology, and law.

Emerging daily are numerous new fields that can take full advantage of the program's facilities for working with graphical, audio, and video data. The following are a few examples:

- Medicine: Analysis of X-ray images, computer-tomograms, microscope samples
- Anthropology: Micro-gestures, mimics
- Architecture: Annotated floor plans
- Graphology: Micro comments to handwriting features.
- Criminology: Analysis of letters, finger prints, photographs, surveillance data
- Geography
- Art / Art History: Detailed interpretative descriptions of paintings or educational explanations of style
- Tourism
- Industrial Quality Assurance: Analyzing video taped user-system interaction

Design Objectives

ATLAS.ti offers support to the researcher - without taking control of the intellectual process.

The fundamental design objective in creating ATLAS.ti was to develop a tool that effectively supports the human interpreter, particularly in handling relatively large amounts of research material, notes, and associated theories. Although ATLAS.ti facilitates many of the activities involved in qualitative data analysis and interpretation (particularly selecting, indexing/coding, and annotating), its purpose is not to automate these processes. Automatic interpretation of text cannot succeed in grasping the complexity, lack of explicitness, and "contextuality" of everyday or scientific knowledge. In fact, ATLAS.ti was designed to be more than a single tool: think of it as a professional workbench that provides a broad selection of effective tools for a variety of problems and tasks.

Support of Teamwork

ATLAS.ti facilitates co-authoring, i.e., it allows two or more researchers or work groups to work on the same project. It provides powerful functions that allow for the transfer and conversion of research data while keeping the respective sources of ideas identifiable at all times.

A Little History

ATLAS the project: Archive for Technology, Life World, and Everyday Language

A first prototype of this program was developed in the context of an interdisciplinary research project entitled ATLAS (1989-1992)) at the Technical University of Berlin, Germany. The project entailed close interactions between computer scientists, psychologists, linguists, and future users. From 1993 on, the software was further developed into a commercially available version. In 1997 ATLAS.ti for Windows 4.1 was released.

Being the versatile product that it is, with a growing network of business partners world-wide, and especially with a base of extremely loyal users all over the globe, ATLAS.ti has since become one of the most prominent tools for qualitative data analysis.

Before the advent of ATLAS.ti 5 in 2004, we provided a number of service packs that already greatly extended the functionality of the software. Among the major changes was the introduction of fine-grained audio and video analysis in 1998. This added functionality, in itself, would have justified a major version upgrade. Instead, all users received this significant extra benefit for free.

Acknowledgements

It is near impossible to draw up a full list of people who have contributed to the current state of the software. However, I would like to thank as many as I can.

My very first thanks goes to Renata Tesch (in memoriam) for her encouraging support to make ATLAS.ti a generally available and professional tool in the early days of this undertaking. She died in 1994 at her home in Desert Hot Springs.

And without having initiated project ATLAS back in 1989, ATLAS.ti would not exist. Thanks to Heiner Legewie of Technical University Berlin!

My special thanks go to our "beta-testers" who intensively worked with the new system's prototype and gave valuable feedback for more than a year.

Thanks to Carsten, who has been developing for Scientific Software since 1997. He has done a tremendous job.

Without the help of the following people, this manual would not be as it is now:

Susanne Friese of QUARC - Qualitative Research & Consulting for rewriting and completing the original manual,

Thomas Ringmayr of eBility for a first pass language and style revision.

Thanks to Ray Maietta and the ResearchTalk Team, and to Alison, Belisa, Derrick, Pat and Ron, for wise comment and thoughtful editorial work on this manual during the last weeks before release.

For the wonderful images in sample project Digital Images, thanks to Sigrid Reiss.

I am also indebted to the members of the ATLAS.ti e-mail discussion list, which started during project ATLAS back in 1992 and has proven to be a valuable resource both for the developers and the users of the program. Several "bugs[1]" were found and reported by members of the list.

The list is still alive and well. In 2002 we celebrated the 10-year anniversary of our mailing list. With close to 1000 members (March 2004) it resembles a small “university,” with all academic levels and a wide variety of professionals, including corporate users, represented.

You are invited to join! Refer to our website at www.atlasti.com for more information.

Last, but not least, a very special thanks to my wife, Christine. Her patience is simply incredible.

About this Manual

This manual describes the functions and concepts of ATLAS.ti. Methodological approaches to qualitative data analysis or text interpretation will not be featured.

It is not required that you read the manual sequentially from the first to the last page. You may skip sections that describe concepts you are already familiar with, you may jump directly to sections that describe functions you are interested in, or you may simply use it as a reference guide to look up information on certain key words.

For users with no prior knowledge of ATLAS.ti, we do, however, recommend that you especially read through the first part of the manual in order to become familiar with the concepts used by ATLAS.ti and to gain an overview of the available functions. These are the chapters: “Main Concepts” on page 25, “Workbench Tools Overview” on page 35 and “Main Workspace: The HU Editor” on page 41.

In order to set up a project, it is recommended that you read the chapters on “Project Management” on page 270 and “Preparing Documents” on page 71. For all basic-level work like creating quotations, coding, and writing memos, consult the chapters under the main heading: “The

[1] "Bug" is another name for a program's unintended misbehaviors.

Textual Level - Basic Functions” on page 107. Advanced functions are described under: “The Conceptual Level: Networks” on page 211.

The sequence of the chapters follows the steps that are necessary to start and work on an ATLAS.ti project. First, the main concepts that ATLAS.ti utilizes are explained; then an overview of all available tools is provided. These introductory and more theoretically-oriented parts are followed by more practically-oriented chapters providing step-by-step instructions. You will learn how to manage your data, how to set up and start a project, and how to prepare and edit documents.

After a project is set up, the basic functions like coding, text search, auto-coding, writing memos, etc. become relevant. Conceptual-level functions like the Network Editor build on the textual-level work (at least in most cases) and are therefore described last.

In section “Reference” on page 337, you will find a short description of all menu items. Chapter “Resources” on page 327 offers some useful advice on how to get support and where to find further information on the software.

Up-To-The-Minute Live Manual

At the time of print or manufacturing a CD, a manual is usually not 100% complete and may contain descriptions that need to be corrected. Furthermore, with service packs and patches come modified or added functionality that needs description.

For this purpose, a hot-link to an up-to-date version of this manual or manual addendums is available from our web site at: http://www.atlasti.com/A5/livemanual.html.

Online Help

After the installation of ATLAS.ti the online help accessible via the F1 key offers a browsable, searchable and somehow modified version of this document. All in all, unless you prefer to read a manual in a sequential manner, the online help may offer optimal support during a work session.

How to Use This Manual

This manual is intended for:

- Those who have no prior knowledge of ATLAS.ti, and for
- Those who have worked with ATLAS.ti 4.2.

There is no need for users with prior knowledge to read through the entire manual. However, it is highly recommended that they read the following chapters and sections:

- “What's New in ATLAS.ti 5.0” on page 10
- “Object Managers” on page 36
- “Project Management” on page 270
- “Preparing Documents” on page 71
- “Editing Primary Documents” on page 78

Throughout the manual, you will find a number of notes that especially address the ATLAS.ti 4.x user. In the above sections you will find information that facilitates the transfer from version 4 to version 5.

Please do not expect any introductory or advanced information on methodological aspects of qualitative research, other than in cursory statements.

Some general familiarity with concepts and procedures (i.e., windows, mouse) relating to the Windows operating system on your computer is assumed.

Manual Conventions

The following conventions are used throughout the manual:

Convention	Indicates
💡	**Tips & Tricks** to make life easier are designated by an enlightening symbol in the left margin.
☝	Text passages marked with this icon, should be given **special attention**.
⇱	Find this icon where **Drag & Drop** options are applicable.
CODES/CODING/AUTO CODING	Menu **items** embedded in the text body. The slashes mark different "submenu" levels. The item after the last slash is the command.
🔨	When you see this icon, a setup option is explained. Individual setups can be defined under **EXTRAS/GENERAL PREFERENCES.**
CTRL+ALT	If you need to press a **combination of keys**, a plus sign is used between the keys that need to be held down at the same time.

What's New in ATLAS.ti 5.0

In this chapter, new and modified features of ATLAS.ti 5 are introduced. In addition, you learn what has not changed. This chapter is especially intended for those who have prior experience with version 4.2 of the software. If you are new to ATLAS.ti altogether, skip this section for now and continue with “Main Concepts” on page 25.

User Interface Improvements

When you start ATLAS.ti 5 for the first time, the interface should look quite familiar. Changes become apparent when you start opening the various menus and windows.

ATLAS.ti has become even more interactive than it already had been. All of the tools in ATLAS.ti 5.0 have improved functionality that includes tools in the main editor and the former extra lists, which are now called "Object Managers."

To minimize screen clutter, a roll-up mode is available in many windows, and there is a zoom option for text and graphics.

Drag & Drop

Drag & Drop is now used in many more situations that benefit from this “direct manipulation” technique. Objects can be copied and moved in the margin area to accomplish tasks like coding, code revision, creating codes, memos, hyperlinks, and merging quotations. For more information see „Margin Drag & Drop“ on page 135.

In-place Renaming

In-place renaming of labels, initiated by a click on a selected item, is available in the HU Editor’s margin area, the object managers, and other browsers like the Object Explorer.

Margin Area

Graphic documents can now also make full use of the margin area to display and edit quotation brackets and attached codes, hyperlinks, and memos.

The margin area is now drag & drop capable and it allows in-place label editing.

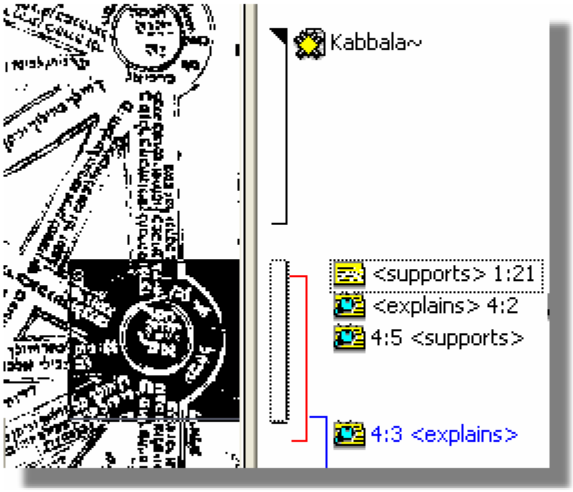


Figure 1 Graphic PD with margin area

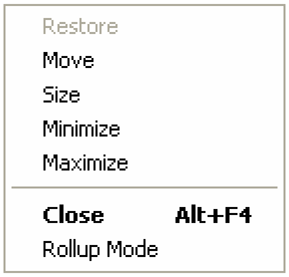
Zooming

Text and graphics documents can be zoomed in or out by holding down the CTRL-key while using the mouse wheel – if available.

In the primary document area the zoom button, the last button on the vertical toolbar, can also be used. Hold down the CTRL-key to zoom out. To return to the original size, hold down the CTRL and the SHIFT key while clicking the button.

Hold down CTRL+SHIFT when clicking to reset the size to 100%.

Rollup Mode



To save screen space, windows can be ‘rolled-up’ to only display the title bar that displays the caption of the window. Move to another window to “roll-up” the window currently open and move the mouse over the collapsed window to display it again.

To activate roll-up, click the button in the upper left corner of a window and choose **ROLLUP MODE** from the window’s system menu.

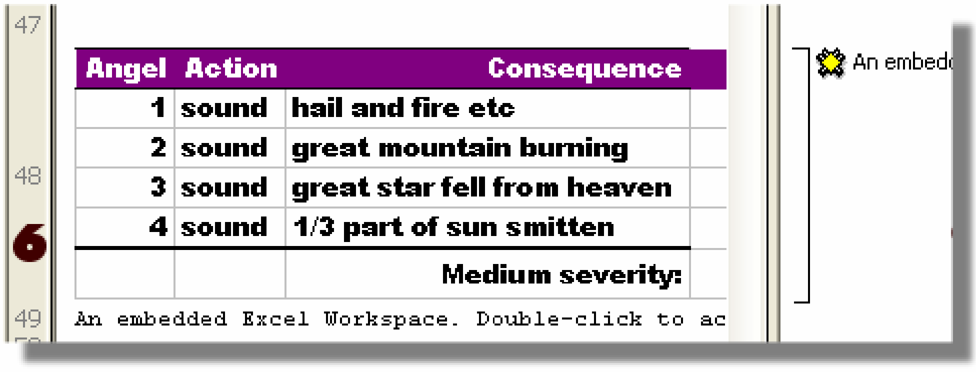
Rollup Mode is not available for every window.

Primary Documents

A central focus of our ATLAS.ti 5 development and one of our proudest accomplishments has been the handling, accessing, and editing of primary documents. Improvements center around the kind of "data sources" accepted as primary documents, techniques for associating primary documents with a project in a flexible and robust manner, and editing the contents of primary documents without affecting existing coding.

Rich Text

Textual documents may now contain arbitrary formatting, live web links, and embedded objects.



Angel	Action	Consequence
1	sound	hail and fire etc
2	sound	great mountain burning
3	sound	great star fell from heaven
4	sound	1/3 part of sun smitten
		Medium severity:

An embedded Excel Workspace. Double-click to ac

Figure 2 An Excel table embedded in a rich text primary document

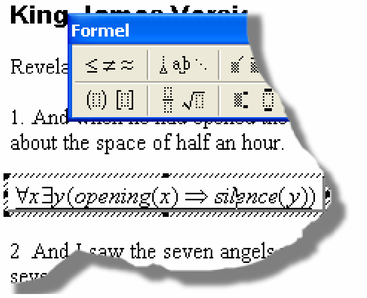
Unicode, DBCS, and plain text

ATLAS.ti 5 supports additional plain text formats like Unicode and DBCS (Double Byte Character Sets) in all text editors and the primary document pane. Therefore, East Asian languages are supported. However, currently you cannot create Unicode labels for codes, memos, network nodes, etc. It is also not possible to use Unicode in text searches.

Editing Primary Documents

Textual documents (*.txt and *.rtf documents) assigned to an HU as primary documents can be edited at any time in the analysis process, no matter whether a document has already been coded or not. Modifications are broadcast to all other users of this document; the PDs will be synchronized and all coding is correctly realigned. For more information, see “Editing Primary Documents” on page 78.

Embedded Objects



King

Revela

1. And
about the space of half an hour.

$\forall x \exists y (opening(x) \Rightarrow silence(y))$

2 And I saw the seven angels
seve

Objects like Excel tables, images, PowerPoint slides, formulas, and audio or video files can be embedded in primary documents, comments, and memos. Most objects can be activated and edited within ATLAS.ti without the need for explicitly opening the application that was used to create them.

The fragment shows an embedded formula in active mode with a floating formula editing toolbar.

Starting a New Project

There is a significant change in the way a new Hermeneutic Unit is created.

Just as you would start a new Word text, you simply create a new HU. At this point the caption of the HU editor displays the default title “New Hermeneutic Unit.” The caption changes when you save the HU the first time.

No more dual name and file name.

The option to provide a separate project name in addition to a file name has been dropped because today’s Windows systems offer sufficient expressiveness for path and file names.

Consequently, the option to rename HUs has been dropped.

Data Source Management

The most frequently asked question by ATLAS.ti users in the past was related to having “lost” primary documents, often expressed in ways like: “Help! Where are my primary documents?” This question was based on an erroneous understanding of how ATLAS.ti accesses primary documents. For a better understanding of this important feature this manual includes a chapter “Project Management” on page 270. A number of project scenarios are presented to help in setting up new projects.

DATA SOURCE MANAGEMENT under the Documents menu offers a variety of powerful tools to support users and administrators in locating document-related problems.

Copy Bundle

The Copy Bundle function has been completely revised.

In ATLAS.ti 5, one compressed file containing all associated files (primary document data sources, etc.) is created by the Copy Bundle function. This file can be moved to another computer and unpacked to any location. If a specific directory is required and it does not exist, it is automatically created by the system. Potential conflicts are clearly indicated.

The Copy Bundle function can be conveniently used to backup projects and to move projects between computers. For more information see “Copy Bundle - Migrate and Backup Projects” on page 282.

There is no longer a need to re-create the original directory structures or to deal with batch files when moving an ATLAS.ti project.

Special Paths

In order to facilitate data management and the migration of projects between different computers, the use of special paths was further developed in ATLAS.ti 5. Special paths are abstract paths, which are independent of the concrete path names that exist on different computers. ATLAS.ti 5 offers two special paths: the TBPATH and the HUPATH.

Depending on the project setup, the use of either one of the special paths or the use of absolute paths is recommended (see the chapter on “Project Management” on page 270).

Quick Access to Folders

Using the **EXTRAS/EXPLORER** menu item, you can conveniently access folders relevant for your work using Windows Explorer. These include the sample projects folder; the currently opened HU folder; your default “textbank” folder; the user system folder where files like the search library, the relation types, or the stop list used by the Word Cruncher are stored; the service pack folder; or Windows™’ "My Documents” folder.

Memos

Storage

Memos now reside in the same “container” file as the HU itself and are loaded when needed. This one-file-for-all “structured storage” technology that is also used by MS Office™, makes loading safe and fast, and the user is not likely to experience significant delays. Outsourcing memos into separate files is no longer necessary.

Rich Text

Memos and comments may also be formatted as Rich Text.

New Memo Editor

Memos have undergone a facelift and now assume a more prominent role compared to previous ATLAS.ti versions.

A special text editor with a dedicated memo name and type field opens when you create or display a memo.

Drag & Drop

Memos can be attached to selected data segments or existing quotations via drag & drop, just like codes. Dragging a memo into the PD Manager assigns it as a Primary Document.

Additionally, document text can be dragged into an existing memo or into the list pane of the Memo Manager to create a new memo.

Using Memos for Bulk Code Generation

You may bulk create a large number of codes using a memo containing a code name per line. See “Using Memos to Create a Code List” on page 134.

Search & Retrieval

The Query Tool has been improved and a new tool, the Object Crawler, allows you to search through all objects contained in an HU.

Query Tool

Some subtle improvements have been made:

- When creating a super code or when new codes are added, the corresponding lists displayed in the Query Tool are updated immediately.
- The button ‘Prefix-Notation’ has been removed.
- The code list displays the “current” codes, e.g., the ones matching requirements consistent with the current code filter.
- In addition to primary document families, search results can now also be restricted to Super Families.
- When right-clicking on a code in the Query Tool, a list of co-occurring codes can be displayed.

- Report offers more options.

Snapshot Codes

A Super Code can be "frozen in time" by creating a snapshot code. A snapshot code is a standard code “hard-wired” with the quotations of a Super Code. Being a standard code, it can be displayed in the margin area and be used for further coding, but it does not have the dynamic behavior of a Super Code; quotations connected to it will not automatically update.

Object Crawler

The Object Crawler collects all objects within an HU, whose textual attributes (name, author, date, comments, and content) contain a specified pattern. For details see “The Object Crawler” on page 158.

Network Editor

Additional Node Types

In ATLAS.ti 5, you can import all object types as nodes. In addition to primary documents, quotations, codes, and memos, ATLAS.ti 5 allows importing document, code and memo families and network views into other network views.

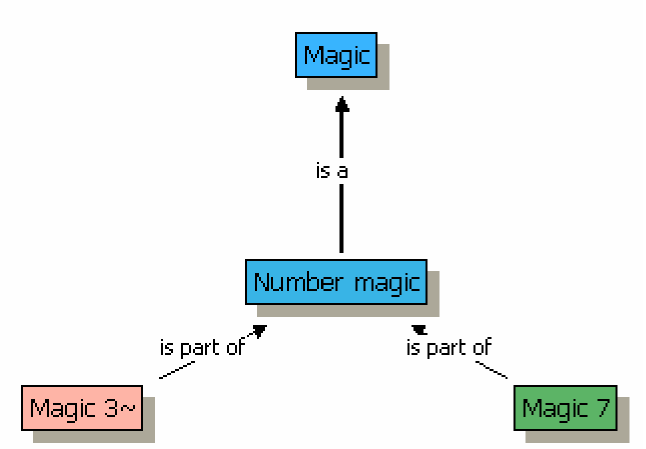
Co-occurring Codes

Codes that *co-occur* with the codes you have selected in the Network Editor can now be imported. Co-occurring codes are those that are used for the same, overlapping or neighbored data segments.

Auto-Coloring

The “auto-color” mode colors nodes along two dimensions according to their groundedness (i.e., the number of quotations to which they are linked) and their density (i.e., the number of other codes connected). Groundedness increases the red component, while density increases the blue component of the node color.

Auto-color is restricted to nodes representing codes.



Label Display

Relation types can now be displayed alongside the line connecting two objects (**DISPLAY/LINK DISPLAY/ROTATED LABELS).**

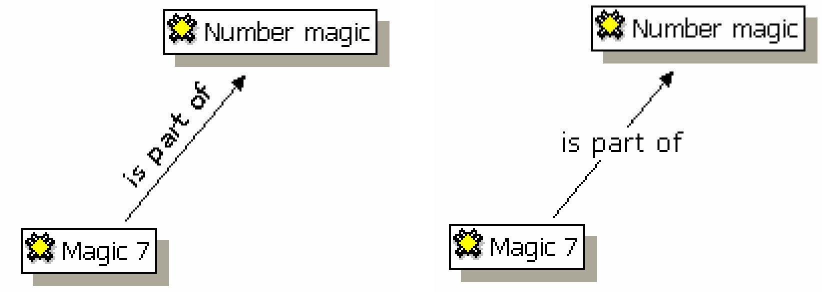


Figure 3 Rotated and unrotated link label

Object Managers

The former Extra Lists and Family Browsers have been significantly improved.

- They are now called Object Managers: Document, Quotation, Code, Memo, Family, and Network Managers.
- All object managers have a menu and toolbar.
- List display can be switched between the various common display options (similar to those of the Windows Explorer).
- Multiple item selection is supported. This is useful, for example, to print selected code(s) or memo(s).
- Forward incremental search allows you to select a specific item by simply starting to type its name.

Object Explorer

Some important improvements have been made in the Object Explorer, Code Forest, and Code Tree:

The Object Explorer as a Window Manager

The Object Explorer used as a Window Manager makes it a convenient access tool for all objects. Double-click the composite objects (i.e., Primary Docs, Codes, Memos, etc.) to open the corresponding Object Manager.

Browsing Super Codes & Families

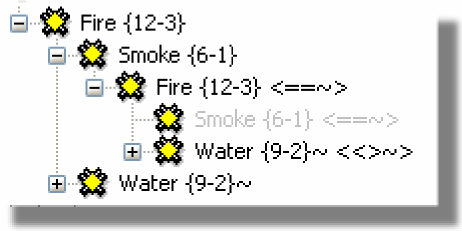
The queries associated with Super Codes are displayed hierarchically. Various components of the query can be separately processed.

Display Qualified Link Names

Until now, code-code links and hyperlinks did not indicate the kind of relation used when displayed in the Object Explorer.

Symmetric Link Display

Representing symmetric links in a hierarchical view is problematic. How should the two codes "Smoke" and "Fire" engaged in a symmetric link be displayed? Our solution: display "Fire" as the parent of "Smoke" and "Smoke" as the parent of "Fire" *and* prevent infinite expanding of the hierarchy caused by such a cyclic arrangement, which would create an error. In the figure below, the code "Smoke" underneath "Fire" is displayed in gray and cannot be further expanded.



```
Fire {12-3}
    Smoke {6-1}
        Fire {12-3} <==~>
            Smoke {6-1} <==~>
            Water {9-2}~ <<>~>
    Water {9-2}~
```

Figure 4 – a symmetric link displayed in the Object Explorer

Families

Family Managers

Family Managers can be accessed from the Object Manager by clicking the Family button. Objects can now also be assigned as family members by dragging them from other Object Managers, the margin area, and the Crawler into the member pane of a Family Manager.

Super Families

Similar to the idea of Super Codes, ATLAS.ti 5 offers the possibility of creating Super Families for primary documents, codes, and memos. For example, you can combine the family for “Gender-Female” with the family for “Position-Executive” to create “Female Executives.” Such super families make powerful filters.

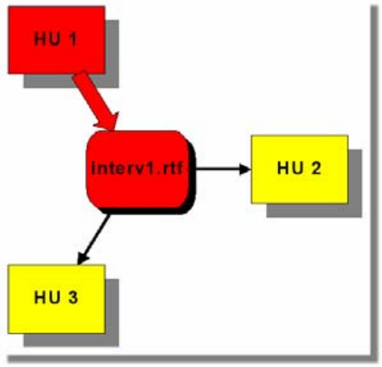
PD-Family Tables

The relation between PDs (Primary Documents) and their families can be transported (exported and imported) using the Excel™- compatible CSV format. This data exchange format can be used to conveniently assign a large number of PDs from generic lists. This feature is explained in “PD-Family Table” on page 197.

Teamwork Support

ATLAS.ti has always supported teams of authors. This approach has been further elaborated and we can now offer a powerful context for multiple authors editing PDs.

Shared Documents



To make documents accessible and editable from different projects and users, a sophisticated change management and multi-user access system has been implemented.

A pool of documents can be safely used and shared between different HUs. However, a feature that allows more than one user to work concurrently on the same HU is not yet available. Private HUs still need to be merged when needed.

Maintaining project integrity in team contexts and changing document content was not a trivial thing to do. See details in “Inside Editing Primary Documents” on page 85.

Change of Ownership

You can change the author originally assigned to an object at creation time. This can be done for a selection of items using the Object Managers or for all objects of specific authors. The latter global change can be accomplished via the HU Editor's main menu (**EXTRAS/CHANGE OBJECT OWNERSHIP)**.

Password Protection for HUs

HUs can be password-protected by assigning a password via EXTRAS/CHANGE ACCESS RIGHTS. If you choose this option, you must enter a password when you load the HU

SPSS™-Output

ATLAS.ti 5 now allows generation of a separate data matrix file along with the syntax file. This overcomes a limitation of SPSS™ in regard to the maximum size of data embedded in the syntax file, and thus makes much larger jobs possible.

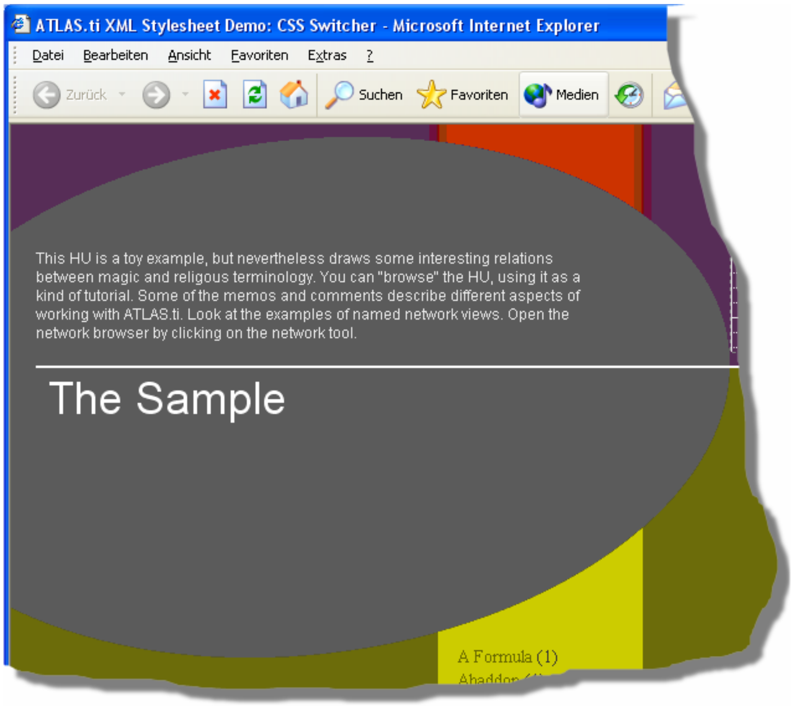
Other changes include an optional task section and a user defined separator for creating scaled variables.

General Preferences lets you can define the folder where you want to store SPSS™ output.

XML Support

ATLAS.ti 5 can now export complete projects (HUs) as XML. (**TOOLS/XML/EXPORT TO: XML**). For more information see "Export & Import using XML" on page 304.

The XML Converter allows the application of a variety of style sheets to produce individual reports and other representations of an XML formatted HU. Style sheets are supplied and can be modified to your needs.



This HU is a toy example, but nevertheless draws some interesting relations between magic and religous terminology. You can "browse" the HU, using it as a kind of tutorial. Some of the memos and comments describe different aspects of working with ATLAS.ti. Look at the examples of named network views. Open the network browser by clicking on the network tool.

The Sample

Figure 5 Style sheet "CSS Switcher" applied to a HU and displayed in Internet Explorer

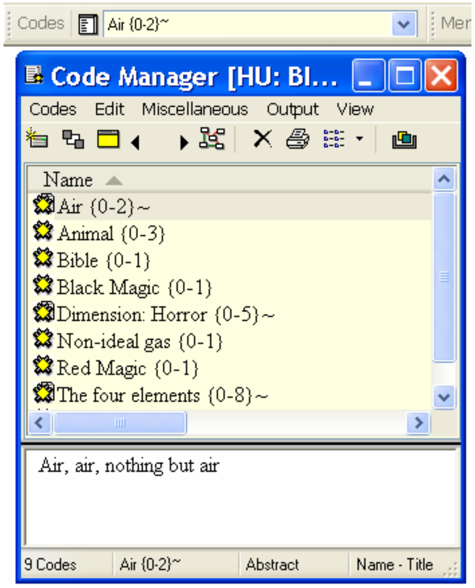
For more information see "Creating Reports with the XML Converter" on page 318.

Miscellaneous

Filter Visualization

When objects are filtered, the background color of the affected Object Manager's list pane and of the corresponding drop-down list is changed.

The current filter is displayed in the status bar.



Air {0-2}~

Name
Air {0-2}~
Animal {0-3}
Bible {0-1}
Black Magic {0-1}
Dimension: Horror {0-5}~
Non-ideal gas {0-1}
Red Magic {0-1}
The four elements {0-8}~

Air, air, nothing but air

9 Codes | Air {0-2}~ | Abstract | Name - Title

Figure 6 – Display of Object Manager and drop-down list when a filter is active

Word Cruncher

The Word Cruncher has also been improved. Word frequency counts can now be applied to more than one PD. Regular expressions can be used in stop lists. In addition, various output formats can be specified. Results can be directly displayed in Excel™.

Hyperlinks

When creating output for hyperlinks, the full text of all hyperlinked quotations is shown.

Additional options to create hyperlinks using drag & drop (margin, manager) are now available.

Hyperlinks can be inspected and modified using the Hyperlink Manager.

Locales Support

台北台北

East-Asian languages are supported on native Windows systems and – limited – on non-native Windows versions. Now you can see Japanese text in the margin area!

Right-to-left Middle East languages (Arabic, Hebrew) are supported by mirroring several controls (tree and list view), and placing the scrollbar to the left of a window pane.

Windows Integration

ATLAS.ti 5 is now more smoothly integrated with the overall Windows architecture. Some information about an HU (comment, keywords) is accessible via Windows Explorer properties.

What Has Not Changed

Development of ATLAS.ti 5 has concentrated very much on the content richness of primary document and concurrent and consistent editing. Many other features have been added, others refurbished and improved.

What has not been changed is the overall conceptual foundation. There are still the four main concepts: primary documents, quotations, codes, and memos.

You can start right away and code your data as usual, even if you are not yet familiar with the new bells and whistles that ATLAS.ti 5 offers. The Query Tool, the Family Managers, and the Network Editor also function as usual.

The handling of multimedia documents also remains largely the same.

If You Have Used ATLAS.ti Before

You can start using your knowledge about ATLAS.ti and your old projects and data right away. There is no need to study the manual in full detail or to apply complex conversions as you start using ATLAS.ti 5. However, reading the chapter “Project Management” on page 270, and especially “Optimizing Projects for ATLAS.ti 5.0” on page 289, is strongly recommended to facilitate your transition to ATLAS.ti 5.

Can I Use my Old Hermeneutic Units and Primary Documents?

The short answer to this burning question is YES.

Migrating HUs

ATLAS.ti 5 can read all your current HUs which have the file extension HPR and silently convert them to the new format, using the file extension HPR5 . In addition, old and new HUs display different icons in the Windows Explorer on your desktop, making them easy to distinguish.

All PDs from ATLAS.ti 4 projects can also be used without any modification and are displayed and processed correctly.

Note: a HU created or modified with ATLAS.ti 5.0 cannot be used in ATLAS.ti 4.2.

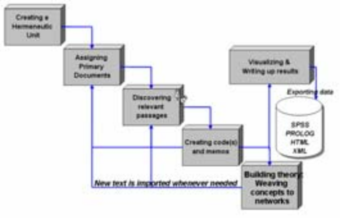
Migrating PDs

You can use all your “legacy” documents without any changes. However, to fully maximize the new capabilities, especially in regard to textual documents, (dynamic wrapping, search spanning “lines”, etc.) you should take a closer look at “Converting Documents to New Paragraph Model” on page 91.

Main Concepts

The following is a short overview of the main processes and concepts related to working with ATLAS.ti.

The Process


Creating a Hermeneutic Unit
Assigning Primary Documents
Discovering relevant passages
Creating code(s) and memos
Building theory: Weaving concepts to networks
Visualizing & Writing up results
Exporting data
SPSS
PROLOG
HTML
XML
New text is imported whenever needed

There are two principal modes of working with ATLAS.ti, the Textual Level and the Conceptual Level. The *Textual Level* includes activities like segmentation of data files; coding text, image, audio, and video passages; and writing memos. The *Conceptual Level* focuses on model-building activities such as linking codes to networks. A third and equally important aspect is the management of projects and the data.

Note: Although other media types like graphic, audio, and video files can also be used as "Primary Documents (PDs)," we mainly use the terms "text" and "textual" level regardless of the specific media that is involved.

Data and Project Management

You must prepare your data and set up your project before you begin textual-level work. There are several issues to consider at this point.

- Where will you store your data?
- Do you think you might have to move your project at some point?
- Should data be edited after it is assigned to ATLAS.ti?
- Do you need data to be shared among team members?

Consult "Project Management" on page 270 for further detail.

Textual-Level Work

Textual-level research activities include segmenting PDs into quotations, adding comments to respective passages (note-making/annotating), and coding selected PD passages, secondary text materials, annotations, and memos to facilitate their retrieval. The act of comparing noteworthy segments leads to a creative conceptualization phase that involves higher-level interpretive work and theory-building.

Text - Structure - Text

The overall process of text interpretation with ATLAS.ti proceeds from text to structure to text.

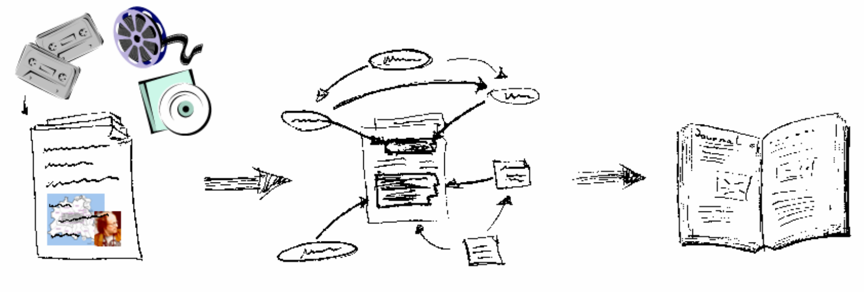


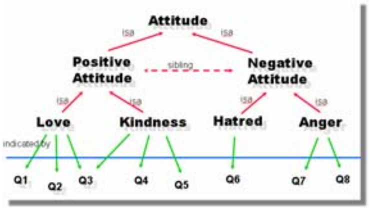
Figure 7 - Text-Structure-Text.

ATLAS.ti assists you in all of these tasks and provides a comprehensive overview of your work as well as rapid search, retrieval, and browsing functions.

Within ATLAS.ti, initial ideas often find expression through their assignment to a code or memo, to which similar ideas or text selections also become assigned. ATLAS.ti provides the researcher with a highly effective means for quickly retrieving all data selections and notes relevant to one idea.

See "The Textual Level - Basic Functions" on page 107 for details.

Conceptual Level Work



Beyond coding and retrieval, ATLAS.ti's networking feature allows you to visually "connect" selected passages, memos, and codes into diagrams that graphically outline complex relations. This feature virtually transforms your text-based workspace into a graphical "playground" where you can construct concepts and theories based on relationships between codes, text passages, or memos. This process sometimes uncovers other relations in the data that were not obvious before and still allows you the ability to instantly revert to your notes or primary text selection. Such textual/conceptual modeling is unique to ATLAS.ti.

See "The Conceptual Level: Networks" on page 211 for more details.

General Steps when Working with ATLAS.ti

The following sequence of steps is not mandatory, but describes a common "script":

1. Create a project, an "idea container," meant to enclose your data, all your findings, codes, memos, and structures under a single name. We call this a "Hermeneutic Unit" (HU).
2. Next, assign documents (text, graphic, audio, or video files) as PDs to the HU. The data files become the source material for your project's PDs and can be located anywhere on your computer or a network.

Note: By completing step 1 and 2, you have already created something useful: a framework that compiles many documents around a theme. This framework is practical, too, because a single file (the HU) gives you meaningful, immediate, and easy access to hundreds or even thousands of files (once assigned).

3. Read and select text passages (or identify areas in an image or a multimedia document) that are of further interest, assign key words (codes), and write memos that contain your thinking about the data. We call this the Textual-Level working phase, whereby "textual" not only refers to "text" but also to graphic, audio, or video data.
4. Compare data segments based on the codes you have assigned; possibly assign more data files to the project.
5. Organize PDs, codes, and memos using "Families."
6. Build semantic, prepositional or terminological networks from the codes you have created. These networks, together with your codes and memos, form the framework for emerging theory.
7. If appropriate, you can also export data for further analysis with statistical software.
8. Finally, compile a written report based on the memos you have written throughout the various phases of your project and the networks you have created and even publish your project as a World Wide Web document or an individual presentation using XML.

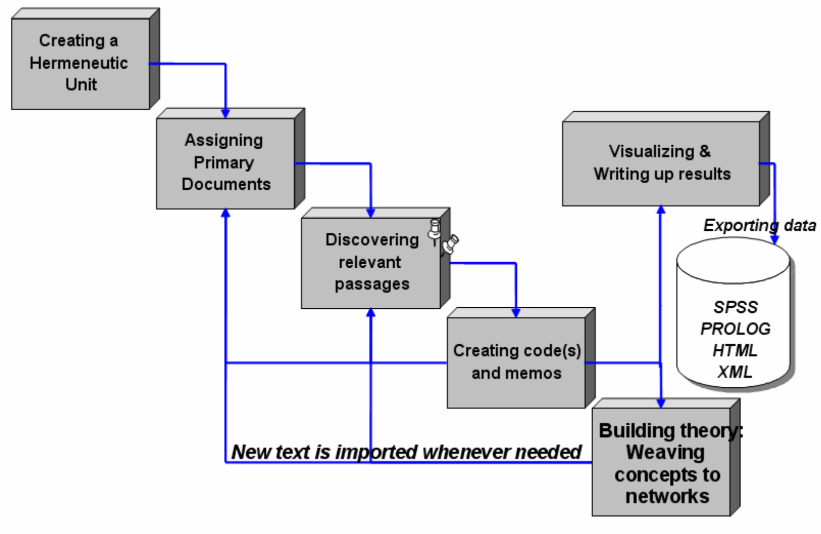

Creating a Hermeneutic Unit
Assigning Primary Documents
Discovering relevant passages
Creating code(s) and memos
Visualizing & Writing up results
Exporting data
SPSS
PROLOG
HTML
XML
Building theory: Weaving concepts to networks
New text is imported whenever needed

Figure 8 The ATLAS.ti workflow

The Hermeneutic Unit

The HU provides the data structure for each project in ATLAS.ti. The name was chosen to reflect the approach we have taken when building a support tool for text interpretation. There was no intention to frighten potential users with this admittedly "tongue breaking" name.

Get acquainted with this concept!

If you understand the HU concept, then you understand almost everything that is necessary to work with ATLAS.ti!. And, in spite of its impressive name, it is simple and practical to use.

Everything that is relevant to a particular project (e.g., a research topic) is part of the HU and resides in the electronic environment! For instance, the *PDs* representing the data sources, *quotations*, *codes* used for developing concepts, conceptual linkages (*families*, *networks*), and *memos*, etc., are all part of one HU.

One obvious advantage of this bundling is that the user only has to deal with and think of one entity. Activating an HU is the straightforward selection of a single file; all associated material is then activated automatically.

The lowest level of an HU contains the PDs, followed closely by the "quotations" as selections of PDs. Codes refer to quotations. Memos - you meet them everywhere.

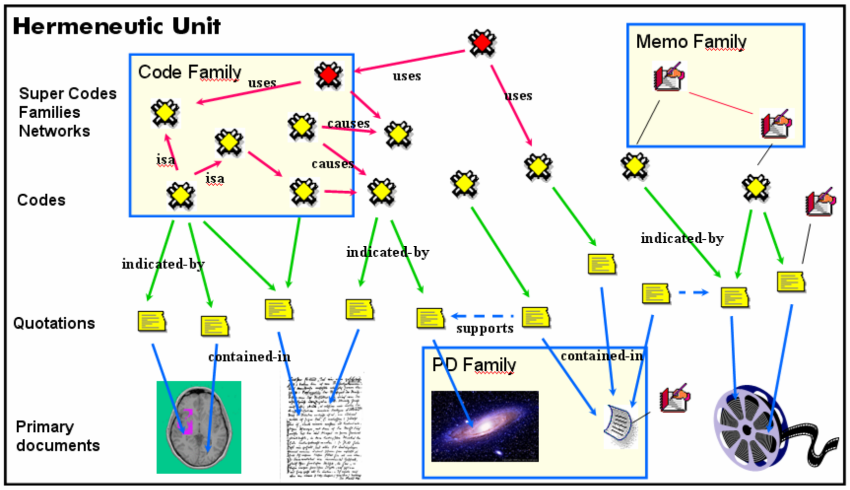


Figure 9 - The hierarchy of objects inside a Hermeneutic Unit

The HU is the "spider in the web".

An HU can become a highly connected entity, a dense web of primary data, associated memos and codes, and interrelations between the codes and the data. To find your way through this web, ATLAS.ti provides powerful browsing and editing tools.

Primary Documents

PDs represent data sources

PDs represent the text, graphical, audio, and/or video materials that you wish to interpret. The content of PDs is usually stored in data files on your computer.

PDs are usually created by assigning files to an HU. You can, however, also assign a memo as a PD. You can assign as many documents as needed for a given HU.

Note: we make a distinction between a **PD** and its **data source** (file, memo). However, unless the distinction is an important issue to consider, we often speak of PDs as if they are identical to the data files to which they refer.

See “Assigning Primary Documents” on page 65 for details.

Media Types

ATLAS.ti can display and process four different media types: text, graphic, audio, and video data.

Text

Textual PDs can consist of plain or rich text (RTF = Rich Text Format). Objects like a PowerPoint™ presentation or an Excel™ table can be embedded and edited. See “Preparing Textual Documents” on page 72.

Using Word and Other Text Processor’s Files

With restrictions, Word™, WordPerfect™, MS Works™ or HTML documents can be directly used as PDs. See “Word, HTML and Other File Formats” on page 72 for details.

Images

More than twenty graphic file formats are directly supported by ATLAS.ti including Windows Bitmap (BMP), TIFF, JPG, and Kodak Photo CD. See “Preparing Graphical Documents” on page 74.

Multimedia

ATLAS.ti supports a number of audio and video formats utilizing Windows’ Multimedia Control Interface (MCI). MCI needs to be correctly installed and configured in order to work with multimedia files. See “Preparing Multimedia Documents” on page 74.

Quotations

A quotation is a segment from a PD that is interesting or important to the user. In textual documents, a quotation is an arbitrary sequence of characters ranging from a single character, a word, a sentence, or a paragraph up to the entire data file.

Usually quotations are created by the researcher. However, if repetitive words or phrases are found in the text, the Auto-Coding feature can be used to automatically segment these quotations and assign a code to them. When a quotation is created, ATLAS.ti automatically assigns an identifier to it. This identifier is built from the index of the primary text to which it belongs and the first 30 letters (note that a different length can be set via **PREFERENCES)** of the text segment, e.g., "1:21 Therefore a more efficient fil....". The identifier is displayed in list windows and printouts. For graphic, audio, and video segments, the original file name of the PD is chosen as an identifier.

Free quotations resemble passages "scribbled" in the margin of a book.

Note: Although the creation of quotations is almost always part of a broader task like coding or writing memos, "free" quotations can be created that indicate interesting parts in the primary data for which a meaningful classification has not yet been found. See “Creating Quotations” on page 112.

Types of Quotations

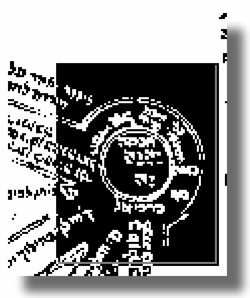
In accordance with the four different types of PDs, there are also four different types of quotations:

Text quotations

A textual quotation originates from an arbitrary sequence of selected characters.

Textual quotations represent (for the computer) a sequence of characters ("strings") and can be of arbitrary size. Sentences, speech turns, or paragraphs are often the basis for the length of textual quotations. Only text offers enough "syntactical clues" to **allow for searches** for the occurrence of specific evidence that may support a concept. Text also offers the option for **automatic segmentation** as used by the Auto-Coding procedure (see also “The Auto-Coding Tool” on page 151).

Graphic quotations



The creation, activation, and display of graphical quotations has similarities with, but also differs from, their textual counterparts. A graphical quotation is a rectangular region inside a graphical PD. From its data structure, it is identical to textual quotations since their main attributes are also the PD identifier and two coordinates that mark the beginning and end, defining a rectangle through its upper left and lower right corner.

Handling graphical quotations is analogous to marking text passages in a textual document. See “Selecting Graphical Segments” on page 108.

Multimedia quotations

Audio quotations can be as short as a few milliseconds. The length of an audio quotation can be selected on a track bar. Segment starts and ends are displayed in the following format: *minutes : seconds : milliseconds.* Instructions on how to handle multimedia quotations can be found at “Navigating Multimedia and Selecting Segments” on page 109.

Video quotations are handled very similar to audio quotations. Selection is done via a track bar, and the smallest unit you can select is a frame.

Quotations as Layers

Quotations are stored inside the HU, independent of the document to which they

Quotations need to be regarded as a transparent layer on top of a document. Quotations are stored independently of the PD inside the HU. Technically speaking, a quotation consists of the identifier (a number) and a pair of coordinates that specify the beginning and end of the quotation. The content of a PD file (the data source) is *belong.*

therefore *not* altered by the creation, deletion, or modification of quotations.

Codes

The term code is used in many different ways. First we would like to define what that term means in qualitative research and then in ATLAS.ti.

Objectives

From a methodological standpoint, codes serve a variety of purposes. They capture meaning in the data. They also serve as handles for specific occurrences in the data that cannot be found by simple text-based search techniques.

Codes are used as classification devices at different levels of abstraction in order to create sets of related information units for the purpose of comparison (e.g., a concept like "Coping Strategy").

Keep code names brief and succinct. Use memos or the comment pane for longer elaborations.

From a "low level" tool perspective, codes are typically short pieces of text referencing other pieces of text, graphical, audio, or video data. Their purpose is to classify an often large number of textual or other data units.

In the realm of information retrieval systems, the terms "index," "indexing," or "keyword" are often used for what we call "code" or "coding".

The length of a code should be restricted and should not be too verbose. If textual *annotations* are what you want, you should use **memos** instead.

Super Codes

A Super Code differs from a standard code. A standard code is directly linked with the quotations to which it is associated, while a Super Code is a query that typically consists of several combined codes. See “Super Codes” on page 176 for details.

Memos

Memos capture your thoughts regarding the text and are an important device for creating theory. A "memo" is similar to a code, but usually contains longer passages of text.

A memo may "stand alone" or it may refer to quotations, codes, and other memos. They can be grouped according to types (method, theoretical, descriptive, etc.), which is helpful in organizing and sorting them. Memos may also be included as the objects of analysis by assigning them as PDs.

Families

Families are a way to form clusters of PDs, codes, and memos for easier handling of groups of codes, memos, and PDs. For more detail, see the chapter “Family Life” on page 191.

Families can be combined using logical operators similar to codes and Super Codes (see “Super Families” on page 192).

Network Views

Network Views are a bit more sophisticated than Families. They allow you to conceptualize the structure by connecting sets of similar elements together in a visual diagram. With the aid of Network Views you can express relationships between codes, quotations, and memos. PDs, families and even Network Views can also be “nodes” in a network view.

Nodes, Links & Relations

A *node* is any object that is displayed in a Network View. You can change their look and move them around in the Network Editor.

Relations are link prototypes used to create a link between two codes or between two quotations. An example is the “is-a” (ISA) relation, which is frequently used to link concepts of different abstraction level (e.g., DOG <isa> MAMMAL).

General Properties of Objects

Comments

Everything can be commented in ATLAS.ti.

Comments are not "first class objects" themselves. They do not have a name, they do not have their own list window, nor do they have any property other than the text they contain. However, they are an important attribute of the objects described above.

Writing is one of the main activities when working with ATLAS.ti. Although the system does not give you much help with *what* you write, it does support you in *attaching* your writings to the appropriate location.

All objects described so far have a "slot" that can be filled with a comment. The first comment you write is typically a comment for the HU, which appears in the HU browser and in output created with the HTML and XML generator. But even links and relations can be commented.

Authorship

Authorship is essentially “ownership.” Any item created while a user is logged in will be tagged with the name designated for that user. By using filters, it is possible to compare the work of different authors in the same project. Some division of labor strategies will prevent tracing all work done by each person.

Authorship can be changed globally or on an object by object basis.

Workbench Tools Overview

The All-in-One Workbench Concept

ATLAS.ti - The Knowledge Workbench is a tightly integrated collection of individual tools that support your analysis of written texts, audio, video, and graphic data. Easy transition between the tools is important to fit the typical work flow of the qualitative researcher.

Some of the tools, such as the **Object Managers**, the **Network Editor**, the **Object Explorer**, the **Code Forest** and the **Code Tree**, help you to browse and navigate through your data structures and concepts.

Other tools, like the **Hermeneutic Unit (HU) Editor**, the **Text Editors,** and the **Memo** tool help with reading, annotating, and writing during your analytical process.

For searching, the **Text Search Tool,** the **Auto Coding Tool (Auto Coder),** the **Object Crawler**, and the **Query Tool** are at your disposal.

For bridging the qualitative-quantitative gap, the **SPSS Export** function and the **WordCruncher** might meet your needs

Support for teamwork and collaborative projects comes with the **User Administration** tool, the **HU Merger**, the **Redundant Coding Analyzer**, the **HTML** and **XML generators**.

Most of the tools typically belong to more than just one of these broad categories: for example, Object Managers are used for browsing as well as for editing codes and memos.

The Tools

Hermeneutic Unit Editor

The HU Editor is the main window and usually the first thing you see after starting the system. It lets you manage, view, and annotate primary documents (PDs), which are typically the starting point of your research (see “Main Workspace: The HU Editor” on page 41).

Object Managers

Object Managers were formerly called "extra lists." In ATLAS.ti 5 their functionalities have been extended considerably and instead of just displaying a list of objects, they now offer a variety of additional functions that turn them into "Managers" (see “The Object Managers” on page 46). Object Managers are probably the most frequently used tools besides the HU Editor.

Hermeneutic Unit Browser

Although you can load projects using the standard file dialog, the HU Browser displays some additional information for every HU that you select before loading it.

Text Editor

Text editors can be opened to edit comments, to create and edit memos, and to view, format, and print results. All editors are capable of displaying and editing rich text format (RTF). They offer WordPad™ alike comfort and editing features.

Object Explorer

The Object Explorer displays all the elements of an HU in a strictly hierarchical manner, even if the structures are non-hierarchical, or even cyclic (see “The Object Explorer” on page 183).

Family Manager

Codes, memos, and PDs can be grouped within "families". The Family Manager is the tool with which you create, modify, and edit them (see “The Family Manager” on page 192).

Text Search Tool

From simple string matching to sophisticated pattern match (GREP) and category search, all is available in the Text Search Tool (see “The Text Search Tool” on page 144).

Query Tool

For more complex search requests, the Query Tool is at your disposal. Here you can formulate search requests that are based on combinations of codes (see “The Query Tool” on page 160).

Word Cruncher

The Word Cruncher counts all words in textual PDs. The count can be limited to one PD only. To clean up the count, a stop list can be defined to exclude special symbols or words like ‘and,’ ‘or,’ ‘the,’ etc. The result can be displayed in an Excel table (see “The Word Cruncher” on page 155).

Object Crawler

With the Object Crawler, you can search all of the parts of your project within ATLAS.ti that contain text. Searches are not restricted to just textual PDs: codes, memos, quotations, all families, code-code links, hyper-links, and the HU can be searched. In addition, the scope of the search can be limited to certain fields (see “The Object Crawler” on page 158).

Auto Coding Tool

If the text itself contains important key words, the Auto Coding Tool scans the text and automatically assigns a pre-selected code to matching text passages. If so desired, the process can be controlled by manual confirmation of each action (see “The Auto-Coding Tool” on page 151).

Network View Manager

The Network View Manager contains a list of all previously constructed and saved Network Views. It can be used to create new Network Views, to access or delete existing ones, or to write and edit comments.

Network Editor

The Network Editor displays and offers all editing capability to construct and refine semantic networks. In addition, it allows the visual creation and traversal of hypertext structures (see “The Network Editor et. al.” on page 215).

Relation Editor

When the built-in relations that are used to connect objects in Network Views are not sufficient, you can edit them or create new ones using the Relation Editor (see “The Relation Editor” on page 235).

Hermeneutic Unit Merger

This tool merges different HU. A variety of options to control the merge strategy are offered (see “Merging Hermeneutic Units” on page 289 for details).

Coding Analyzer

The Coding Analyzer is helpful after merging HUs. It tests for redundant codes, i.e., codes used more than once for data segments that overlap or are embedded in one another (see “Redundant Coding Analyzer” on page 188).

HTML Generator

Publishing online or just creating a printout from a project is available with the HTML generator. The results can be viewed platform independent with any Web browser (see “HTML Export” on page 307).

XML Generator

The XML generator exports all information contained in an HU in XML format. This universal, open data format allows for a wide variety of possibilities for display, processing, and even integration of your data with external applications (see “Export & Import using XML” on page 304).

XML Converter

The XML Converter lists HUs saved in XML format and applies so-called "style sheets" (miniature programs written in XSLT) to the XML files. The user may edit the supplied style sheets or add new ones. (see “Creating Reports with the XML Converter” on page 318).

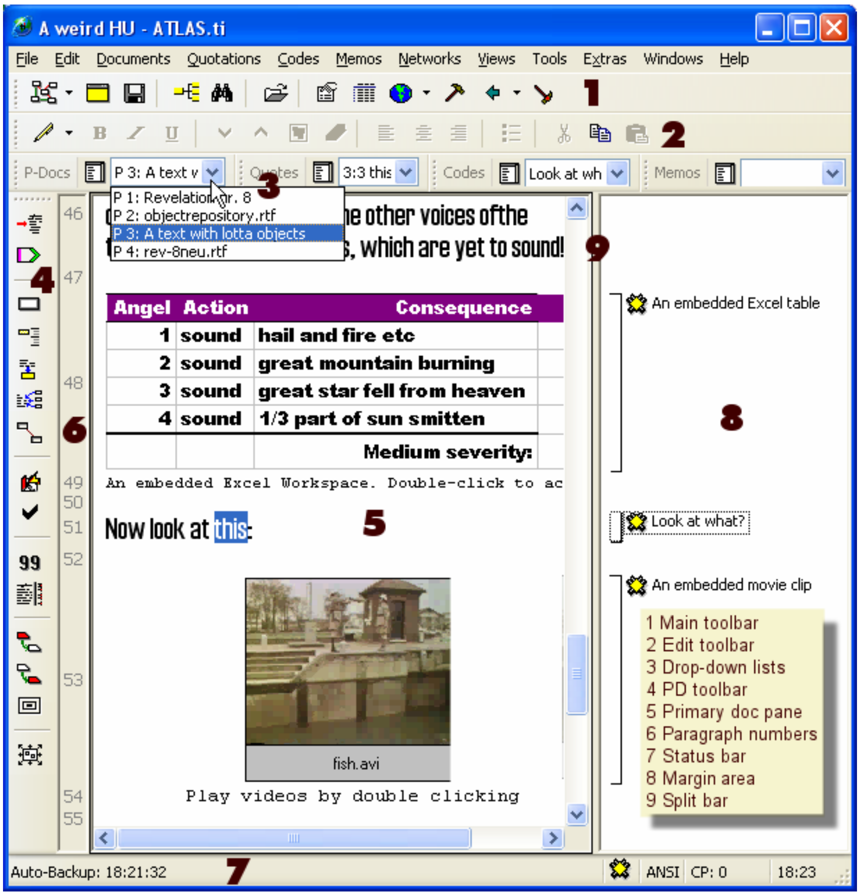
User Administration

Manage the ATLAS.ti user database through the user administration tool. This is a prerequisite for collaborative work, but is also useful to individual users through personalizing the login or protecting an HU with a password (see “User Management” on page 264).

Main Workspace: The HU Editor

Overview

The Hermeneutic Unit (HU) Editor is the main workspace. It is opened after the start of the program, and will be your "home page" most of the time.



Angel	Action	Consequence
1	sound	hail and fire etc
2	sound	great mountain burning
3	sound	great star fell from heaven
4	sound	1/3 part of sun smitten
		Medium severity:

An embedded Excel Workspace. Double-click to ac

Now look at this:

Play videos by double clicking

Figure 10 The HU Editor with activated line numbers and margin area.

The HU Editor serves as the main editing tool and offers access to all other workbench tools.

With all optional controls, buttons, and "panes" visible, the HU Editor looks rather overwhelming at first. You can decide which parts of the window to display and customize its appearance to your needs. Use the **VIEWS** menu to hide some of the buttons, windows, etc.

Components of the HU Editor

The numbers in brackets refer to the figure above showing the HU editor.

Title Bar

The *title bar* is common to all windows and dialog boxes. It displays the name of the HU that is currently being edited.

Main Menu

The main menu below the title bar offers access to the different kinds of objects that populate an HU. Commands found in the main menu are often also available from context menus and toolbar buttons. For a description of all available menu options refer to “The HU Editor's Menus” on page 347.

Toolbars

Toolbars offer functions that are generally also available as menu commands. A short “tool tip” help text is displayed when the mouse pointer rests on a tool button. The toolbars functions are described in section ”The HU Editor’s Toolbars” on page 373

The Main Toolbar [1]

The main toolbar offers many major functions. Unless switched off via the **VIEWS** menu, it is always available.

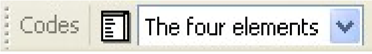
The Edit Toolbar [2]

The Edit toolbar is available only when an *editable* Primary Document (PD) is displayed. The tools from the Editing Toolbar can be used after entering edit mode. The various options are explained further in the section on “Editing Primary Documents” on page 78.

The Primary Document Toolbar [4]

The PD toolbar is to the left of the PD pane. Note that it is disabled unless a document is loaded.

Object Drop-Down Lists [3]



The codes drop-down list

Below the main toolbar, you find four *drop-down lists* that contain the HU's main entities. From left to right, these are the drop-down lists for: **PDs**, **quotations**, **codes**, and **memos**.

Click into the entry field or the little drop-down arrow on the right to select an object. Click the button to the left of the entry field to open an Object Manager.

Primary Document Pane [5]

The dominant window pane in the HU Editor is the *Primary Document Pane*. This pane is the central workspace where text or graphic material is reviewed, marked, coded, and annotated. It is usually augmented by the Paragraph number pane [6] and the margin area [8].

Line/Paragraph Number Area [6]

99

Line/Paragraph Number button

99 To the left of the text area, but still inside the PD pane, **paragraph numbers** can be displayed. In fact, displayed is a new number for every piece of text followed by a hard return. Only when using "legacy" documents with hard returns for every line, (see "Handling Legacy Documents" on page 73), the numbers displayed alongside the document can be interpreted as "lines".

Note: For video and audio documents, line/paragraph numbers, and the margin area are not displayed.

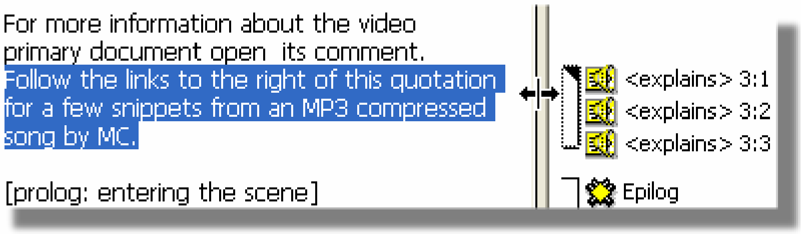
Margin Area [8]

Margin Area button

To the right hand side of the PD area is the optional **margin area**. Brackets are used to indicate quotations. Attached codes, memos, and hyperlinks are displayed next to the brackets.

The margin area is fully interactive: the displayed objects are sensitive to mouse clicks and have their own context menus. In addition, a variety of drag-and-drop options are possible. See "Margin Drag & Drop" on page 135 for more detail.

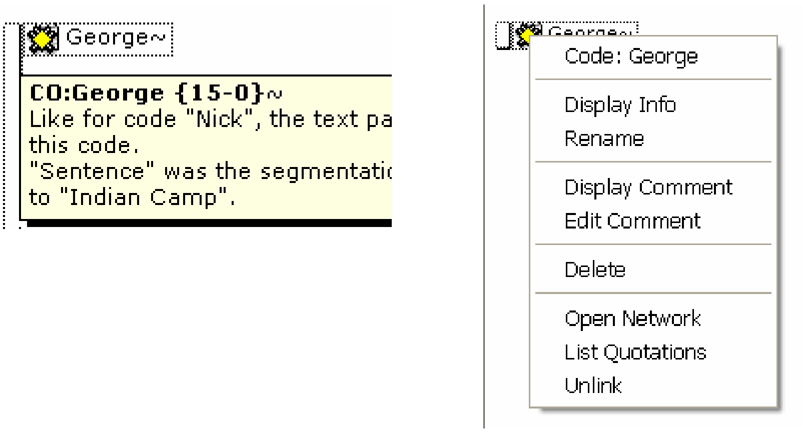
Resize the margin area using the split bar [9] between the PD pane and the margin pane.



For more information about the video primary document open its comment. Follow the links to the right of this quotation for a few snippets from an MP3 compressed song by MC.

[prolog: entering the scene]

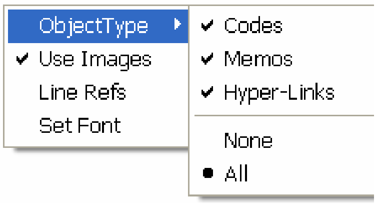
Objects in the margin area are "click-sensitive". Double-click on an object to display comments. Right click on an object to open a context menu.



George~

CO:George {15-0}~
Like for code "Nick", the text pa
this code.
"Sentence" was the segmentati
to "Indian Camp".

Figure 11 – Comment and context menu for a code in the margin area



Note: A general context menu can be opened inside the margin area by moving the mouse pointer onto the background between the objects. It allows you to set display properties of the objects.

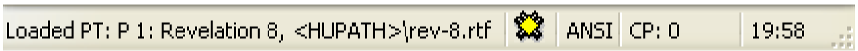
Margin area preferences

Several individual preferences can be set for the margin area: the kind of objects shown, whether icons should be used, whether in-place editing should be allowed, etc. In order to set your individual preferences:

Select **Extras/General Preferences** (or use the "hammer" button) and select the Margin tab. For further information, please refer to "The General Preferences Dialog" on page 337.

Status Bar [7]

The *status bar* is at the bottom of the window. The leftmost field informs the user about successful termination of operations, displays the file name of the currently loaded file, contains short help texts for menu items and buttons, and shows error messages when necessary.



Loaded PT: P 1: Revelation 8, <HUPATH>\rev-8.rtf ANSI CP: 0 19:58

Figure 12 - The HU Editor's Status Bar

The icon next to the main information field changes to a book when the PD is switched to edit mode.

The next field displays the document's content type (e.g., ANSI, OEM, Graphic).

Next comes a hint regarding the currently used code page (0 = standard code page).

The last field displays the current time.

The Pop-up Menus

Pop-up or "context" menus are activated with a right mouse button click.

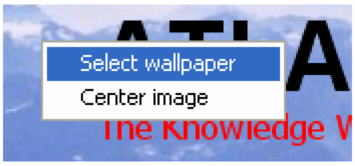
‘Context’ or ‘pop-up’ menus are used for commands that apply to a selected object or to a specific sub-pane inside a multi-pane window. A pop-up menu is activated by a right mouse click at the current location of the mouse pointer. They are also termed *context sensitive* because the offered commands depend on the type and the current state of the object or the context in which the menu was activated.

Using pop-up menus to initiate procedures is a three-step procedure typical for window-mouse user interfaces:

1. Select an object.
2. Open the pop-up menu with the right mouse button.
3. Select a command with the left mouse button.

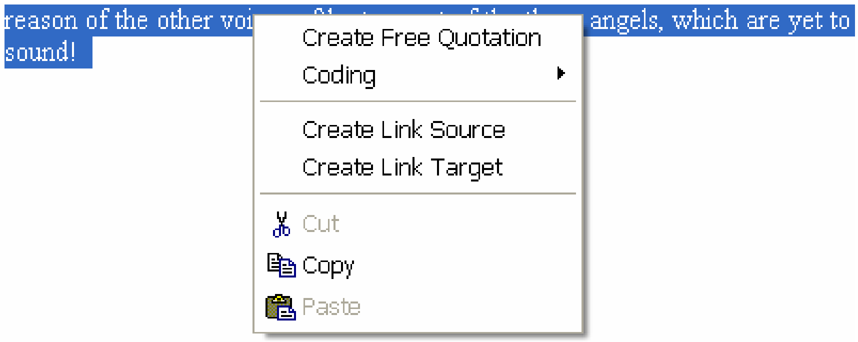
The HU editor provides specific pop-up menus in each of its sub-panes. The PD pane alone offers a variety of pop-up menus, depending on what is currently displayed or selected. When there is no PD displayed (e.g., directly after starting a session or after closing a PD) you get the wallpaper menu:

The Wallpaper pop-up menu.



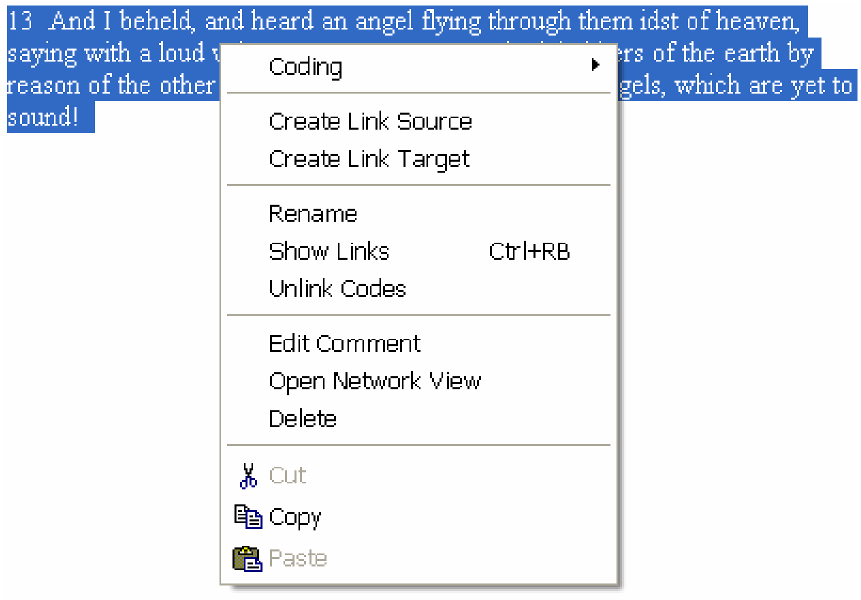
When a PD is loaded and a chunk of text is selected, a different pop-up menu is displayed:

Pop-up menu for selected text.



If the selection is an existing *quotation*, the pop-up menu gets more specific:

Pop-up menu for a quotation.



13 And I beheld, and heard an angel flying through them idst of heaven, saying with a loud v ... rs of the earth by reason of the other ... gels, which are yet to sound!

The commands are tailored to the objects under the cursor at the time the context menu pops up.

The Object Managers

Object Manager button

The advantage of drop-down lists is that they save space. To provide more efficient access to the objects listed in the drop-down lists, the lists can be displayed in a detached window. These windows are called **Object Managers** because they not only allow access to the objects, but provide many more options and functions. Although not an integral part of the HU editor, the Object Managers are common tools that are part of the main editor and therefore are described in this section.

Note for ATLAS.ti 4.2 users: Object Managers were formerly called *Extra Lists.*

Like many other tools that can be invoked from the main editor, an Object Manager is a *child* or dependent window of the main editor.

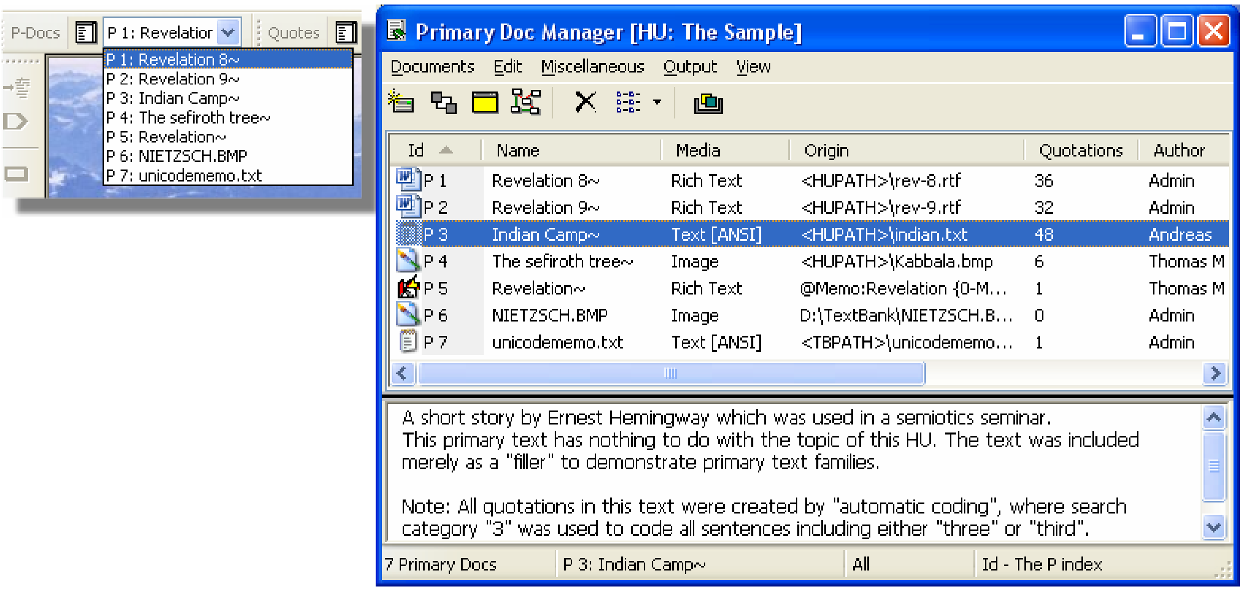
Child windows have some common properties:

- They are closely related to their parent window (here: the HU editor) and changes in either the child or the parent window are usually "broadcast" between them (like the selections of objects).
- They can be resized and positioned independently of their parent window.
- They are minimized when the parent window is minimized and they are restored with their parent window.
- They are closed when the parent window is closed.
- However, child windows do NOT move with the parent window.

On low resolution screens, Object Managers can cover relatively large areas of the workspace. You can use the roll-up mode to save screen space (see “Rollup Mode” on page 11).

Launching an Object Manager

To the left of every drop-down list is a button to launch the corresponding Object Manager.



Id	Name	Media	Origin	Quotations	Author
P 1	Revelation 8~	Rich Text	<HUPATH>\rev-8.rtf	36	Admin
P 2	Revelation 9~	Rich Text	<HUPATH>\rev-9.rtf	32	Admin
P 3	Indian Camp~	Text [ANSI]	<HUPATH>\indian.txt	48	Andreas
P 4	The sefiroth tree~	Image	<HUPATH>\Kabbala.bmp	6	Thomas M
P 5	Revelation~	Rich Text	@Memo:Revelation {0-M...	1	Thomas M
P 6	NIETZSCH.BMP	Image	D:\TextBank\NIETZSCH.B...	0	Admin
P 7	unicodememo.txt	Text [ANSI]	<TBPATH>\unicodememo...	1	Admin

A short story by Ernest Hemingway which was used in a semiotics seminar.
This primary text has nothing to do with the topic of this HU. The text was included merely as a "filler" to demonstrate primary text families.

Note: All quotations in this text were created by "automatic coding", where search category "3" was used to code all sentences including either "three" or "third".

Figure 13 – PD drop-down list and the corresponding Object Manager

Alternatively, choose **OBJECT MANAGER** from the corresponding main menu entry.

The Object Manager Window

The four Object Managers have some common properties. The general layout of their window is as follows:

Title, Menu, and Toolbar

The title bar displays the object type. In the figure above the PD Manager is shown. The menu and the toolbar below the title bar offer access to frequently used functions, some of which are also accessible from pop-up menus.

As the functions are different for all four object types, menu and toolbar options differ for the four Object Managers. The toolbar options are described in more detail below. The menu items resemble the corresponding main menus in the HU Editor (see “Reference” on page 337 for a description of all menu items).

Note that not all options are available at all times. Some menu and toolbar options need either a single selection or multiple selections.

The List Pane

Below the toolbar is the list pane. Unlike the Object Explorer or the Network Editor that can handle heterogeneous collections of objects, the Object Managers display objects of only one type. When you are in “Details” view mode, a number of attributes of the items are displayed in a table-like manner. The order of the columns can be changed by dragging a column to a different position in the list. Items can be sorted or reversed by clicking on the respective column header.

The Text Pane

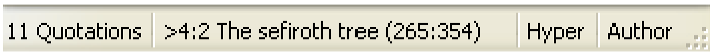
The text pane, located below the list pane, displays the comment or, in the case of memos, the text body. All text panes are Rich Text compatible.

The Split Bar

The relative size of the list and comment pane can be modified by dragging the split bar between the two panes. The cursor changes when the mouse moves over the split bar. You can resize the adjacent panes by dragging the split bar to the desired position.

The Status Bar

The status bar’s fields display from left to right the number of objects, the selected object, the filter, and the sort option.


11 Quotations | >4:2 The sefiroth tree (265:354) | Hyper | Author

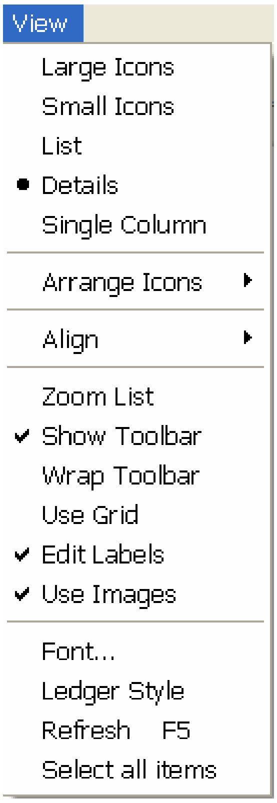
The status bar above indicates that the Quotation Manager lists 11 quotations with quotation 4:2 selected. The filter is set to display only hyperlinked quotations, and items are sorted by “Author.”

For additional information about how to use the status bar for sort- and filter-related procedures see “Sorting and Filtering” on page 137.

The Pop-Up Menus

The list and text panes offer context sensitive pop-up menus. The list pane’s context menu contains a portion of the commands available from the main menu for the selected objects. The text pane’s menu offers standard commands for editing and formatting.

View Menu



View Options are the same for all Object Managers.

Choose between viewing large icons, small icons, a list of items, or a list of items plus additional information in details view.

ARRANGE ICONS and **ALIGN** permits some control over the default positions of items in icon and list view.

ZOOM LIST hides the toolbar, comment pane, and status bar. In combination with Single Column view, the appearance resembles the old-style Object Lists of ATLAS.ti 4.

SHOW TOOLBAR toggles display of the toolbar.

WRAP TOOLBAR displays all buttons in multiple rows if needed.

USE GRID displays lines between rows in Details view.

EDIT LABELS enables in-place editing.

USE IMAGES toggles the display of item icons.

FONT individually specifies the font used for this list. The default font for the list and the text area can be set in General Preferences.

LEDGER STYLE shades every other row.

REFRESH (F5) refreshes the list display.

SELECT ALL ITEMS is self-explanatory.

Selecting Items in Object Managers

Next to thinking, clicking will likely be one of the most frequent activities when working with ATLAS.ti.

Clicking is done in many different ways such as single- and double-clicking and clicking with the left or the right mouse button. The "semantics" of a mouse-click are not perfectly straightforward, and a few variations must be learned.

A single click ***selects*** *an object, a double-click* ***executes*** *an associated action for the object.*

A single click with the left mouse button selects and highlights an item in each of the Object Managers.

Double-clicking an item selects the object and invokes a procedure depending on the type and state of the object. The effect of a double-clicking is described for each of the Object Managers below.

For multiple selections, you may use the standard Windows selection techniques.

Sorting and Filtering

The Object Managers permit comfortable sorting and filtering. See “Sorting and Filtering” on page 137 for details.

Incremental List Search

This feature is available in the list pane of all Object Managers. Select any item in the list and type in an arbitrary sequence of characters to jump to a subsequent list entry matching this sequence.

For example, suppose a number of codes begin with "em" (e.g., "Emotions") and others with "ex" (e.g., "External Reference"): typing "em" will jump to the first of the "EMotion …" codes, while entering "ex" will jump to "EXternal reference." Every other character typed advances the focus to the next list entry unless a matching name cannot be found.

*The asterisk * enables mid-string matches for incremental search.*

A very powerful variation to locate list entries is by typing the asterisk (*) as the first character. While the standard incremental search is always anchored to the start of the name, using the asterisk allows the matching string to appear anywhere inside the name.

Example: typing “*ref “ would jump to entry "External Reference" while “ref” would stop at “Reference” if such an entry exists.

This feature is especially useful for searching the Quotation Manager, as quotations have a numeric prefix (like 208:1977).

Note: You need to avoid long breaks between entering characters. After a certain system-defined timeout, the next character starts a new forward search.

In-place Label Editing

In-place editing in Object Managers is a convenient way to rename objects. On a selected item, you can initiate in-place editing by either clicking again or pressing the F2 key. Don't rush the second click, though, as this initiates a double-click action.

Editing Text

In the Object Managers, the comment for the selected object or a memo’s content is displayed in the text pane below the list pane. You may edit the text right there or you might prefer to open a full-fledged text editor. For minor changes, working in the Object Manager’s text pane is quite comfortable.

There are several ways to save a changed comment. With General Preferences set to "Accept changes in browser silently," an object’s comment (or a memo’s body) is saved automatically whenever you select another object in the list. This is a quick way to save. However, you will also change the text if you click on another item accidentally.

If you are not using the Quick Save option, you need to confirm saving the comment/memo when selecting another object in the list.

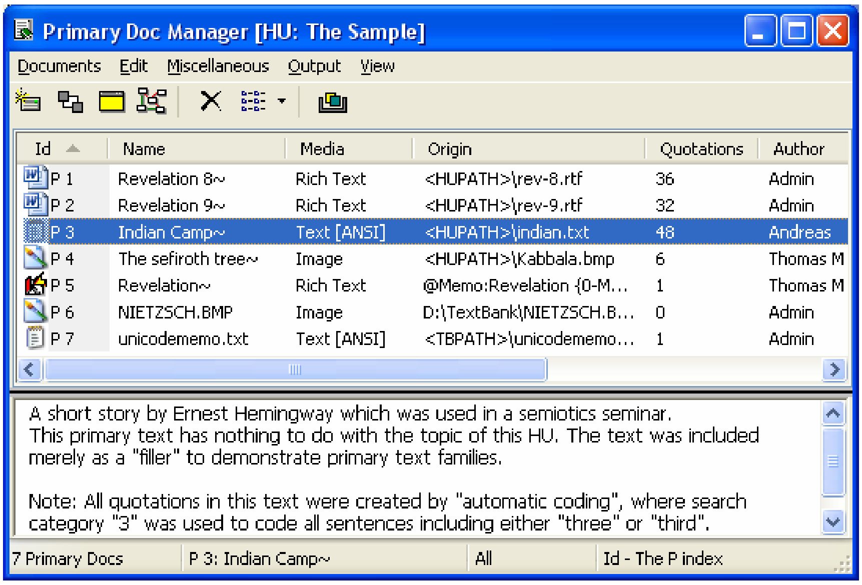
Changes can be explicitly saved at any time by pressing the **Ctrl-S** key combination, or via **Edit/Accept** from the Object Manager's menu.

Primary Document Manager

For many operations, the Primary Document Manager is easier to handle than the drop-down list. For instance, using drag & drop, files can be assigned directly and very efficiently to an HU (see "Assigning Documents using Drag & Drop" on page 68).

The PD Manager also allows drag & drop rearranging of the documents (see "Rearranging Primary Documents Using Drag & Drop" on page 70).

One document is selected in the PD Manager. Its comment is displayed in the text pane.


Primary Doc Manager [HU: The Sample]
Documents Edit Miscellaneous Output View
7 Primary Docs
P 3: Indian Camp~
All
Id - The P index

Id	Name	Media	Origin	Quotations	Author
P 1	Revelation 8~	Rich Text	<HUPATH>\rev-8.rtf	36	Admin
P 2	Revelation 9~	Rich Text	<HUPATH>\rev-9.rtf	32	Admin
P 3	Indian Camp~	Text [ANSI]	<HUPATH>\indian.txt	48	Andreas
P 4	The sefiroth tree~	Image	<HUPATH>\Kabbala.bmp	6	Thomas M
P 5	Revelation~	Rich Text	@Memo:Revelation {0-M...	1	Thomas M
P 6	NIETZSCH.BMP	Image	D:\TextBank\NIETZSCH.B...	0	Admin
P 7	unicodememo.txt	Text [ANSI]	<TBPATH>\unicodememo...	1	Admin

A short story by Ernest Hemingway which was used in a semiotics seminar.
This primary text has nothing to do with the topic of this HU. The text was included merely as a "filler" to demonstrate primary text families.

Note: All quotations in this text were created by "automatic coding", where search category "3" was used to code all sentences including either "three" or "third".

Figure 14 - The Primary Document Manager with one PD selected. Its comment displayed in the text pane.

Single-click selects a quotation. If you have written a comment for the selected PD, it is displayed in the text pane.

Single-click – pause – single-click (or **F2**) activates in-place editing of PD names.

Double-click: Double-clicking a PD loads the data source and displays its content in the PD pane.

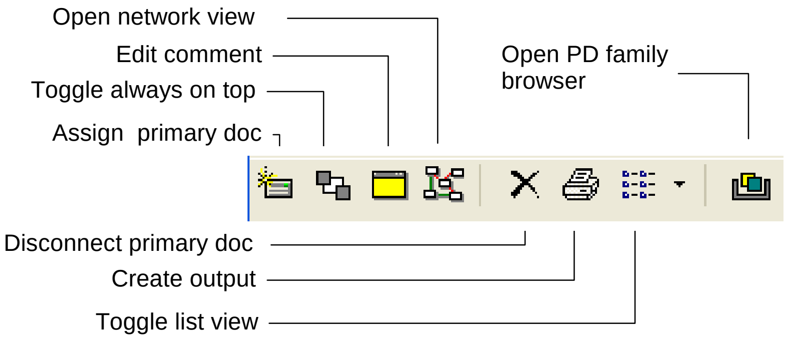
Multiple Selection: You can select more than one PD at a time. This is useful for printing a selected list of PDs (**Output/List**).

Colors:

- Usable PDs are colored black.
- PDs that are available but cannot be loaded due to a consistency problem are colored red.
- PDs with an inaccessible data source file are colored gray.

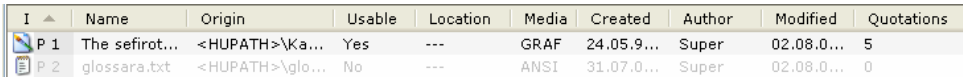
The PD Manager Toolbar

The toolbar is a convenient alternative to selecting procedures via the menus.



PD Manager List Columns

The columns of the PD Manager's details view offer a vast amount of information to keep track of possible access problems. The arrangement of columns may differ from your current setting.



I	Name	Origin	Usable	Location	Media	Created	Author	Modified	Quotations
P 1	The sefirot...	<HUPATH>\Ka...	Yes	---	GRAF	24.05.9...	Super	02.08.0...	5
P 2	glossara.txt	<HUPATH>\glo...	No	---	ANSI	31.07.0...	Super	02.08.0...	0

ID: The internal ID number assigned to the document when it was first added as a PD. An icon indicates the document type.

Name: The name of the PD. Note that this name can differ from the file name, as PDs can be renamed within ATLAS.ti.

Origin: The original location of the PD's data source from where it was assigned to the HU.

Usable: 'Yes' indicates that a PD's data source can be loaded, and 'no', indicates that the data source not accessible. See "How ATLAS.ti Handles Documents" on page 93 for further information.

Location: The actual location of the data source file acquired via redirection. Dashes indicate that Origin and Location are identical.

Media: The media type.

Author: The name of the ATLAS.ti user who assigned the document.

Created: The date the document was assigned to this HU.

Modified: The date when the PD was last modified. Modification is not the modification of the data source, but the date of last usage within ATLAS.ti, e.g., a quotation was created or removed.

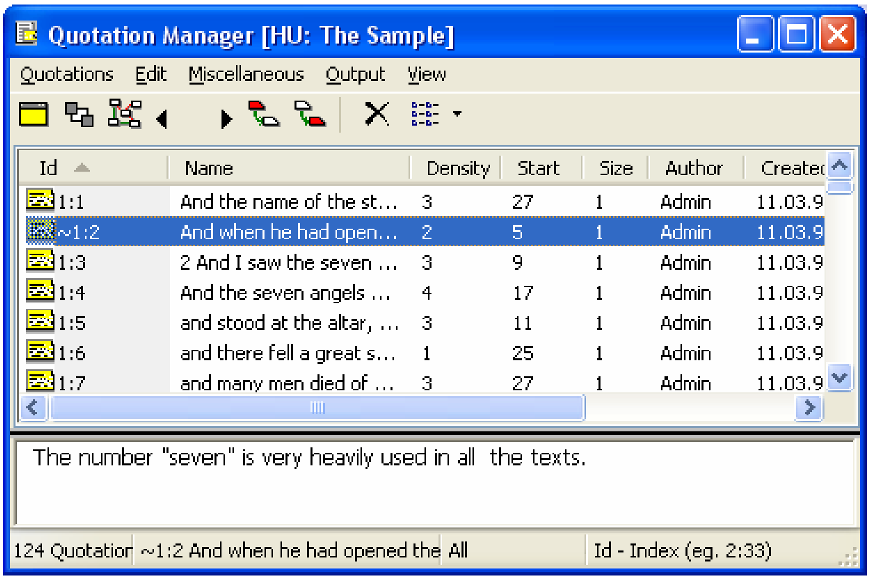
Quotations: The number of quotations created for this PD.

Quotation Manager

This Manager offers you several display and sorting options.

A double-click on a quotation loads its PD (unless already loaded)n and displays its content in context..

In this example, quotation "1.2" is selected and its comment displayed in the text pane.



Id	Name	Density	Start	Size	Author	Createc
1:1	And the name of the st...	3	27	1	Admin	11.03.9
~1:2	And when he had open...	2	5	1	Admin	11.03.9
1:3	2 And I saw the seven ...	3	9	1	Admin	11.03.9
1:4	And the seven angels ...	4	17	1	Admin	11.03.9
1:5	and stood at the altar, ...	3	11	1	Admin	11.03.9
1:6	and there fell a great s...	1	25	1	Admin	11.03.9
1:7	and many men died of ...	3	27	1	Admin	11.03.9

The number "seven" is very heavily used in all the texts.

124 Quotatior ~1:2 And when he had opened the All Id - Index (eg. 2:33)

Figure 15 - The Quotation Manager

Single-click selects a quotation. If you have written a comment for the selected quotation, it is displayed in the text pane.

Single-click – pause – single-click (or **F2**) activates in-place editing of quotation names.

Double-click: A double-click on a list entry displays the selected quotation in context.

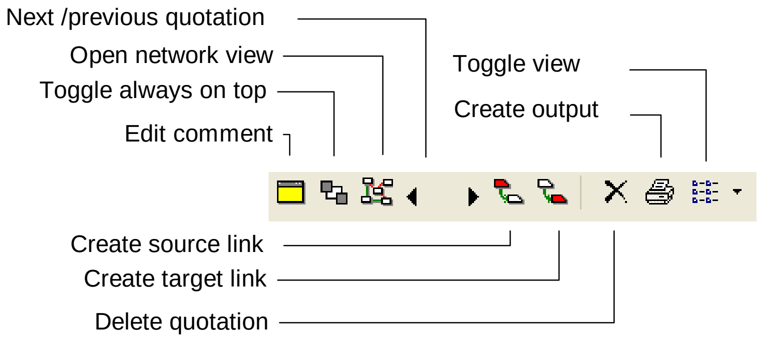
Multiple Selection: You can select more than one quotation at a time, either to delete them, to attach codes, to open a network on them, or to create output.

Drag & Drop: By dragging one or more quotations onto other quotations, you create hyperlinks.

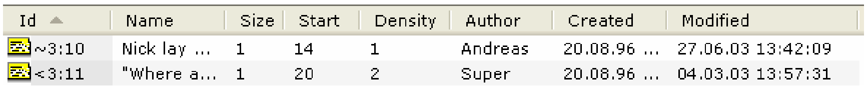
Colors: The color pattern for quotations follows the same rules as for PDs:

- Quotations that can be activated and displayed are listed in black.
- Quotations from PDs that are available but cannot be loaded due to a mismatching log file or other problems are displayed in red.
- Quotations from PDs with inaccessible data source files are displayed in gray.

Quotation Manager Toolbar



Quotation Manager List Columns



Id	Name	Size	Start	Density	Author	Created	Modified
~3:10	Nick lay ...	1	14	1	Andreas	20.08.96 ...	27.06.03 13:42:09
<3:11	"Where a...	1	20	2	Super	20.08.96 ...	04.03.03 13:57:31

ID: The ID combines the PD ID and the quotation sequence number. In the example above, the first ID number is 3:10, which means that the quotation is part of the third (3:) document, and it is the 10th (:10) quotation that was created in this document. Quotations are numbered in chronological and not in sequential order. The tilde sign ~ indicates that a comment was written for this quotation; the bracket symbol < indicates that the quotation is a start anchor for a hyperlink

Name: The first few characters of a quotation are used as the default list name. This name can be changed if desired. The default name of a graphic, audio, or video quotation is the name of the data file name.

Size (item type dependent):

- Text quotation: number of lines/paragraphs defined by the number of hard returns
- Graphic quotation: height in pixel of the quotation’s rectangle.
- Audio quotation: milliseconds
- Video quotation: frames

Start (item type dependent):

Text quotation: line/paragraph number and start position within the paragraph.

Graphic quotation: upper left coordinate

Audio quotation: h:mm:ss:mil (hours:minutes:seconds: milliseconds)

Video quotations: start frame

Density: Number of links to other quotations.

Author: Name of user who created the item.

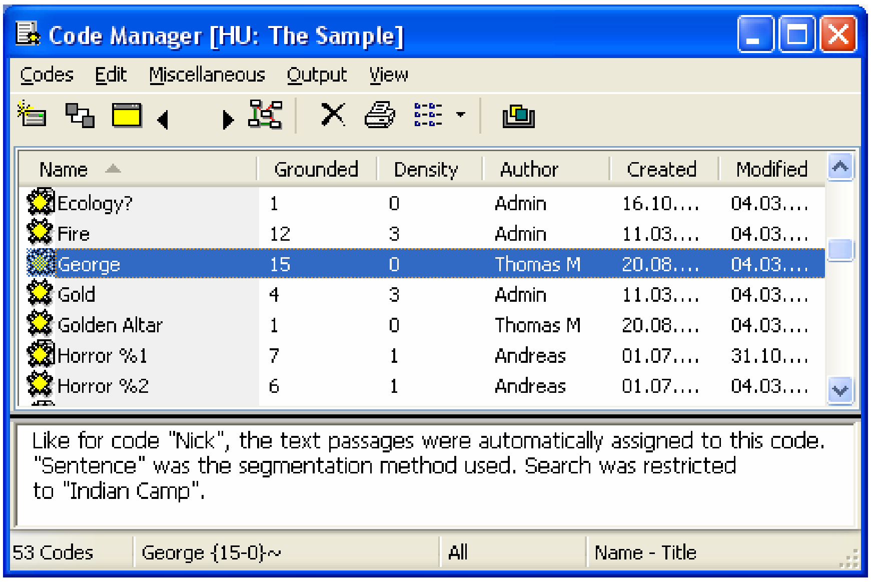
Created: Creation date and time.

Modified: Date and time of last modification.

Code Manager

Besides the HU Editor, the Code Manager will probably one of your most frequently used tools.

A double-click on a code displays the coded quotation highlighted in the context of its PD. If more than one quotation is associated with this code, a list pops up from which a quotation can be selected.


Code Manager [HU: The Sample]
Codes Edit Miscellaneous Output View

Name	Grounded	Density	Author	Created	Modified
Ecology?	1	0	Admin	16.10....	04.03....
Fire	12	3	Admin	11.03....	04.03....
George	15	0	Thomas M	20.08....	04.03....
Gold	4	3	Admin	11.03....	04.03....
Golden Altar	1	0	Thomas M	20.08....	04.03....
Horror %1	7	1	Andreas	01.07....	31.10....
Horror %2	6	1	Andreas	01.07....	04.03....

Like for code "Nick", the text passages were automatically assigned to this code. "Sentence" was the segmentation method used. Search was restricted to "Indian Camp".

53 Codes | George {15-0}~ | All | Name - Title

Figure 16 - Code Manager

The Code Manager is frequently used to create and modify codes, to code data segments via drag & drop, and to retrieve coded data segments. It can also be used to sort your codes in multiple ways in order to analyze codebook evolution.

Single-click: Selects a code. If you have written a definition for the selected code, it is displayed in the text pane. Once selected, the code can be used for drag & drop coding.

Single-click – pause – single-click (or **F2**) activates in-place editing of code names.

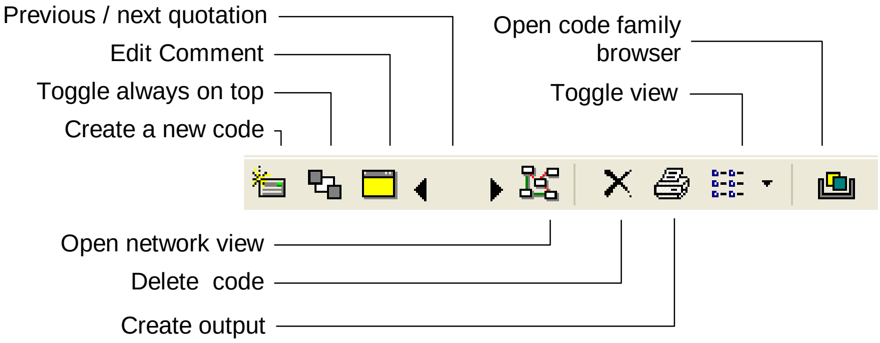
Double-click: Opens a list of quotations that have been coded with this code.

Multiple Selection: You can select more than one code at a time to delete, code a data segment with all of the selected codes, open a network, create output, assign them to one or more code families, or to create a code family containing the selected codes (**CODES/EDIT FAMILY**).

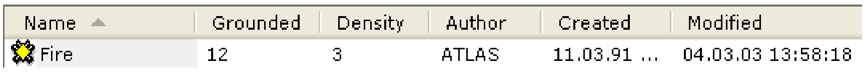
Drag & Drop: You can use the Code Manager as a convenient tool for coding by dragging codes onto a highlighted piece of data. If you drag codes onto another code within the same list pane, code-links will be created.

Colors: When icons are not displayed, Super Codes are displayed in red.

Code Manager Toolbar



Code Manager List Columns



Name	Grounded	Density	Author	Created	Modified
Fire	12	3	ATLAS	11.03.91 ...	04.03.03 13:58:18

Name: Code name.

Grounded: Code frequency or "groundedness" (i.e., the number of quotations to which the code is applied).

Density: Number of links to other codes.

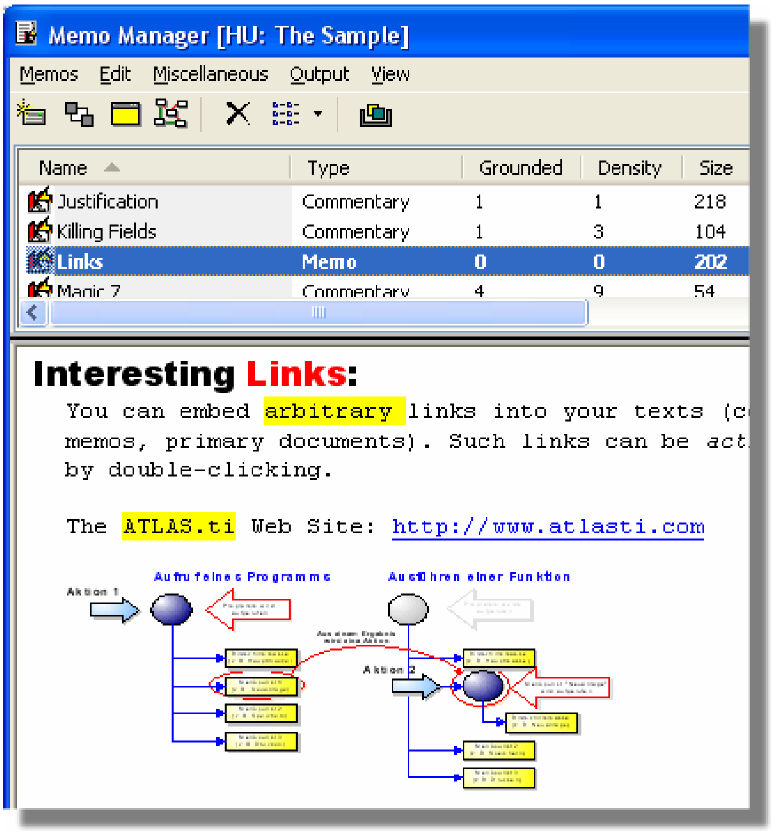
Author: User who created the code.

Created: Creation date and time.

Modified: Date and time of last modification.

Memo Manager

The Memo Manager lists the HU's memos. Memos created today are listed in bold font. The text pane displays the content of the selected memo.



Name	Type	Grounded	Density	Size
Justification	Commentary	1	1	218
Killing Fields	Commentary	1	3	104
Links	Memo	0	0	202
Magic 7	Commentary	4	9	54

Interesting Links:

You can embed arbitrary links into your texts (c
memos, primary documents). Such links can be act
by double-clicking.

The ATLAS.ti Web Site: http://www.atlasti.com

Figure 17 – Memo Manager

Single-click selects a memo. The content of the memo is displayed in the text pane.

Single-click – pause – single-click (or **F2**) activates in-place editing of memo titles.

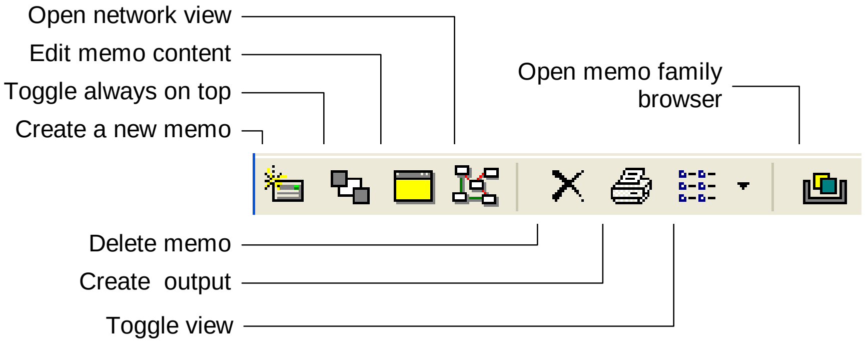
Double-click opens the memo editor. This behavior can be changed to activate the quotation associated with a memo via General Preferences.

Multiple Selection: You can select more than one memo at a time for bulk deletion, to attach all selected memos to a data segment, to open a network on them, to create output, to assign them to one or more memo families, or to create a memo family containing the selected memos (**MEMOS/EDIT FAMILY**).

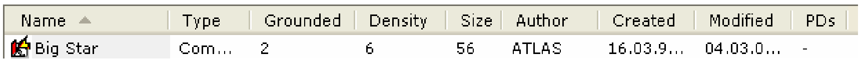
Drag & Drop: You can attach a memo to a data selection ("memoing") by dragging it into the PD pane (applies to text and image data).

Colors: Memos content resides in the HU's file storage until selected for the first time. Memos, which are not yet loaded are displayed in gray. Memos which were created or modified today are displayed bold.

Memo Manager Toolbar



Memo Manager List Columns



Name	Type	Grounded	Density	Size	Author	Created	Modified	PDs
Big Star	Com...	2	6	56	ATLAS	16.03.9...	04.03.0...	-

Name: Memo title.

Type: Memo type.

Grounded: Number of quotations to which a memo is connected.

Density: Number of objects to which a memo is connected. Density is at least the size of “groundedness” because associated quotations are counted.

Size: Size of text. Counts characters and embedded objects.

Author: Name of the user who created the memo.

Created: Creation date and time.

Modified: Date and time of last modification.

PDs: Indicates whether the memo is used as the data source for one or more PDs. A dash indicates that it is not used as a PD.

Working with ATLAS.ti

This section describes how to start and end an ATLAS.ti session, how to create and save a project (a Hermeneutic Unit, in ATLAS.ti terminology), how to assign and load primary documents, and how to navigate within Primary Documents (PDs).

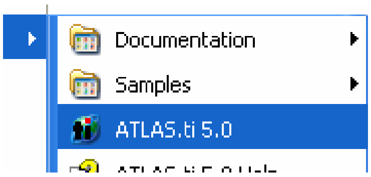
Note: Make sure to check out the Project Management section before starting any serious projects. You can save yourself a lot of time and trouble by following a set of simple rules for proper planning, storing, and moving your ATLAS.ti project files. See "Project Management" on page 270 for details.

Starting and Ending an ATLAS.ti Session

Starting ATLAS.ti

ATLAS.ti can be started like many other Windows applications, e.g., via the Windows Start menu or by clicking on projects or program shortcuts:

Select ATLAS.ti from the Programs menu: **START BUTTON/PROGRAMS/SCIENTIFIC SOFTWARE.**



Double-click on the program's shortcut on the desktop (if you have created one).

Double-click on an existing Hermeneutic Unit (HU) in the Windows Explorer. You can create a fresh HU via a folder's context menu's NEW/HERMENEUTIC UNIT entry.

Proverbs.hpr5

The wizard is not displayed if you select an existing project to start the session.

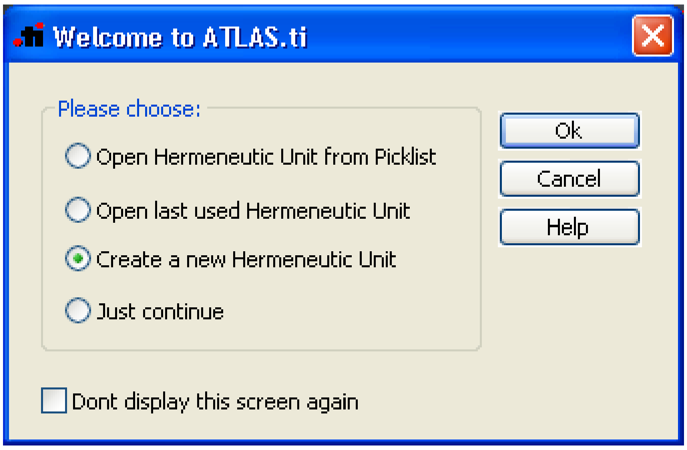
If you started ATLAS.ti directly (not by selecting a project), you will see the ATLAS.ti Welcome "Wizard" (see Figure 18), which offers four options to start a session.

Open Hermeneutic Unit from Picklist: If you choose this option, you can select from a list of recently used HUs. If this is the first time you open ATLAS.ti, you are offered the sample projects.

Open last used Hermeneutic Unit loads the most recently used HU.

In order to start a new project, select the option **Create a new Hermeneutic Unit.**

Click on **Just continue**, if you want to close the wizard and return to the HU Editor.



Welcome to ATLAS.ti

Please choose:

○ Open Hermeneutic Unit from Picklist

○ Open last used Hermeneutic Unit

● Create a new Hermeneutic Unit

○ Just continue

□ Dont display this screen again

Figure 18 – The Welcome Wizard

Select one of the four options and click **OK**.

Note: If you do not choose anything from the "Wizard," it will time out and close automatically after a minute. You can always get it back by choosing **OPEN WELCOMEWIZ** from the HU Editor's **HELP** menu.

Logging In

By default (i.e., when first opening the program), you are automatically logged in as "Super." ATLAS.ti associates the user currently logged in with all objects (like codes, quotations, memos, etc.) created during a session. If you keep the default settings, all objects are 'stamped' with the user name "Super."

Create your own user account!

We recommend that you create your own user account (**EXTRAS/USER EDITOR**), so that all objects are ‘stamped’ with your real name. If you are the only person working on a project or are responsible for a team, do not forget to assign administrative permissions to yourself. Then login under **EXTRAS/LOGIN** and deactivate the option *Automatic Login*. This way, you are prompted to login every time you start a session. For further information consult the section “User Management” on page 264.

Ending your ATLAS.ti Session

When you have finished working, select **FILE/QUIT** from the HU editor’s main menu to close the session.

Creating, Opening and Saving a Hermeneutic Unit

Creating a Hermeneutic Unit

For more detail on how to best set up a project see “Project Management” on page 270.

When you start ATLAS.ti and a recently used HU is not loaded, you will see “New Hermeneutic Unit” in the caption of the HU Editor. You can start working right away on this new HU. Alternatively, you can choose **NEW HERMENEUTIC UNIT** from the File menu to open a new HU.

To provide a name for your HU, save it to disk:

1. Choose **FILE/SAVE AS** from the main menu, which opens a standard file dialog.
2. Browse to the desired folder and enter the name for your HU.
3. Click **SAVE**.

Write a comment for your HU. You and your team members will benefit from this useful information.

Recommendation: Make it a habit to write a short comment for any new HU. Describe the project’s goals and intentions. HU comments are displayed in the HU Browser and in HTML and XML output. HU comments are also displayed when reviewing file properties with Windows Explorer. To write an HU comment, click on the comment button in the main toolbar.

Opening a Hermeneutic Unit

The Welcome Wizard opens upon start-up unless you have checked the option in General Preferences to always load the last used HU or checked the box in the Welcome Wizard next to “Don’t display this screen again.” The Wizard offers options to work with a recently used HU, create a new one, etc.

Note: No special actions are needed to load an HU created with version 4.2 of ATLAS.ti into ATLAS.ti 5. Old HUs are automatically converted to the new format.

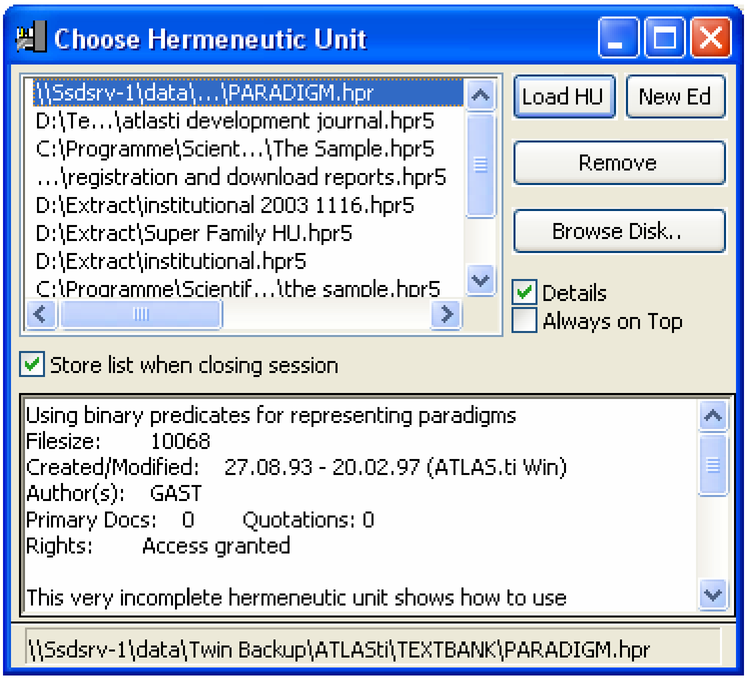
To open a Hermeneutic Unit using the standard Windows file dialog

1. From the ATLAS.ti main menu select **FILE/OPEN** (shortcut: Ctrl-O)
2. The Open Hermeneutic Unit file dialog appears. The default folder for ATLAS.ti projects is the "Textbank" directory, which is assumed to be your main repository for HUs and PDs.
3. Select a HU and click **OPEN**.

To open a Hermeneutic Unit using the HU Browser

The HU Browser is an alternative to the standard file dialog. It offers the list of most recently used HUs. This list is also offered at the end of the File menu. To open the HU Browser:

1. Choose **FILE/BROWSE...** from the main menu.
2. Select a HU and click Load HU.
3. The HU will be loaded in a new HU Editor.


Choose Hermeneutic Unit
\\Ssdsrv-1\data\...\PARADIGM.hpr
D:\Te...\atlasti development journal.hpr5
C:\Programme\Scient...\The Sample.hpr5
...\registration and download reports.hpr5
D:\Extract\institutional 2003 1116.hpr5
D:\Extract\Super Family HU.hpr5
D:\Extract\institutional.hpr5
C:\Programme\Scientif...\the sample.hpr5
Load HU
New Ed
Remove
Browse Disk..
☑ Details
□ Always on Top
☑ Store list when closing session

Using binary predicates for representing paradigms
Filesize: 10068
Created/Modified: 27.08.93 - 20.02.97 (ATLAS.ti Win)
Author(s): GAST
Primary Docs: 0 Quotations: 0
Rights: Access granted

This very incomplete hermeneutic unit shows how to use

\\Ssdsrv-1\data\Twin Backup\ATLASti\TEXTBANK\PARADIGM.hpr

Figure 19 - The HU Browser and info pane

The browser displays some information about the selected HU, e.g., its location, date of creation, (co-) authors, number of assigned PDs, quotations, codes, and its comment.

If needed, you can launch the standard file dialog from within the HU Browser by clicking the **BROWSE DISK** button.

If you want to clean up the list of recently used HUs, click the **REMOVE** button. This action deletes the list entry, not the HU itself.

The HU browser can display files from HUs that are in different

Although the standard file dialog is generally more flexible, the HU browser's capability of displaying files from different locations in one list is often quite convenient. However, if you only want to *disk locations.*

"open," you can simply choose from the list of most recently used HUs available in the **FILE** menu.

To open a recently used Hermeneutic Unit

1. Open the File menu.
2. Select an HU from the list below the menu option "quit." The list might be empty if no HU was ever used before.

To open the most recently used Hermeneutic Unit at start-up

When starting ATLAS.ti, the last used HU can be loaded automatically. This start-up method can be selected under **EXTRAS/GENERAL PREFERENCES/HU EDITOR** (see General Preferences "Section: HU-Editor" on page 339).

To open a Hermeneutic Unit using Drag & Drop

You can drag files from Windows Explorer or the desktop:

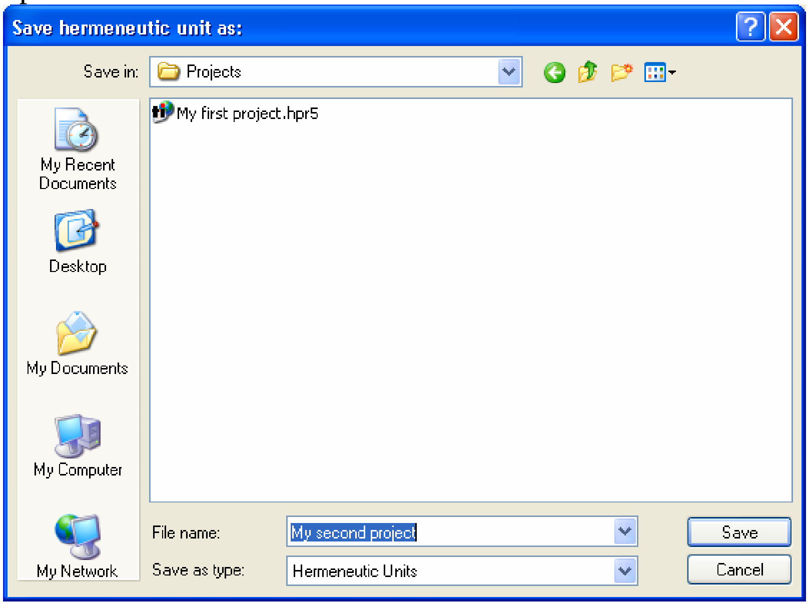
From Windows Explorer, your desktop, or any other folder containing HU files, drag an HU onto the HU Editor's main pane or caption.

Saving a Hermeneutic Unit

If you haven't saved your work already, you will be asked to save the HU when you close the HU Editor. If you leave ATLAS.ti without saving, your work during the last session is lost.

To save the currently open HU:

1. Select **FILE/SAVE AS** from the main menu. The file dialog opens:



Save hermeneutic unit as:

Save in: Projects

My first project.hpr5

File name: My second project

Save as type: Hermeneutic Units

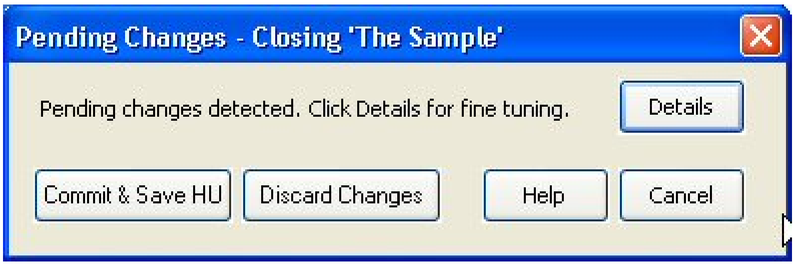
Figure 20 - Save Hermeneutic Unit dialog window

2. Select a folder and enter a name for your HU.

3. Click on the **SAVE** button. The extension .HPR5 is automatically appended to the filename.

Pending Changes

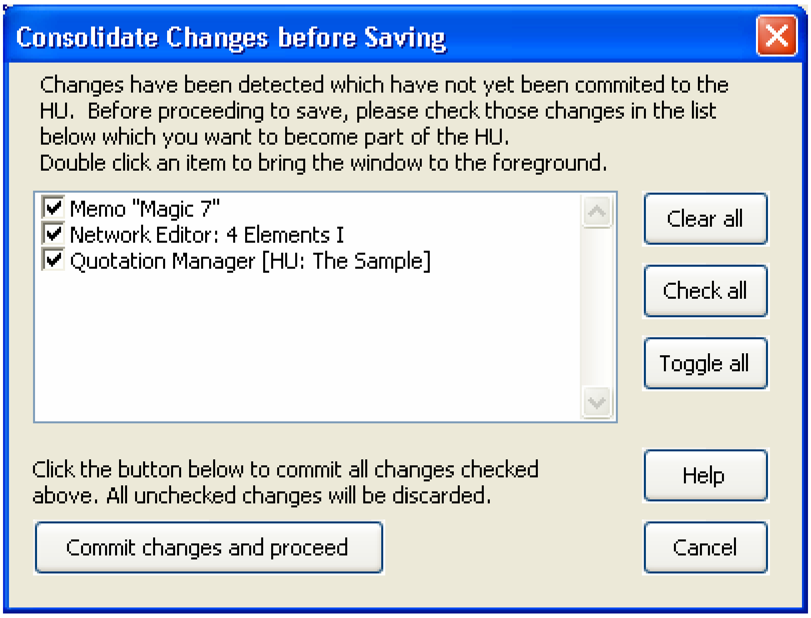
Pending changes are changes in open memo or comment text editors (unless you have saved the text) and in network editors with modified layout that has not yet been saved. If you are currently editing a PD's data source, this would also count as a pending change. If any pending changes are detected when you are about to close or save the HU, you will be offered the choice to accept or discard such changes. By accepting the changes, they become part of the HU and are then saved to disk along with all other changes in the HU.



Pending changes detected. Click Details for fine tuning.

Figure 21 Pending changes detcted - click Details opens the dialog below

The extended dialog below lists all pending changes and allows control over which pending changes are to be committed.



Changes have been detected which have not yet been commited to the HU. Before proceeding to save, please check those changes in the list below which you want to become part of the HU.
Double click an item to bring the window to the foreground.

☑ Memo "Magic 7"
☑ Network Editor: 4 Elements I
☑ Quotation Manager [HU: The Sample]

Click the button below to commit all changes checked above. All unchecked changes will be discarded.

Figure 22 Lists all objects with pending changes

Before taking any further action you can inspect any pending changes in their respective editors simply by double-clicking an item in the list.

Backup Copies

You can set preferences so that ATLAS.ti creates a backup copy of an existing HU before overwriting it on **save** (**EXTRAS/GENERAL**

Preferences/Storage). Backup files can be distinguished from their original by a name prefix: For file “Sample.hpr5” a backup file “backup of Sample.hpr5” would be created.

Crash Recovery: Automatic Backup

Keep both the regular backup and the automatic recovery backup on!

As “backup of ..” files are only created from the previous HU when saving the current HU, this functionality would not protect you from losing the work you completed since the last save in the event of abnormal termination of the program, e.g., caused by system crashes or power failures.

For such situations, an automatic periodic backup feature is provided that will store recovery information every 10 minutes (or a period of time you can set via **Extras/General Preferences**).

Should ATLAS.ti or Windows crash or in any other way be terminated irregularly (e.g., a power failure), the amount of work lost is only the work conducted since the last recovery backup (or regular save). When exiting ATLAS.ti or after saving the HU, the recovery backup file is removed automatically. It is strongly recommended to keep this feature on.

Note: When you experience long delays at the scheduled times when working with large HUs, increase the period, instead of turning this option off.

When you restart ATLAS.ti after a crash, it will ask you if you want to load a recovery backup of your HU if this backup is indeed newer than the one you last saved.

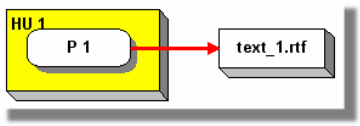
Note: Any pending changes in open text or Network Editors are not saved by the recovery backup feature. Saving such changes from time to time will preserve these changes.

See General Preferences “Section: Storage” on page 342.

Assigning Primary Documents

“Assigning PDs” is indeed a sloppy term, and we left it as is mainly for historical reasons. A more accurate name would be “Create PD” or “Assign as PD” or “Assign Data Source”.

Indeed, whenever you do a “**Documents/Assign**”, a new Primary Document, which is an ATLAS.ti internal object, is created, e.g., (“P 1”) and the “data source” (e.g., file *text_1.rtf*) is associated with this PD at the same time. This distinction between a PD and the actual data source (a file-based document or a memo) is explained in more detail in “How ATLAS.ti Handles Documents” on page 93).



A PD refers to a data source (e.g., a file)

More than one data source can be assigned as a PD at the same time (e.g., by selecting multiple files in the file dialog), but there is no need to assign all documents at one time. You can assign more files during the course of the analytical process.

Bulk-assigned files are listed in alphabetically order. For every PD created during assignment, an ID is created consisting of a prefix "P" and a consecutive number. In addition, the name of the data source (file name) is appended to the ID. This name can be changed later for display purposes.

By default, all files assigned as PDs are referenced in the most effective way. (see "How ATLAS.ti Handles Documents" on page 93).

One Data Source – Many PDs

If you plan to analyze a single document source from several different perspectives, there is no need to create physical copies of the document and assign each of the copies as a PD to the HU. A single data source can be assigned more than once, which creates as many PDs, each with its own number and name, but they all refer to the same data source.

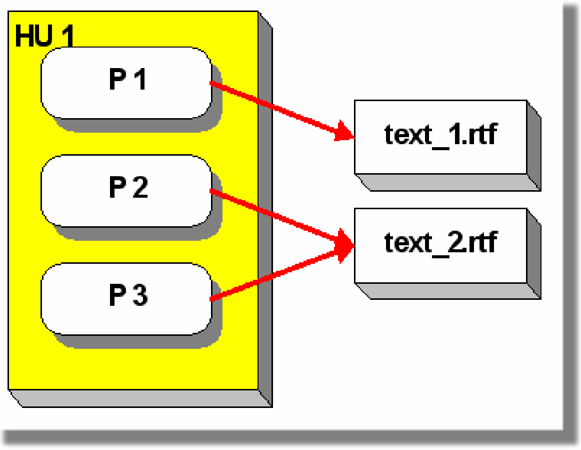


Figure 23 The two PDs P 2 and P 3 share one data source (text_2.rtf)

This “one source - multiple PDs” principle is not restricted to one HU. A data source can be assigned as a PD (or many PDs) in more than one HU. This is usually the case in team scenarios. Each PD, however, refers to exactly one data source.

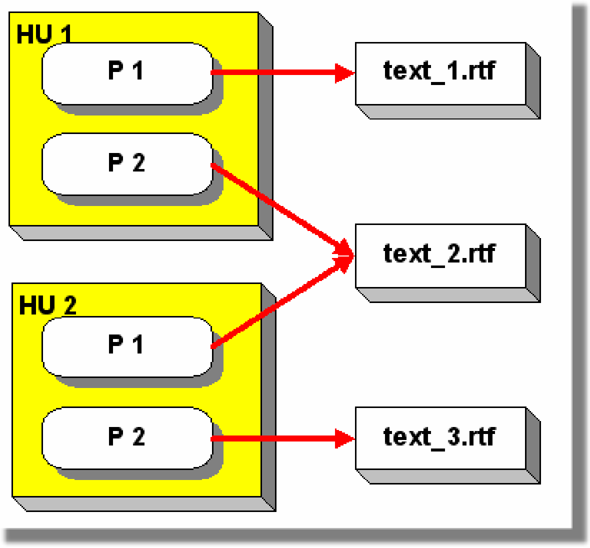
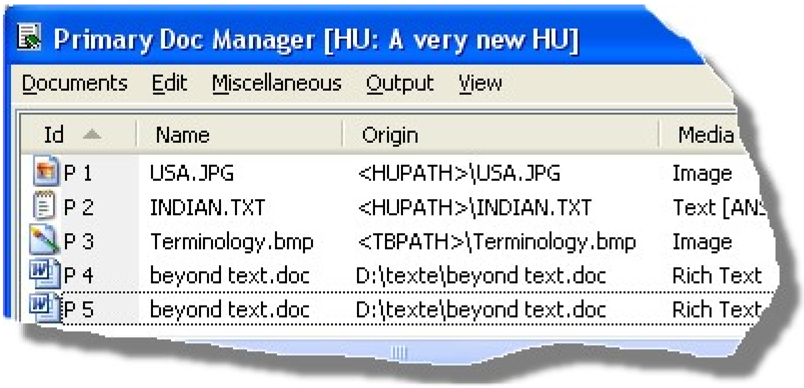


Figure 24 Two PDs from different HUs share a common data source

Primary Documents P 4 and P 5 in the figure below refer to the same file:



Id	Name	Origin	Media
P 1	USA.JPG	<HUPATH>\USA.JPG	Image
P 2	INDIAN.TXT	<HUPATH>\INDIAN.TXT	Text [AN
P 3	Terminology.bmp	<TBPATH>\Terminology.bmp	Image
P 4	beyond text.doc	D:\texte\beyond text.doc	Rich Text
P 5	beyond text.doc	D:\texte\beyond text.doc	Rich Text

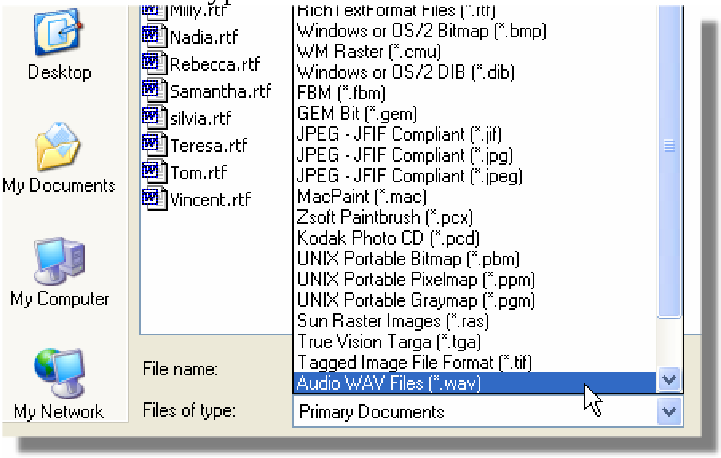
Figure 25- Five PDs created from four documents! Two documents from the HU’s folder, one from the textbank folder, and one assigned twice from an arbitrary path.

Assigning Documents via the File Dialog

To assign files:

1. Choose **DOCUMENTS/ASSIGN** from the main menu. The file dialog box opens by default on the “textbank” folder. If you have already assigned files during this session, the most recently used folder is opened.
2. By default, all file types that are permitted to be assigned as PDs are offered. By selecting from the filter drop-down, you

can restrict the type of documents.


Desktop
My Documents
My Computer
My Network
Milly.rtf
Nadia.rtf
Rebecca.rtf
Samantha.rtf
silvia.rtf
Teresa.rtf
Tom.rtf
Vincent.rtf
File name:
Files of type:
RichTextFormat Files (*.rtf)
Windows or OS/2 Bitmap (*.bmp)
WM Raster (*.cmu)
Windows or OS/2 DIB (*.dib)
FBM (*.fbm)
GEM Bit (*.gem)
JPEG - JFIF Compliant (*.jif)
JPEG - JFIF Compliant (*.jpg)
JPEG - JFIF Compliant (*.jpeg)
MacPaint (*.mac)
Zsoft Paintbrush (*.pcx)
Kodak Photo CD (*.pcd)
UNIX Portable Bitmap (*.pbm)
UNIX Portable Pixelmap (*.ppm)
UNIX Portable Graymap (*.pgm)
Sun Raster Images (*.ras)
True Vision Targa (*.tga)
Tagged Image File Format (*.tif)
Audio WAV Files (*.wav)
Primary Documents

3. Browse and select one or more data source files to be assigned to the HU and click the Open button.

The selected files are assigned as PDs.

Assigning Documents using Drag & Drop

Assigning documents via Drag & Drop may be more convenient when you have different browsers opened on different folders.

To assign documents via drag & drop:

1. Open Windows File Explorer. (e.g., by selecting EXTRAS/EXPLORER from the main menu)
2. Select the folder from where you want to assign files.
3. Select one or more files.
4. Drag the selected files into the document drop-down list or into the Document Manager.
5. A single file can directly be dragged into the main PD area. In addition to being assigned, it is immediately displayed.

Complete folders can be assigned in one step

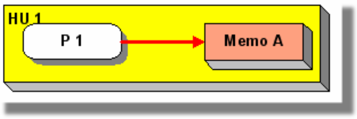
You may also drag & drop subfolders. This essentially assigns all files stored in the subfolders and any subfolders below. Documents not compatible with ATLAS.ti are rejected.

Don’t assign incompatible files via drag & drop.

You can imagine that this operation can assign an unexpected number of files to your HU. Make sure you know what is in the folders.

Note: You can drag arbitrary files (as opposed to the standard assign technique that filters the files offered), but you are responsible for only assigning valid file types. When ATLAS.ti detects a file extension that does not correspond to one of the file formats specified in the Assign File Dialog, you are asked for confirmation. Remember, a file with unknown type is always assigned as a plain text document. If it does not contain text , you will see a lot of garbage when it is displayed.

Assign Memos as Primary Documents



You can also use memos as PDs.

For more detail, see “Using Memos as PDs” on page 133. This procedure is only recommended for small to medium size projects without the need to share the documents (for details see “Scenario 4: All Inclusive” on page 280).

Using a PD-Family Table to Assign Documents

This method allows bulk assignment of documents while importing document properties (i.e., families) at the same time.

1. Prepare a PD-Family Table, for instance in Excel™ (see “Preparing and Importing a PD-Family Table” on page 200 for details). A table can also be created by using Export PD-Family Table in ATLAS.ti.
2. Import the PD-Family table by selecting the menu option: **DOCUMENTS/MISCELLANEOUS/IMPORT PD-FAMILY TABLE**.
3. Select the appropriate file and the field delimiter (separates the field names and field values in tables when stored as a text file) that was used when the table was created.

The result should show new or modified families. PDs in the table that did not exist before are imported. Existing PDs become members of imported or existing families.

Rearranging PDs

The ID of a PD determines its position in the list of PDs when in default sort order. Furthermore, it is essential that PDs in HUs to be merged (see “Merging Hermeneutic Units” on page 289) have matching IDs.

To rearrange PDs (to change their IDs), use one of the following options:

- Rearrange a selected PD only.
- Rearrange one or more PDs using drag & drop.
- Renumber all PDs to make the current sort permanent while eliminating gaps in the numbering at the same time.

Of course, all quotations belonging to a repositioned PD are taken along.

Rearranging a Selected Primary Document

1. Select the PD in the Document Manager whose list position should be changed.
2. Choose **DOCUMENTS/MISCELLANEOUS/CHANGE POSITION** from the main menu.

3. Enter a position number after which the selected document is to be moved.

Rearranging Primary Documents Using Drag & Drop

Rearranging PDs via drag & drop is a convenient alternative and lets you rearrange a number of selected PDs concurrently.

1. Open the Document Manager.
2. Select the PDs.
3. Start to drag the PDs.
4. A dashed bar appears at the current list insertion point.
5. Drop the PDs when you reach the desired location for the documents.

Note: Set the sort criterion to ID for an optimal feedback of the renumbering procedure.

Renumbering all Primary Documents

Select **DOCUMENTS/MISCELLANEOUS/RENUMBER ALL** from the main menu.

This option becomes useful after you disconnect several documents from a HU. When disconnecting PDs from an HU, previously assigned IDs (e.g. "P 1") are not "released." This results in gaps in the sequence of PD numbers. You may remove these gaps by renumbering all PDs in the HU using the Renumber All feature.

Note: It is not necessary to renumber PDs in ATLAS.ti. Doing so can give reports a cleaner appearance. However, if you plan to merge HUs, it is essential that PDs have matching IDs.

Primary Documents

Primary Documents (PDs) play a major role in ATLAS.ti's framework. They are the interface between a Hermeneutic Unit (HU) and the data. They provide access to data sources, which are usually files stored on the disks of your computer or network. This chapter outlines the steps needed to create, select, and prepare documents so that they will be suitable to use in ATLAS.ti. You will learn how to use PDs, how to consistently edit the content of documents, and how to move projects without losing connections to associated files.

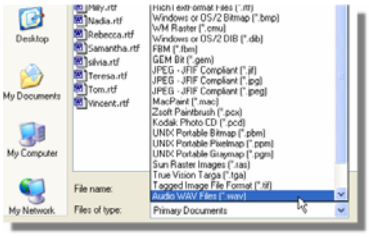
Preparing Documents

This section explains how to properly create, prepare, and modify materials to be used as PDs. Although such preparation is not mandatory and is often not feasible, when possible it is preferable to adopt useful conventions.

The specific characteristics of the different content media types (text, graphic, audio, and video) are discussed in this chapter.

Supported Formats

In principle, most textual, graphical, and multimedia formats are supported by ATLAS.ti. For some formats, their suitability depends on the state of your Windows system, particularly in regard to what other software is already installed. Before deciding to use an exotic data format, you should check if this format is available and if it is sufficiently supported by your Windows system.


Desktop
My Documents
My Computer
My Network
Milly.rtf
Nadia.rtf
Rebecca.rtf
Samantha.rtf
silvia.rtf
Teresa.rtf
Tom.rtf
Vincent.rtf
Rich Text Format Files (*.rtf)
Windows or OS/2 Bitmap (*.bmp)
WM Raster (*.cmu)
Windows or OS/2 DIB (*.dib)
FBM (*.fbm)
GEM Bit (*.gem)
JPEG - JFIF Compliant (*.jif)
JPEG - JFIF Compliant (*.jpg)
JPEG - JFIF Compliant (*.jpeg)
MacPaint (*.mac)
Zsoft Paintbrush (*.pcx)
Kodak Photo CD (*.pcd)
UNIX Portable Bitmap (*.pbm)
UNIX Portable Pixelmap (*.ppm)
UNIX Portable Graymap (*.pgm)
Sun Raster Images (*.ras)
True Vision Targa (*.tga)
Tagged Image File Format (*.tif)
Audio WAV Files (*.wav)
File name:

Files of type: Primary Documents

For a list of formats that are currently supported as primary documents choose "Assign" from the documents drop down menu and click the File Type drop-down list that appears at the bottom of the window (see "Assigning Documents via the File Dialog" on page 67). Only the formats listed in the drop-down list are supported by ATLAS.ti. To ensure that files are compatible with your system, assign a few of your documents as PDs. They should loaded and display (or play, when the source is multimedia) correctly.

Files that might prove problematic are multimedia files using exotic “codecs” (software that enables playing of a certain multimedia file format on your computer) and files that rely on RTF converters. If a file is listed but cannot be loaded, see “Primary Document Cannot be Loaded” page 330.

Size Restrictions

Theoretically, size restrictions do not play a major role due to the way ATLAS.ti handles PDs (see “How ATLAS.ti Handles Documents” on page 93). However, you should bear in mind that your computer's processing speed and storage capacity affect the performance. Excessively large documents can be uncomfortable to work with, even when you have an excellently equipped computer. The crucial issue is not always the file size, but rather, in the case of multimedia files, the length of playing time. For textual documents, the number and size of embedded objects may cause extraordinarily long load times. There is a high likelihood that if a textual document loads slowly in ATLAS.ti, it would also load slowly in WORD or Wordpad.

Make data sources as small as possible but as large as necessary.

For very long texts or multimedia files, navigation can be severely handicapped, e.g., scrolling to exact positions.

We recommend making data sources as small as possible but as large as necessary without breaking passages that belong together. Even with many smaller PDs, ATLAS.ti supports unified processing and fast navigation.

Preparing Textual Documents

Supported Formats

ATLAS.ti 5 principally handles documents in plain and Rich Text Format (RTF). See also “Character Encoding for Textual Documents” on page 398 for additional information.

Rich Text – A Definition

Rich Text supports character- and paragraph-related formatting. Data from other applications can be embedded.

RTF (Rich Text Format) is a proprietary text data format developed and propagated by Microsoft, and intended as an industry standard for exchanging documents between different applications. It supports such extensions as character formatting (bold, italic, color, etc.) with different fonts and sizes, paragraph formatting (bullets, indentation, alignment, etc.), embedded objects (graphics, tables, video, etc). and more.

All textual documents are displayed on the basis of Rich Text within ATLAS.ti.

Word, HTML and Other File Formats

Word™

For your convenience we also support the inclusion of documents that are not RTF, e.g., several Office document formats, HTML, *documents can be used directly. However, not all features are preserved. In addition, automatically converted documents cannot be edited.*

etc. To be able to utilize such documents without having to convert them to RTF, ATLAS.ti uses converters installed on your system (as part of the basic Windows or Office installation) A similar approach is also used by WordPad™ to display Word and other documents.

However, no miracles should be expected from a conversion into RTF. The success of the conversion heavily depends on the characteristics of the converter used. Bear in mind that the quality of such conversions usually does not reach the richness in appearance and procedures of the original (Word, etc.) documents (e.g., multiple lines in tables from a Word document are not displayed identically within ATLAS.ti).

Plain Text

Plain text documents – including Unicode – can still be used.

Of course, plain (unformatted) text documents can still be used, including documents using Unicode. In the course of editing plain text documents within ATLAS.ti, they can be “enriched” and saved with all added formatting.

Store documents in RTF when you want to edit them later.

To be able to edit textual PDs later, they need to be stored as plain text or rich text files in the first place. In the present version of ATLAS.ti, editing is restricted to RTF files because of the potential loss of formatting information. If you want to edit documents originating from Word, WordPerfect, etc., they need to be converted to rich text from within their original application before assigning them to an HU.

Saving documents as rich text is a standard feature that can be found in most word processing programs. In Word, for instance, this is an option that can be selected in the data type field when saving documents under a different name ("Save as"). We recommend storing documents as rich text right away even if they are currently “plain text” and do not contain any formatting.

Handling Legacy Documents

Applications that do not offer dynamic wrapping depend on text data wherein every line is delimited with a hard return at the end of every line. This was also the case in previous versions of ATLAS.ti. However, in order to have something like a “paragraph,” an artificial and proprietary delimiter was needed. Usually, hard returns are used as paragraph delimiters, but in ATLAS.ti 4.2 this was already used for line feeds. ATLAS.ti 4.2 treated a double hard return (in other words: an empty line) as the end of a paragraph. All texts making use of paragraphs (e.g., for semi-automatic selection and auto-coding) needed to be formatted in this “old paragraph model.”

Now, ATLAS.ti uses dynamic wrapping and allows textual documents to be formatted with hard returns only appearing as paragraph delimiters. The “old paragraph model” has become obsolete. You may now wonder what will happen with the “legacy” documents from previous versions of ATLAS.ti.

To utilize those documents formatted and used in previous versions of ATLAS.ti, users can either: convert documents to the “new paragraph model” (see “Converting Documents to New Paragraph Model” on page 91) or leave them “as is” as long as you can live without the neat line breaks.

If you have a lot of documents formatted using the old paragraph model and you do not have the time to convert them to properly formatted texts, you may still assign them to a HU “as is.” However, unlike PDs in old HUs, it is assumed that newly assigned documents use the standard “new paragraph model.”

For newly assigned legacy documents activate “old paragraph” handling

The effect is that each line is treated as a paragraph and empty lines are not treated in any special way. This diminishes the options to select, search and auto-code these documents. For such a situation you may force the legacy document to be interpreted the “old” way by setting the properties to “old paragraph model” using **DOCUMENTS/DATA SOURCE MANAGEMENT/ASSUME OLD PARAGRAPH MODEL**.

Preparing Graphical Documents

A variety of graphic formats can be used as PDs in ATLAS.ti.

Supported Formats

More than twenty graphic file formats are accepted by ATLAS.ti as valid data sources for PDs, including BMP, JPEG, and TIFF. Scanners often produce TIFF and digital cameras usually create JPEG images.

Size recommendations

Digital cameras and scanners often create images with a resolution that significantly exceeds the screen’s resolution. When preparing a graphic file for use with ATLAS.ti, use image-processing software to reduce the size so that the graphics are comfortably displayed on your computer’s screen. If an image does not fit into the primary pane, you may need to use the zoom function available via the mouse wheel or the zoom button when displaying the image using ATLAS.ti.

Preparing Multimedia Documents

Supported Formats

ATLAS.ti’s multimedia capabilities are built upon the Windows Media Control Interface (MCI). To be able to access multimedia files from ATLAS.ti, the corresponding MCI device drivers must be installed. If you assign PDs and the file dialog does not offer any of the expected file formats, you may have to install the drivers. While drivers for AVI and WAV files are installed in any basic Windows system (or at least when installing a sound adapter), formats like MOV, QT, AU, SND, MPG, and MP3 may require a dedicated driver.

Check the Multimedia section in **EXTRAS/SYSTEM REPORT** for a complete list of supported media types.

Test Multimedia File Compatibility

Test MCI compatibility of your multimedia data.

There is a simple test to check if a document is compatible with ATLAS.ti’s multimedia approach:

Run Windows MCI-based multimedia player. Go to the START menu in the Windows taskbar and choose RUN. Enter MPLAY32 and hit “OK.” From within this window, open the multimedia file you wish to use with ATLAS.ti. If this does not work, there are problems with processing multimedia files via MCI.

Length Recommendations

Multimedia file size does not pose a problem for ATLAS.ti. Megabyte audio and Gigabyte video files can be assigned and analyzed. However, certain issues should be considered regarding the length (duration) of a multimedia clip.

When creating multimedia quotations, the start and end points are often selected using the mouse and the track bar of the media tool (see “Navigating Multimedia and Selecting Segments” on page 109). The length of the track bar resembles the length of the multimedia clip. The track bar can only be as wide as your computer screen, whether your audio file is 30 seconds or two hours long. Therefore, when using very long clips as PDs, it might be difficult to mark quotations of short duration.

In addition to the mouse and track bar, the media tool buttons and the arrow keys can be used. However, the resolution is dependent on the overall size of the clip. For instance, a 15-minute audio file allows a resolution of 0.1 seconds, while the resolution for a two-hour audio clip is 1 second. If you need fine-grained resolution when creating quotations, chop a big file into smaller clips.

Note: The resolution of multimedia documents also depends on the compression scheme (“codec”) used when creating the multimedia output. Higher compression results in smaller file sizes but often in less precision, so marking a specific period or sequence of frames becomes problematic.

Audio Documents

ATLAS.ti supports most common audio formats (like WAV, MP3, WMA, SND, etc.) unless appropriate MCI drivers are not installed.

Audio Files and Transcriptions

Can an audio source and a transcription be synchronized?

Currently it is not possible to listen to the audio file and see the transcribed text scrolled in sync or vice versa. There is no automatic link between the two. Both the original audio material and the transcription need to be assigned as two separate PDs. However, you can manually link chunks of text to the corresponding audio segments using the ATLAS.ti hypertext function (see “Hypertext” on page 251).

Put transcripts into quotation comments.

Furthermore, an audio or video quotation’s comment is a convenient and accessible place for the transcription. When double-clicking a multimedia quotation in the Quotation Manager, the transcript is displayed in the comment pane.

Video Documents

ATLAS.ti supports several common video formats (like AVI, MPG, WMV, MOV, etc.). As with audio files, the necessary MCI drivers need to be installed.

When creating video documents to be used with ATLAS.ti, the above-mentioned issue of compression should be taken into account. While uncompressed video data allows a fine-grained frame-level navigation, compressed formats may counteract any attempt to select specific frames. You will need to experiment with these issues.

Loading and Navigating Primary Documents

Loading Primary Documents

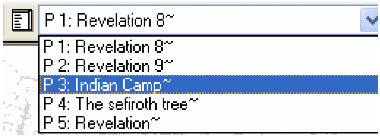
Whenever the content of a PD needs to be displayed, printed, or searched, it accesses its data source (file, memo) and loads the content. This request is often triggered indirectly, e.g., by displaying (or printing) a quotation. For performance reasons, documents are only loaded once; they are “cached” unless this option is turned off.

The following lists a few procedures that directly or indirectly load the content of a PD:

- Activating it in the document drop-down list or the PD Manager.
- Activating a quotation in the quotation drop-down list or the Quotation Manager.
- Selecting a quotation for an activated (double-clicked) code or memo.
- Activating a hyperlink in the margin area.

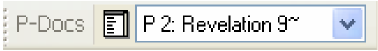
- Using the **Load** option from the context menu of a PD node in a Network Editor.

To load a PD using the drop-down list



1. Click on the PD drop-down list.
2. Select a PD by clicking on an entry in the list. The selected PD is displayed in the PD pane. If the list does not display all PDs assigned, the scrollbar lets you navigate the list of entries.

To load a PD using the PD Manager



1. Open the PD Manager by clicking the button to the left of the PD drop-down list.
2. Double-click an entry in the PD Manager to load and display the PD.

Content Caching

By default, the content of PDs is "cached," (i.e., kept in memory) unless this option has been switched off in **General Preferences**. The benefit of caching is that the time a document requires to be ready for use is greatly reduced whenever its content is accessed more than once (e.g., when auto-coding text passages). The drawback of caching is that a larger amount of internal memory is needed when loading many large documents, which might in turn create performance issues on systems with insufficient memory. Caching can be turned off completely, but you can also empty the cache periodically by choosing menu option **Documents/Data Source Management/Clear Cache**.

Note: With caching turned off, repetitive operations like auto-coding will be significantly slowed down.

Navigating within Primary Documents

The available navigation options depend on the media type of the selected PD.

Navigating within Textual Primary Documents

Textual PDs allow for a variety of options to display different parts of the text:

- You can scroll up and down using the mouse wheel.
- The arrow keys and other navigational keys can be used to move through the text.
- Jump to specific line/paragraph numbers using the **Go-to-Line** button to the left of the PD pane.

Navigating within Graphical Primary Documents

To change the visible section of a graphical PD:

- Use the scrollbars.
- You can scroll up and down using the mouse wheel.
- The cursor arrows and other navigational keys can be used.

Note: When you click on the upper left corner of a graphical PD, its comment is displayed in a pop-up window.

Navigating within Multimedia Primary Documents

Display selected parts of audio or video documents by moving the track bar slider. Do this by clicking the navigation button of the media control window, or by using short-cut keys (see “Navigating Multimedia and Selecting Segments” on page 109).

Disconnecting Primary Documents

Removing unwanted PDs from an HU is called “disconnecting.”

If you disconnect a PD, the data source (the document file or memo) to which it refers is not deleted or otherwise affected, but disconnecting a PD does remove all of its quotations from the HU. As a consequence, all references to other quotations (hyperlinks), other codes, and memos are also removed.

Disconnecting a Primary Document

1. Select the PD to be removed from the HU.
2. Choose **DOCUMENTS/DISCONNECT** from the main menu. If you select a PD in the Document Manager, right click on the document and choose **DISCONNECT** from the context menu.

Editing Primary Documents

ATLAS.ti 5.0 introduces the ability to edit textual PDs after they have been assigned and possibly coded. What sounds trivial was maybe the most challenging issue in the development of version 5.

Objectives

PDs are often shared among different projects and/or researchers. A single file can be in use by more than one project.

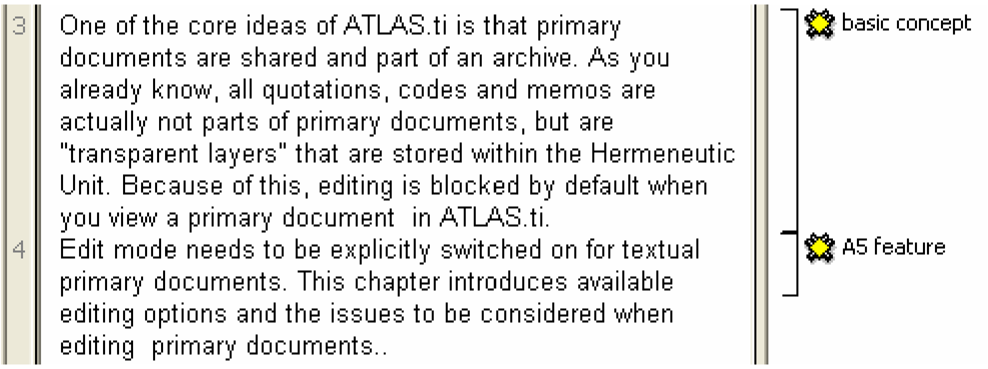
One of the core ideas of ATLAS.ti is that PDs are shared and part of an archive. As you already know, all quotations, codes, and memos are actually not parts of PDs, but are "transparent layers" that are stored within the HU. Because of this, editing is blocked by default when you view a PD in ATLAS.ti.

However, it may be necessary to edit the content of a PD.. For instance, transcribed texts are often loaded with typos and other writing errors. Documents might not be complete and text may need to be added after they were assigned.

Click the pencil to enter edit mode.

Edit mode needs to be intentionally switched on for textual PDs. This section introduces available editing options and the issues to be considered when editing PDs.

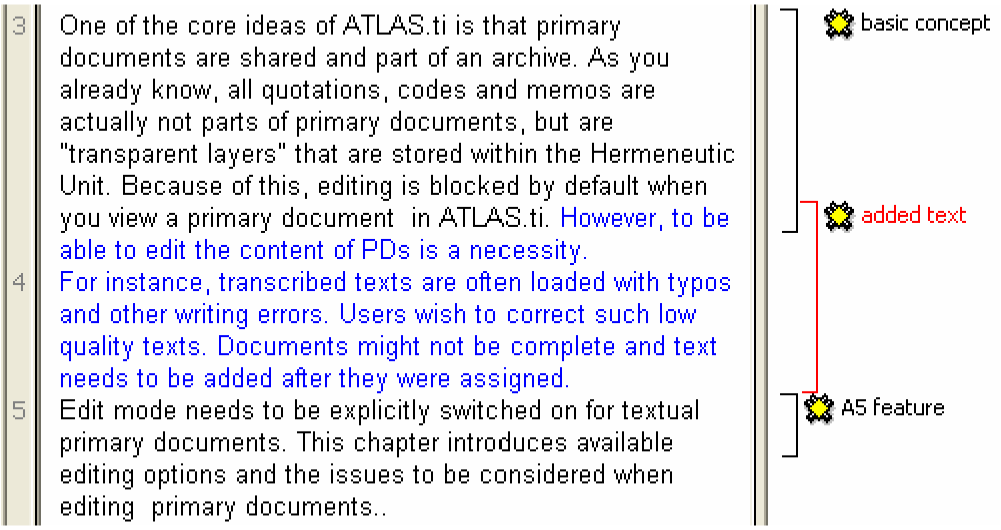
Two versions of a coded text are shown in the figure below: one version before and one version after an editing session. The added text is colored blue.



3 One of the core ideas of ATLAS.ti is that primary documents are shared and part of an archive. As you already know, all quotations, codes and memos are actually not parts of primary documents, but are "transparent layers" that are stored within the Hermeneutic Unit. Because of this, editing is blocked by default when you view a primary document in ATLAS.ti.

4 Edit mode needs to be explicitly switched on for textual primary documents. This chapter introduces available editing options and the issues to be considered when editing primary documents..

Figure 26 – Text before editing



3 One of the core ideas of ATLAS.ti is that primary documents are shared and part of an archive. As you already know, all quotations, codes and memos are actually not parts of primary documents, but are "transparent layers" that are stored within the Hermeneutic Unit. Because of this, editing is blocked by default when you view a primary document in ATLAS.ti. However, to be able to edit the content of PDs is a necessity.

4 For instance, transcribed texts are often loaded with typos and other writing errors. Users wish to correct such low quality texts. Documents might not be complete and text needs to be added after they were assigned.

5 Edit mode needs to be explicitly switched on for textual primary documents. This chapter introduces available editing options and the issues to be considered when editing primary documents..

Figure 27 – Text after adding text. A piece of coded text was pasted.

A powerful change maintenance system records all changes during an edit session in order to inform other projects to update their quotations.

Added text included a hard return, which resulted in a new paragraph. As a consequence, all quotations that referenced paragraph 4 and beyond needed to be updated to take into account their new position. The quotation starting at paragraph 4 (before the editing procedure) and its associated code (A5 feature) have shifted to paragraph 5.

A word of caution is in order. Even though a number of safeguards are built into the software to prevent misaligned codes or other nuisances after an editing session, it is still a good idea to know how ATLAS.ti handles edited PDs and to give some thought to the question of how to manage all documents related to an ATLAS.ti project (see also “Project Management” on page 270).

Therefore, the objective of this section is to inform you about the dos and don’ts of editing PDs.

Entering and Leaving Edit Mode

Note: Editing is only possible when logged into ATLAS.ti as an ATLAS.ti user with administrative rights! (See “User Management” on page 264 for further information).

Entering Edit Mode

1. Load a rich text or plain text PD.
2. Click on the Edit button ✎ in the main toolbar, or select **EDIT/DOCUMENT ACCESS/ENTER EDIT MODE** from the main menu. A message will pop up telling you that automatic backup is disabled during the edit session.

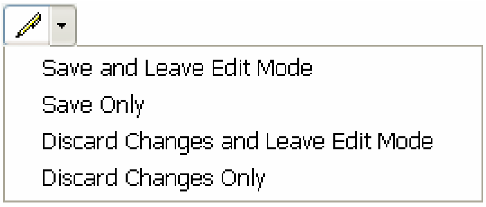
Auto-converted documents (Word, HTML) cannot be edited.

If a non-editable document (e.g., a Word or HTML document) is loaded, the editing toolbar is not available. To be able to edit such documents, you need to create a Rich Text or plain text copy using your word processor and assign this file as a PD.

Leaving Edit Mode

1. Click on the down arrow next to the Edit button or select **EDIT/DOCUMENT ACCESS** from the main menu and
2. choose the **SAVE AND LEAVE EDIT MODE** or the **DISCARD CHANGES AND LEAVE EDIT MODE** option from the submenu:

If nothing was changed, clicking the edit button will close the edit session and not display the drop-down menu.



If you choose **SAVE ONLY**, all modifications are saved and you can continue to edit the document.

If you choose **DISCARD CHANGES**, the recent modifications are dropped and the document is reverted to its last saved state, i.e. the way it was before you issued the last **SAVE ONLY,** or before the session if you never did an intermediary save.

Note: As there is no Undo function for document editing activities, make it a habit to select **SAVE ONLY** once in a while during the edit session. If you use **SAVE ONLY** and then make changes, you can elect to **DISCARD CHANGES ONLY** to eliminate changes since your last save or, in effect, revert to the last saved version.

Saving Edited Primary Documents

☝ *Changes to the document need to be explicitly saved when leaving the edit session.*

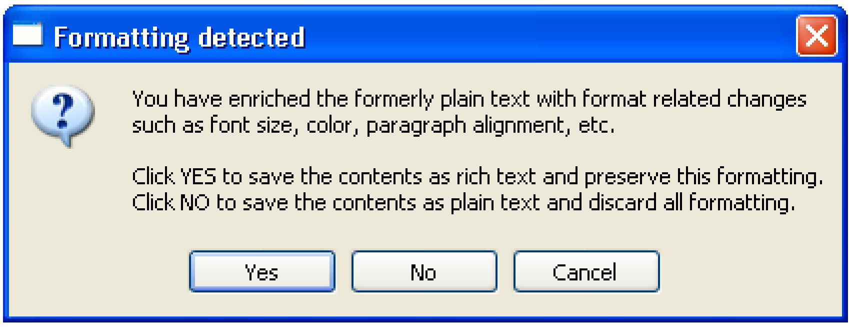
If you leave the edit session without saving the edited PD, the changes will be discarded. This includes all changes to the HU caused by the editing session, e.g., quotations deleted, copied, or moved by deleting, copying, or moving text. If you do not save, the text will revert to the state before the last edit session or when the document was last saved.

Leaving ATLAS.ti without saving the HU after having edited and saved a document is not a problem as far as data integrity (e.g., misaligned quotations) is concerned. Editing-related changes to the HU (quotations deleted, copied, or moved by deleting, copying or moving text) are not lost. Of course, all other HU-related changes (new or removed quotations, codes, memos) are lost when leaving a session without saving the HU. When you reload this HU the next time it will be synchronized with the PD's modified data source contents automatically.

To save a PD after editing, click the Edit button and select either **SAVE AND LEAVE EDIT MODE** or **SAVE ONLY** from the drop-down menu.

Enriching A Plain Text Document

If you have edited a plain text document and added formatting attributes like fonts, color, font size, bold, italic, embedded objects, etc., you are asked if you want to keep the formatting information and save the document as a rich text (rtf) document:



You have enriched the formerly plain text with format related changes such as font size, color, paragraph alignment, etc.

Click YES to save the contents as rich text and preserve this formatting.
Click NO to save the contents as plain text and discard all formatting.

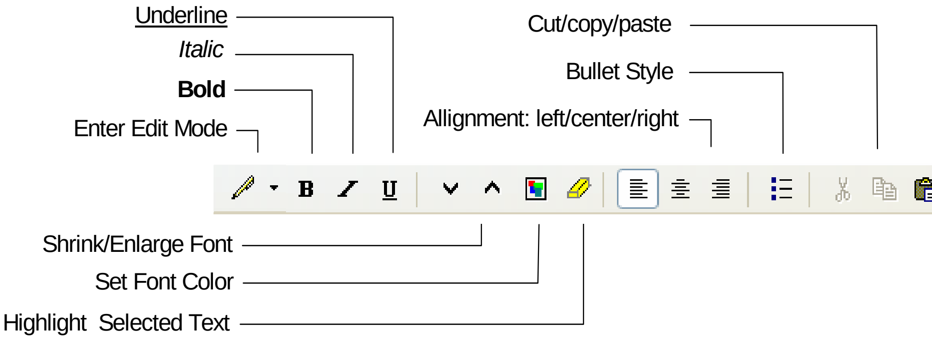
☝ *Saving a former plain text with formatting does not change the file extension.*

If you select No, any features contained in the document beyond plain text will be lost. If you want to keep the rich formatting, you need to confirm the message.

If you select Yes, the file will be saved in rich text format although the file extension (e.g., TXT) is not changed to RTF.

The Edit Toolbar

The Edit toolbar provides a number of options known from other Windows applications. Many of these options are also available from the Edit menu .



The options in the edit menu are described in "The Edit Menu" on page 349.

Embedded Objects

What is an Embedded Object?

Data from a variety of applications like Word, Excel, and PowerPoint can be embedded within a PD's data source. In fact, objects can be embedded in any rich text available in an HU including memos and comments. By the way, some of the images in this manual were also included as embedded objects.

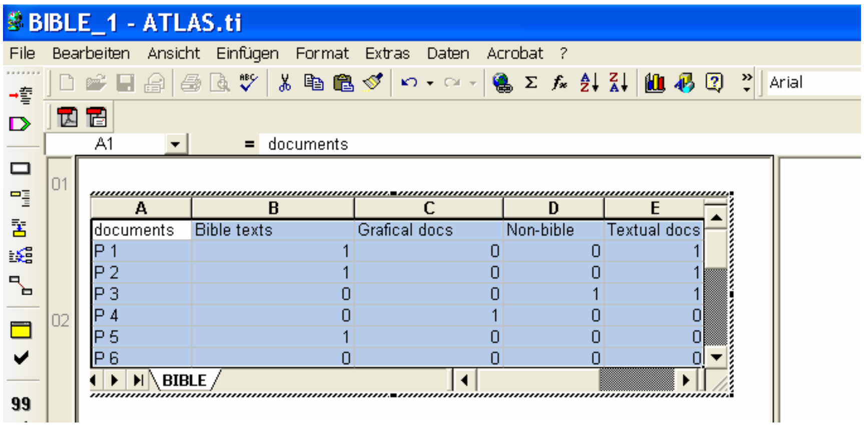
In-Place Activation & Editing

Embedded objects can be edited (like an Excel™ table) or "played" (a video clip) without leaving the HU. Depending on the object's features, the toolbars and menus of the original application can be directly accessed within the ATLAS.ti windows. For example, if you insert an Excel table as an embedded object and double-click on it, the ATLAS.ti main menu and toolbar are replaced by the Excel menu and toolbar. All Excel functions can be used to modify and work on the embedded table. This is called *In-place-activation* or *editing*.

If you don't have Excel on your computer, all you will see is the image of the table, but it will not be activated.

Note: When activating an embedded object, it might not open "in-place" but within its original application in a separate window. This behavior depends on the embedded object and is outside the control of ATLAS.ti.

An activated embedded Excel table showing the menu and toolbar within ATLAS.ti


BIBLE_1 - ATLAS.ti
File Bearbeiten Ansicht Einfügen Format Extras Daten Acrobat ?
Arial
A1
= documents
01
02
99
BIBLE

A	B	C	D	E
documents	Bible texts	Grafical docs	Non-bible	Textual docs
P 1	1	0	0	1
P 2	1	0	0	1
P 3	0	0	1	1
P 4	0	1	0	0
P 5	1	0	0	0
P 6	0	0	0	0

Figure 28 – An activated embedded Excel table. Its menu and toolbar are integrated within the HU Editor

How to Embed an Object

There are several ways to embed an object.

Embed an Object via Copy and Paste Special

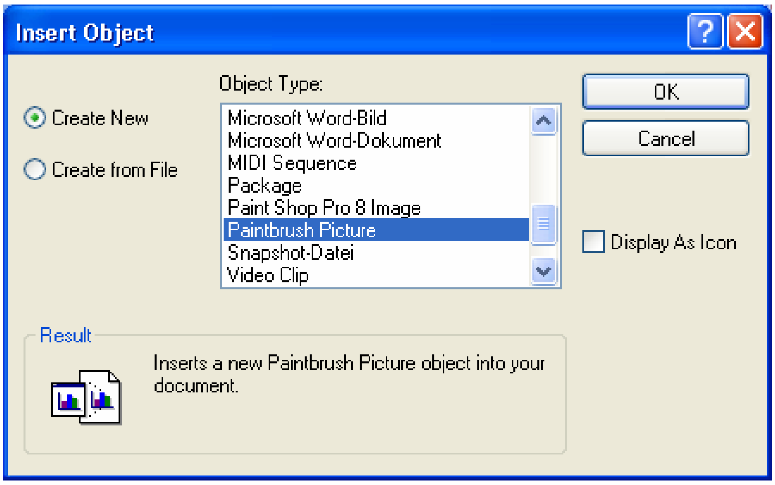
You can copy a table (or a portion of it) in Excel. In ATLAS.ti (enter edit mode within the PD area or in the memo or comment area) choose **PASTE SPECIAL** and select the Excel object. The list of formats available in the **PASTE SPECIAL** dialog may also contain other non-object formats.

Embed an Object via Insert Object

Enter edit mode and select **EDIT/INSERT/INSERT OBJECT** from the main menu.

The **Insert Object** dialog opens and offers all object types installed on your computer. If you don’t have Excel installed, you will not be offered an Excel object. Not all of the objects listed in the dialog make sense inside a PD.

You can create a new object or insert an existing object from a file. An explanation for the selected object type is displayed at the bottom of the dialog.



● Create New
○ Create from File

Object Type:
Microsoft Word-Bild
Microsoft Word-Dokument
MIDI Sequence
Package
Paint Shop Pro 8 Image
Paintbrush Picture
Snapshot-Datei
Video Clip

□ Display As Icon

Result
Inserts a new Paintbrush Picture object into your document.

Figure 29 - The Insert Object Dialog

Create a new object: To create a new object select the object type and click OK. By default the option ‘Create new object’ is activated.

Load an object from a file: Activate the option ‘Create from file’ in the Insert Object dialog. Click OK and browse for the file to be inserted. If the file’s content is not an embeddable object, an icon representation is inserted and displayed instead.

Note: Inserting an object from a file is not the same as INSERT/INSERT FILE, which appends the usually textual contents of a file at the cursor position.

If you choose to **link** the object, it will also be inserted, but with a significant difference:

Linked objects: A linked object keeps a reference to the original file. When you edit the original Excel table, the changes will be written to the Excel file and will be updated in ALL documents where this object was embedded. Because of this, in-place activation is not available and the original application is launched when double-clicking the object.

An object inserted without checking the link option is fully embedded and has no reference to the file from which it originated. Editing this object will only modify this copy of the object.

One Object = One Character

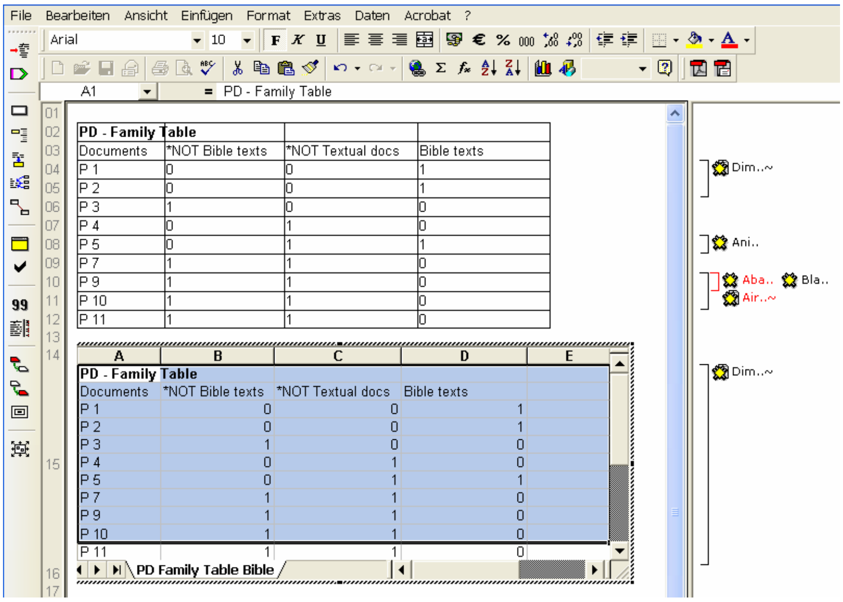
Every object is treated as a single character when it comes to selecting and coding it in ATLAS.ti.

Note: You cannot “enter” an object in order to select and code parts of it (e.g., a single cell inside an Excel™ spreadsheet or a graphic inside a PowerPoint™ slide).

However, for some objects, selecting a more suitable format from the list presented by Paste Special (see also “Embed an Object via Copy and Paste Special” on page 83) may be the solution. For instance, an Excel table is also offered as Rich Text. It won’t look as neat as the original Excel object and it cannot be activated but you can select and code a single cell or several cells of the spreadsheet.

The same Excel table selection pasted into a document as Rich Text (above) and as an Excel object (below).

The margin shows several codes for the Rich Text version and only one code for the object version below.



PD - Family Table			
Documents	*NOT Bible texts	*NOT Textual docs	Bible texts
P 1	0	0	1
P 2	0	0	1
P 3	1	0	0
P 4	0	1	0
P 5	0	1	1
P 7	1	1	0
P 9	1	1	0
P 10	1	1	0
P 11	1	1	0

A	B	C	D	E
PD - Family Table				
Documents	*NOT Bible texts	*NOT Textual docs	Bible texts	
P 1	0	0	1	
P 2	0	0	1	
P 3	1	0	0	
P 4	0	1	0	
P 5	0	1	1	
P 7	1	1	0	
P 9	1	1	0	
P 10	1	1	0	
P 11	1	1	0	

Figure 30 – An Excel table inserted as Rich Text and as an embedded object

Editing Embedded Objects

To edit an embedded/linked object:

1. Enter Edit mode.
2. Double-click the object or right click on the object
3. Select <**OBJECT NAME**>-**OBJECT**/**EDIT** or <**OBJECT NAME**>-**OBJECT**/**OPEN** from the context menu.

Idiosyncrasies

Objects can be activated and edited without the PD being in edit mode. Such changes are not permanent.

Editing an embedded object is possible even when the embedding PD is not currently in edit mode. For example, you may want to play a video or recalculate a range of cells without making such changes permanent. If you want to preserve the changes applied to an object, however, you need to enter edit mode before editing the object.

After deactivating an active object by clicking outside its border, you might find that the object has reverted to its original size.

Resizing an object can only be done by grabbing its selection frame at any resize handle except those located on the frame’s right border. To get enough space to the left you might want to center or right-align the object before resizing.

Inside Editing Primary Documents

While the following description is covered in other chapters (e.g., “How ATLAS.ti Handles Documents” on page 93), this issue is helpful and important to your understanding of editing documents in ATLAS.ti.

Don’t be afraid of editing!

One of the most powerful features of ATLAS.ti 5 is the possibility to edit PDs or more precisely: editing the contents of a PD or editing its **data source**.

Some might ask: why is editing a PD an issue at all? Isn't editing a text a simple thing to implement?

Understanding the Primary Document/HU Relationship

ATLAS.ti 4.2 did not support editing documents. “Referential integrity” was endangered.

In ATLAS.ti 4.2, if you edited a document used within a HU (or within a number of HUs), you had to be very careful. All editing procedures that changed the text sequence in any way, unless done at the very end of the document, had the potential of corrupting the alignment of quotations that referred to text passages.

Quotations are not much more than a set of coordinates that remember the start and end positions of a text sequence (or a video passage, an image area, etc.). Quotations are managed and stored inside the HU. The actual PD on the disk "knows" nothing of the references ATLAS.ti compiles about it.

No provisions (other than manual reselecting) existed in ATLAS.ti 4.2 that would enable the HU to update its quotation coordinates after the document was edited. This was true for the HU that you worked with when editing the document, and is especially true for all other HUs that used that same document. Remember: ATLAS.ti has a **shared document approach** that does not necessarily put the documents to be analyzed into a special location, and, of course, they never become integrated into the HU themselves.

What would be needed to be able to edit the content of a document and to update the quotations so that they never lose their correct alignment?

- We would need to record every change that has the capacity of misaligning quotations (e.g., deleting/moving/inserting characters, lines, paragraphs)
- We would need to make this "logbook of changes" accessible to EVERY HU that uses this PD.
- In order not to get the above procedures mixed up, we would also need to protect the document against editing by more than one user at the same time.

This is what we accomplished with ATLAS.ti 5!

For understanding the editing procedures and their consequences, it is helpful to make a few conceptual distinctions:

- An ATLAS.ti project consists of an HU and all referenced "data sources" (mostly document files).
- A PD is NOT the data source! A PD that resides in an HU is created when you assign a data source (a file, a memo) as a PD.

A Primary Document is/has:

- a NAME, which is used when it is displayed in the PD manager. By default the name of the data source (the file name or the memo title) is used
- an AUTHOR = the user who assigned this PD to the HU
- a CREATION DATE= date of assignment
- a collection of QUOTATIONS
- a REFERENCE (e.g., a file name and path) to its data source, which is where it gets its content from whenever it needs to be displayed.

The “Reference” is an important property to understand. ATLAS.ti 5 has a number of powerful functions and tools (see “Adjusting References” on page 101) that keep this "loose" link alive under varying circumstances.

When we refer to "editing a PD," we indeed mean "editing the data source" or "editing the contents of a PD."

Understanding the relationship between a PD and its data source is important for addressing the most common FAQ, "Where are my PDs?"

The special nature of this relationship explains why simply copying the HU to another computer is not sufficient: a PD won't find its data source unless you copied it as well.

It also explains why you should use Copy Bundle for "migrating" a complete project (HU + data sources) to another computer.

In addition it explains why there can be more than one PD referring to the same data source. HUs can be owned by you or different team members as long as the files reside in a central location in the network.

The Complexities of PD Editing

The above facts are true for version 4.2 as well as 5. What makes this a delicate topic in ATLAS.ti 5 is that you now can safely edit the content of a data source.

Who records the changes when you edit a data source to make sure every PD in every HU can update its quotations? ATLAS.ti 5 watches every editing activity and stores every change in a "companion" file, which is placed side-by-side with the edited document. This file has the extension LOG. If your document is interview1.rtf, this file will be named interview1.rtf.log.

Don’t separate a document and its log file.

Set Window Explorer’s option to display all file extensions or you’ll be

Note: Once such a companion log file exists, you should NEVER separate it from the original data source. Copying one without the other or deleting the log file will send the signal that "something is wrong" and you won’t be able to access the document's contents. Therefore, you should never use Windows Explorer to copy or move a project. Instead use ATLAS.ti's "Copy Bundle" (see “Copy Bundle - Migrate and Backup Projects” on page 282). It correctly "wraps" all necessary files into one neat package for you.

confused.

Look at it this way: after a document was first edited with ATLAS.ti, the data source indeed now consists of TWO files--the original document file and its "change log" companion.

What, then, is recorded in the log file? You won't see a single piece of the document's original text when you open it (carefully!) in a text editor. It contains information of the type "paragraph 7531 was moved to position 2341" or "text of length 732 has been inserted at position 8766". These are the changes you have made to the PD.

When editing the data source of the PD, you can see the quotations in the margin update instantaneously. As a matter of fact, this PD would not really need the log file to know what is going on. But it does need it if you finish editing the data source and then leave the HU without saving it. All your nice modifications to the PD (e.g., its quotations) are lost! In this situation your PD is as dependent on the recorded changes as is any other PD in any other HU using the edited data source.

Synchronization

Next time you load this HU and click on the edited PD or a quotation, as ATLAS loads the data source's contents for display, it will open the LOG file, analyze the recorded changes and will find that the PD is not up-to-date. You will be offered the option of synchronizing the PD. If at this point you say NO, it won't display the contents. This is because the old version that the program would expect is not available. If you click YES, ATLAS.ti will open the LOG file and instantly update the affected PD (or PDs if you have assigned the same data source more than once). Voilá: All quotations will be in sync! You should save the HU this time or you will be given the same option the next time you load the HU.

Synchronization on Demand

Synchronize all PDs at once.

Instead of synchronizing PDs one at a time, you may want to synchronize all or a selection of PDs at the same time. Choose **DOCUMENTS/DATA SOURCE MANAGEMENT/SYNCHRONIZE PDS** from the main menu. ATLAS.ti then searches for LOG files, analyzes them, and asks you for confirmation if synchronization is necessary.

File Locking

Have you wondered about that weird LOK file (interview1.rt.lok) that exists at one time and does not exist at other times?

LOK files protect your documents from accidental modifications.

This file is the "gatekeeper" that controls access to the data source. Every user on every ATLAS.ti workstation accessing a data source is registered in this LOK file. It also registers the name of the user, the name of the computer, and the time access was granted. None of this information is stored forever; all user-related information is removed when leaving the ATLAS.ti session.

ATLAS.ti 5 allows more than one user accesses a data source at the same time. However, when you switch into edit mode, it will either inform you that user X is currently using the document, or it will reject the editing attempt in case another user is already editing it ("first come – first served"). If the other user forgot to exit edit mode, left ATLAS.ti running, and went away on a long vacation, you might be informed that "User X has been editing the file for 23 days." Well, either this is really the case, or a LOK file could not be updated or removed because of a crash during an edit session. If you happen to know that there really isn't anybody editing the document, you can simply delete the LOK file to gain write access to the document. Remember, though: do NOT delete the LOG file.

The HU is also protected against accidental concurrent editing.

There is also a LOK file for the HU itself (e.g., myhu.hpr5.lok) to prevent concurrent editing of a HU. If an HU has an associated LOK file, it is currently in use by someone and can consequently only be opened in read-only mode.

If you are sure you are the only one using this HU and you have not already loaded it in another window, you can treat this message as a "false alarm" and delete this LOK file. LOK files are usually updated or deleted when you stop using the protected file (HU or PD data source), but occasionally you may not have time to allow for proper closing of the file due to a system crash or power-outage.

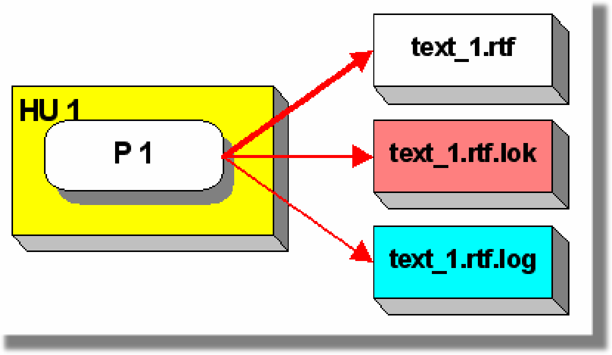


Figure 31 A PD refers to its data source and observes the LOG and LOK files

In a perfect world, you shouldn't have to know about this mechanism. But it cannot hurt to have a certain understanding of what goes on when things don't work smoothly. After all, you're working with computers!

What did we learn from the above?

The Golden Rules of Editing PDs

Dos	Don'ts
If you create, modify, or delete quotations during an editing session, save the file when leaving edit mode.	Don't be afraid of editing a "PD," but do it as explained above.
Avoid Path Mapping all together and follow some basic principles of project management.	Once assigned as a PD NEVER edit the data source with any other tool than ATLAS.ti.

Always use Copy Bundle to backup, copy, or migrate projects – greatly simplified by good project management (see “Project Management” on page 270).	Don't separate the files comprising a data source: the document file and its LOG file.

A Sample PD Editing Session

While the data sources referenced by an HU can be shared by multiple users, HUs cannot be worked on concurrently. Therefore, each team member works on her ‘own’ HU. The work can then be combined using the ATLAS.ti Merge feature.

Let’s assume you work in a team of five people. Each of you is located in a separate office and sitting in front of a computer with ATLAS.ti running. All of you work on the same project and analyze the same pool of data source files. As shown below, all data source files are located on a network drive and are shared by all team members.

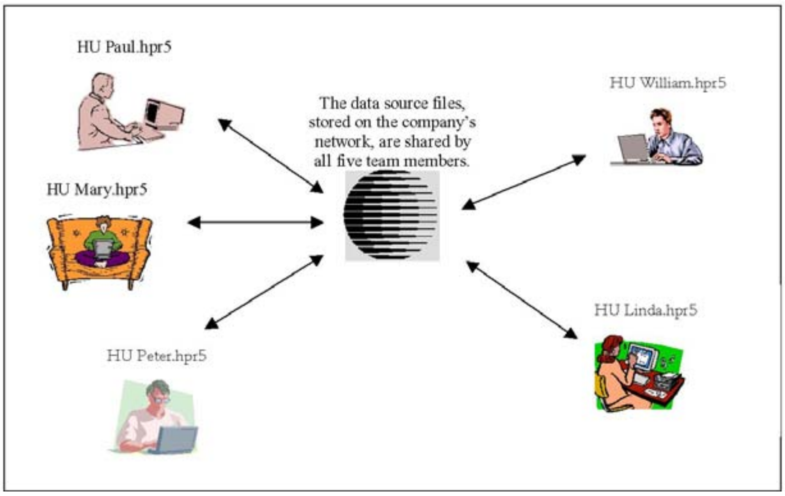

HU Paul.hpr5
HU William.hpr5
The data source files, stored on the company’s network, are shared by all five team members.
HU Mary.hpr5
HU Linda.hpr5
HU Peter.hpr5

Figure 32 – Editing PDs “live” in a shared team context

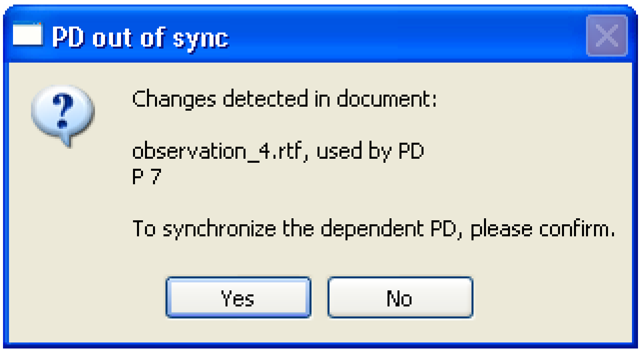
It is Monday morning at 9 a.m. Paul, Mary, and William are currently working on an ATLAS.ti project. The project consists of 120 documents including interview material, observations, photographs, short video clips, newspaper articles, and other secondary data material. The documents are saved on network drive *Z:* in folder *\ATLAS project\Project 576\textbank\…*. Each team member focuses on a particular subset of the data material, but all have access to the full set of documents.

Mary currently works with PD *observation_4*. She reads through it, codes it, and writes a few memos. Paul now also wants to look at the document *observation_4*. He loads the document into his HU, checks a few things, and codes a few more data segments.

Mary also continues her work on *observation_4*. While reading through it, she remembers some further details and wants to add her thoughts into the document. In order to do so, she enters into edit mode. Paul can continue to work on *observation_4*, as it is already loaded into his HU. If another team member wants to edit *observation_4* after Mary entered edit mode, a message pops up saying that the document is currently edited by Mary and is blocked from being edited by anyone else.

Mary adds three new paragraphs to *observation_4*. ATLAS.ti adjusts all code, quotation, and memo references automatically. It is 10:30 a.m. now. Mary leaves edit mode, saves *observation_4,* and the HU, and takes a break.

William accesses *observation_4* next. He receives a message stating that changes have been detected in the data source file *observation_4.rtf* and that all PDs using this data source need to be synchronized (in this case P7). Paul will see this message the next time he loads *observation_4*.



Changes detected in document:

observation_4.rtf, used by PD
P 7

To synchronize the dependent PD, please confirm.

In order to load P7 (i.e., *observation_4*), William needs to confirm this message. Modified PDs can *only* be loaded after all necessary alignments have been processed during the synchronization.

You may say NO to this message for now, but you will not be able to load the document until you confirm the synchronization.

After synchronizing *observation_4*, William can continue to work on it, add new codes, memos etc. He may also edit the document. All other team members will be informed about any further modifications. For this reason, there is no danger that the team will end up with five different versions of the document. Due to ATLAS.ti's content surveillance system, each team member works with the most up-to-date version of the document. The only thing that remains to be done, if necessary, is to merge the HUs of William, Linda, Peter, Paul, and Mary from time to time, so that all coding and other work performed on the data is joined together.

Converting Documents to New Paragraph Model

Relevant for users of ATLAS.ti 4.2!

The issue of old and new paragraph models is described in greater detail in section “Handling Legacy Documents” on page 73. In most cases, only users of ATLAS.ti 4 need to be concerned with this procedure.

Paragraphs in ATLAS.ti 4

Convert your plain text files, including line breaks, to the new paragraph model to

In previous ATLAS.ti versions, a paragraph was a series of lines separated by a hard return. The end of the paragraph was delimited by another hard return; in other words, an empty line. This is the “old paragraph model”. In order to be assigned as PDs and to be viewed comfortably in ATLAS.ti, documents had to be saved with *achieve smooth wrapping.*

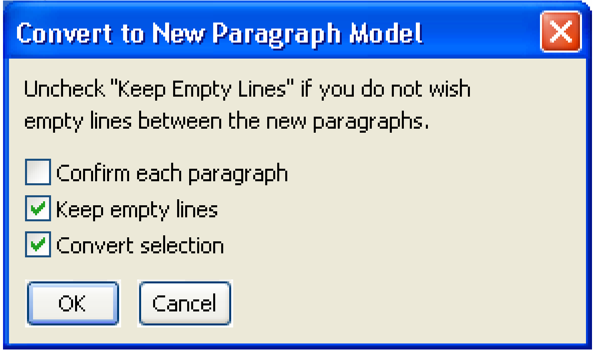
hard returns for every line break. Such a procedure is no longer necessary. Lines are displayed via the wrap options available (dynamically with regard to current window width and more statically using the current printer setting) and paragraphs are defined by a single hard return.

Getting Rid of Hard Returns

When you prefer to wrap dynamically, documents formatted using the old paragraph model can be converted to the standard paragraph model. During the conversion, empty lines (or multiple hard returns) are converted to a single hard return and all other hard returns are removed. All paragraphs are preserved but are now dynamically wrapped.

To convert a document to the new paragraph model:

1. Load the (text) document.
2. Enter Edit mode.
3. Select **Documents/Data Source Management/ Convert to New Paragraph Model** from the main menu.
4. In the following dialog, you can choose to preserve empty lines between paragraphs and you can select to be asked at every occurrence. If you have selected a piece of text, you may also choose to restrict the conversion to the selected text.



Uncheck "Keep Empty Lines" if you do not wish empty lines between the new paragraphs.

□ Confirm each paragraph
☑ Keep empty lines
☑ Convert selection

5. Leave the Edit mode and save the PD.

Optimizing Load Time for Converted Documents

You may experience a significant increase of the time needed to load a document which has been previously converted into the new paragraph model. The conversion to the new paragraph model is an automatic editing procedure that will increase the size of the companion LOG file significantly. This log file records all changes to the content of a data source and is always inspected when loading a PD. The time needed for checking is proportional to the size of the LOG file.

When converted documents need a

Note: If you know that **all PDs in all HUs using this document are in sync** with the document you have converted, you may compress the LOG file via **Documents/Data Source**

longer time to load, consider resetting the LOG file.

MANAGEMENT/RESET CHANGE LOG. This will reduce the size of the LOG file and keep loading times to a minimum.

How ATLAS.ti Handles Documents

The content of a file is not embedded, but referenced via its path and name. This connection must stay intact. If it is not, you are about to ask the most frequently asked question: "Where is my PD?"

An HU, or more precisely, its PDs, accesses documents via reference, e.g., file name and paths. Once a data source has been assigned to an HU, it is mandatory that during the course of a project it always accesses this same document and not a different one.

The main consequence of an architecture made up of referenced files is that those files must always be at their original locations when you (or your project) need them. Otherwise, the files are not found (creating a "broken link"). However, you do have the means to make such references more flexible.

Referencing - a Common Procedure

ATLAS.ti organizes projects into different referenced files. This is a common procedure for many professional applications when things get large or complex. Two well-known examples for systems of referenced files are discussed in this section.

Example 1: The World Wide Web Way

When you click on a link in a Web page, your browser loads and displays the linked page (= target). A Web link is really nothing but a reference to another Web page. Such a reference or URL (Uniform Resource Locator) is very much like a file name, only that the former is unique in the "namespace" of the whole world, while a simple file name is unique only on a certain computer. However, if the linked page has ceased to exist, has been moved or renamed, or if a connection to the site where the file resides can simply not be established, you will get a message that the page cannot be loaded (the infamous "error 404").

If the owner of the missing Web page takes pity on other pages referencing the moved page, she would create a forward link ("redirection") to the new location of the page.

ATLAS.ti works in a similar manner: Files that are assigned to an HU do not become a physical part of the HU, but are referenced via the file's path and name.

Example 2: Word Documents with External References

Word™ gives you the option to organize large documents into one central document and a number of semi-dependent subdocuments--say, one for each chapter of a book.

The objective is to reduce the overall size of the main document and make handling easier and faster. Why load 50 chapters into memory when you want to read or edit only two of them? Furthermore, this approach facilitates teamwork: while the main document is edited by the main author, other team members can work on individual chapters.

Although a multitude of files are stored, Word gives the appearance of working with one single monolithic file. When you click on an “outsourced” chapter, its file is loaded from the disk and displayed just as it would if it was an integral part of the main document.

But, alas, if you decide to copy the main document to another computer and forget to take all subdocuments along, you will experience the dreaded “file not found” error when you want to look at a single chapter.

But even when you dutifully copy all the subdocuments along with the main document, there is no guarantee that you will be able to continue working smoothly on the other computer. If the subdocuments were referenced via absolute path names (e.g., d:\word\manual\chapter22.doc) and your other computer cannot resolve this path because you copied everything into c:\mydocuments\ instead of d:\word, you still will not be able to access the chapters, even though they are all there!

The ATLAS.ti Reference Model

If you translate the Word way of handling multiple documents through one main document into the ATLAS.ti world, the analogy is straightforward:

The main document is equivalent to the HU, and the subdocuments ("chapters") equal the PD data sources. Just like the chapter headers are displayed inside the central document, PDs are listed in the HU. But when it comes to displaying their contents, clicking on a chapter in the Word doc will yield an error just like clicking a PD in ATLAS.ti, if those files are not properly assigned.

This is where ATLAS.ti extends beyond WORD. Word does not worry about misaligned quotations after a subdocument was edited, nor does it have any intelligent strategies for keeping track of documents under changing circumstances.

Basic Principles for Working with Referenced Documents:

- During the lifetime of an HU, references to documents always need to point to the same documents (or equivalent copies). In other words: Make an effort to keep your documents where they are when you first assign them to the HU.
- Changing the references to external data sources must be matched by appropriate relocation of the affected documents.

In other words, if you change a reference, move the document to the new location specified.

- Moving documents must be matched by updating their references in EVERY referencing HU. In other words, if you move a document, inform all HUs that use it about its new "address."
- Editing the contents of documents used by any HU must always be done from within ATLAS.ti.

A good reference is correct, existing, flexible, and consistent.

What’s a good reference?

- A correct one: have you assigned the right document?
- An existing one: does the file (still) exist?
- A flexible one: can the file be moved without changing its reference?
- A consistent one: does it **always** yield the right document?

Consequences of Accessing PDs via References

The use of references offers flexibility and economy in handling large numbers of large-sized documents and allows teams to work on shared data sources concurrently. However, you need to be aware of what it means to access documents via external references.

Consequences

- As we have discussed, coding work on PDs does not affect the data source. A quotation created during the process of coding is nothing but a reference (including the file’s path and name, and the start and end position of the selection. The quotations themselves are part of the HU and will always be displayed in the list. However, if the file to which it refers is not found when the quotation is to be displayed in context, an error occurs.
- If you move data source files that are in use to another location (something you would normally not do), you need to update the references inside the HU, (see “Change Path (for one PD at a time)” on page 104).
- In order to copy all files that belong to a project, use the **COPY BUNDLE** function instead (see “Copy Bundle - Migrate and Backup Projects” on page 282). If you were to copy an HU file using standard Windows functionality, the documents used as PDs are not copied along and would be missing at the target location.

This way of treating files results in the following benefits:

- The size of a PD does not affect the size of the HU to which it is assigned.

- A single data source file can be used by more than one HU. It may even be assigned to the same HU multiple times.
- Team members can share data files. Changes to data sources (editing) are broadcast to ALL HUs that use the files, keeping everyone up-to-date.

Reference Types: Many Paths, One Destination

There are a different ways to establish external references in order to accommodate a wide variety of situations. ATLAS.ti always uses the most efficient way to reference a document once it is assigned to an HU. This section discusses techniques for making references more flexible: special paths, and, if absolute paths are necessary, path mapping.

Absolute Paths

Absolute paths are fully qualified file names, such as:

D:\Data\ATLASti\ProjectX\Interviews\Interview1.rtf
Or:
\\Server1\D\Data\ATLASti\ProjectX\Interviews\Interview1.rtf

The former path references a file in a non-ambiguous way on a specific computer which has a disk drive *D:*. The latter path (a UNC path) addresses a file on a specific computer in a local area network.

Both paths will refer to the same file if your computer is, in fact, Server1.

Pros

- As long as the file itself is not deleted or replaced by another one, it will always be found at this original location.
- Absolute paths stay valid even when moving the HU to another location on this computer or, when UNC paths are used, to another computer within the local network.
- Absolute unique paths in a local area network are easy to share among users.

Cons

- When porting the project to another computer or to another network, files will not be found unless the target has identical conditions (identical drives, identical folder structure, identical computer and network names).
- If referenced files or folders are moved to another drive or to another computer, the references become invalid.

Special Paths

Absolute paths are exact and inflexible. To overcome this restriction, a more flexible reference type is offered: Special Paths.

ATLAS.ti uses ***special paths*** *to reference data sources whenever possible. Special paths offer a degree of flexibility, which increases project portability.*

Special paths eliminate the need to address specific resources (a specific computer, a specific drive, a specific path) that may not be available over the lifetime of a project. There is no need to know the actual file paths when porting a project to another computer.

Special paths contain variable components that are interpreted whenever the reference is needed.

Special paths (or special folders) are common in Windows. Most users are probably aware of the following examples:

User's Desktop: A folder that contains files and folders that appear on the desktop on a per-user basis. Typically C:\Documents and Settings*username*\Desktop.

User's Personal Data Folder (“My Documents”): A folder that serves as a per-user repository for documents. Typically, C:\Documents and Settings*username*\My Documents.

Other special folders refer to the location for temporary system files, fonts, Windows system files, etc.

By using special folders, Windows can manage different users on the same computer and restrict access to personal files to the specified user.

In ATLAS.ti, two special paths (or special folders) serve a similar purpose. By not assigning file references via absolute paths, projects and users have their private repositories, and changes to the underlying hardware do not affect the ability to retrieve the right files.

This is done through two special path variables, HUPATH and TBPATH. The HUPATH is the folder in which the HU is stored. While there is one HUPATH for every opened HU, there is only one TBPATH, which is explicitly set by the user.

Special path: HUPATH

HUPATH *is relative to a specific HU. It has no relevance independent of this HU.*

Unlike the Windows special folders or the TBPATH, the HUPATH is relative to a specific HU and cannot be set explicitly. It exists for the HU once it has been saved to a specific location. It has no meaning outside a given HU.

When documents are assigned as PDs, special paths are used whenever possible. To activate this feature, the **Use Special Paths** option must be checked in GENERAL PREFERENCES.

When you save an HU as:

D:\Data\ATLASti\ProjectX\About Paths.hpr5

it will set its HUPATH variable to:

D:\Data\ATLASti\ProjectX\

When you later assign a document to this HU and this document is stored below this path, ATLAS.ti will replace absolute path components with the HUPATH variable.

D:\Data\ATLASti\ProjectX\Interviews\Interview1.rtf
becomes:
<HUPATH>*\Interviews\Interview1.rtf.*

By replacing absolute references to specific disk drives and specific computers, this reference will always work, even when copying the HU and the complete folder tree with root
D:\Data\ATLASti\ProjectX\
to
C:\ATLASProjects.

Pros

- The HU always finds its PD files as long as sub folders and files are not moved independently of the HU's folder.
- Portability: Moving projects is simple: copy the HU's folder and all subfolders.

Cons

- Sharing data between different HUs or even different users is not very convenient unless the HUs reside under the same folder.

Special path: TBPATH

TBPATH is user-relative. It affects ALL projects on which the user works. It is set via **GENERAL PREFERENCES**.

The customizable TBPATH (Textbank Path) has the following objectives:

- It is the default folder opened whenever you assign documents, save HUs, etc.
- It is a convenient location (including subfolders) in which to store your project's documents.

To emphasize that this special path is user-relative, it is set to the following default location after the installation of ATLAS.ti:

TBPATH = {My Documents}*\Scientific Software\ATLASti\Textbank*

This creates a nested special folder! The Windows special folder "My Documents" is also a variable. This location was selected because the "My Documents" folder is a location that belongs to the user currently logged in under Windows. The user has all required permissions to work on items in this folder.

But setting the TBPATH to a private user folder may not always be appropriate, useful, or even smart. In cases where more than one user on a specific computer needs to access files from a central repository, this path variable should be set to a location that is outside the user’s private folder hierarchy, e.g.:

C:\ATLASti\Data\

All users working on the same local network can use a UNC path instead:

\\Server1\C\ ATLASti\Data\

Each user wishing to access this folder needs to set their TBPATH identically.

Pros

- If this path is set appropriately on different computers, projects can easily be carried back and forth.
- If the location of the data repository changes, access can be easily managed by simply changing the TBPATH to the new location.
- In a local area network, this folder is available to all ATLAS.ti users if it was set to a central location, i.e. one where all users have appropriate permissions.

Cons

- When the TBPATH is changed and the new location does not contain the files or the previous location or an exact copy of these files, references of PDs using the TBPATH reference will fail. As ATLAS.ti has very strict version control features regarding the usability of files used as PDs, access will be rejected if files found at the new location do not match the accessibility information each PD stores when accessing a data source. Inaccessibility can be caused by a file that has been edited.

Working with special paths

By default, the “Use Special Paths” option is active. It can be changed via **EXTRAS/GENERAL PREFERENCES/GENERAL**.

The TBPATH is set under **EXTRAS/GENERAL PREFERENCES/PATHS**.

The HUPATH is determined when the HU is saved.

When assigning a file as a PD, ATLAS.ti creates the reference using the following rules:

If the file is located in the folder hierarchy of the HU, <HUPATH> is used.

If the file is not in the HU hierarchy, and if the file is located in the folder hierarchy rooted by the TBPATH variable, <TBPATH> is stored as the reference to the file.

If none of the above holds or “Use Special Paths” is deactivated, the absolute path is used.

Note: If the HU itself is stored in the TBPATH folder, HUPATH "wins." If you need to assign documents using the TBPATH variable (in preparation of teamwork scenarios), you need to store the HU off the TBPATH folder hierarchy.

Conclusion

Special paths should be used deliberately wherever applicable. They ease the task of locating referenced documents in a very efficient manner. Using special paths makes management of projects involving multiple HUs, multiple locations, and multiple users convenient. An HU containing special paths instead of absolute references makes it easy to transfer and install projects on other computers.

Optimize Paths

Usually the best path is already chosen when a document is assigned and the "Use Special Paths" option was set.

HUs created with ATLAS.ti 4 are good candidates for ***OPTIMIZE PATHS***

Older HUs typically contain absolute path references and are therefore less flexible.

You can change an HU's references to its documents to conform to the scheme above even after files have already been assigned as PDs, i.e., you can "Optimize Paths."

"Optimize Paths" does two things at the same time:

1. Replaces an invalid path that was redirected with its mapped path, making this redirection obsolete.
2. Translates a path into its most condensed and flexible representation – if the path can be subsumed under the special paths (see examples).

Data sources must be accessible for the Optimize Path procedure

Only those PDs with accessible data sources are included in the path optimization.

"Optimize Path" can be applied to all or a selection of PDs. Via the HU Editor main menu's **DOCUMENTS/DATA SOURCE MANAGEMENT/OPTIMIZE PATHS**, optimization for all PDs is initiated. When using the equivalent option offered in the PD Manager, only the currently selected PDs are optimized.

Examples

If PDs in the HU reference files in folder *D:\ProjectX\* and the HU itself is in the same folder, Optimize Paths (**DOCUMENTS/DATA SOURCE MANAGEMENT/OPTIMIZE PATHS**) will change the references to these data sources to include the HUPATH special path variable.

D:\ProjectX\interview_1.rtf

D:\ProjectX\Special\interview_7.rtf

➔

<HUPATH>*interview_1.rtf*

<HUPATH>*Special\interview_7.rtf*

The same principles work for documents stored in the TBPATH hierarchy, unless the HU is also stored in the same location.

Adjusting References

The very concept of external references assumes that the locations of data source files are not changed after they have been assigned to the HU. However, some situations make it necessary to update invalid references to PDs.

Redirection of hanging references becomes an issue when an existing project needs to be adapted to an altered environment (computer or network) or if such a modification is in preparation.

"System modifications" are fairly common occurrences, such as moving folders to disks with more available space, or moving to a new computer altogether. From your project's view, this is also a modification. These cases are similar in that (absolute) paths to documents, which worked well before, now no longer point to the correct document files. It now becomes necessary to give these projects a little help in finding all their documents.

Two Ways to Adjust References

Redirection: Dynamically uses an alternate path for one, many, or all documents when needed.

Change Path: Permanently changes the path reference to the document for each PD that needs it.

The change path option changes the external reference that is used by ATLAS.ti to access a data source file permanently. The redirection option, in comparison, creates additional alternatives, leaving the original reference untouched. Based on these different functionalities, the two options can be used for different purposes:

Use the **change path** option to do the following:

- To move a PD and all associated files to a different location on your computer.
- To modify the path for a single or only a few PDs after documents have been moved.
- To change the name of a data source file reference.

Use the **redirection** option for the following purposes:

- To create alternative access routes to your data source files if the location has changed for many or all of your PDs. This may occur when a system is restructured.

- To create an alternative access route if a drive that was used to assign PDs (e.g., *Z:*) is not available on your computer, which may happen after migrating to another computer.
- Last resort: If no explicit redirection yields a valid path via “fallback” (described below), documents with the same file name are searched for only in the HUPATH or TBPATH folder.

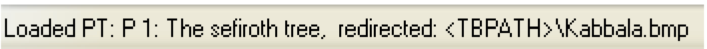
Redirection

If a document cannot be found under its original reference (file name and path), two procedures are initiated: first “Path Mapping” is tried, then “Fallback.”

How ATLAS.ti loads mapped PDs:

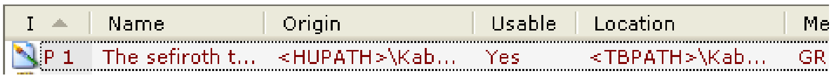
- If a PD’s data source cannot be loaded, ATLAS.ti inspects the mapping file to find a valid substitution for the path that is causing the error.
- If a mapping file is found, and a mapping exists for the original path, the program tries to load the file from an alternative path.
- If this does not produce a valid path, then the fallback paths are checked.
- If even this last attempt to load the file fails, you will see an error message.

A "redirected" PD is indicated as such in the status bar at the bottom of the screen.



Loaded PT: P 1: The sefiroth tree, redirected: <TBPATH>\Kabbala.bmp

Redirection is also displayed in the Document Manager’s Location column. It shows where a data source file was *actually* found:



I	Name	Origin	Usable	Location	Me
P 1	The sefiroth t...	<HUPATH>\Kab...	Yes	<TBPATH>\Kab...	GR

In the above example a file expected in the folder of the HU (origin is the HUPATH folder) is found in the textbank folder.

If you can avoid Path Mapping altogether – great!

But there are a few situations where it might be necessary.

Redirection should be used with some caution, as every additional alternative to find a matching document increases the probability that you will actually end up accessing the wrong document: same name, different folder, and different revision. This is a problem if you have edited a document and saved various versions in different locations. You should try to make sure that older documents are not accidentally and erroneously referenced because of too many mapping alternatives. A much safer way to handle references is to change the original reference to match the actual location, in other words: **CHANGE PATH**.

Path Mapping

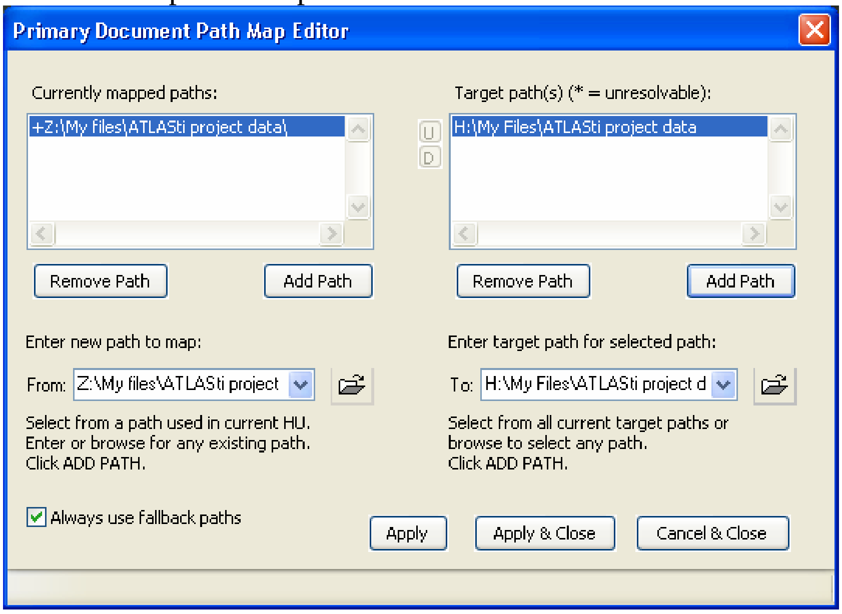
Path mapping works as follows:

A precondition is that the user has defined path mappings using the mapping tool described below. If a document reference cannot be resolved, ATLAS.ti looks into the mapping table for optional replacement paths for the one that does not work. More than one replacement path can match a single path. All replacement paths are tried in the order they were defined. If a valid replacement is found, it will be used.

Note: Mapping affects the complete hierarchy below the map entry. For instance, if an invalid path *z:\tb\* is mapped to *c:\textbank\*, path *z:\tb\projectX\* and then path *c:\textbank\projectX* would be tried in addition unless a more restrictive mapping precedes this entry.

How to create path mappings

1. From the menu (HU Editor or Document Manager), select **DOCUMENTS/DATA SOURCE MANAGEMENT/EDIT PRIMARY-DOCUMENT MAPPINGS**.
2. The Path Map Editor opens:



Primary Document Path Map Editor

Currently mapped paths:

+Z:\My files\ATLASti project data\

Target path(s) (* = unresolvable):

H:\My Files\ATLASti project data

Enter new path to map:

From: Z:\My files\ATLASti project

Select from a path used in current HU.
Enter or browse for any existing path.
Click ADD PATH.

Enter target path for selected path:

To: H:\My Files\ATLASti project d

Select from all current target paths or
browse to select any path.
Click ADD PATH.

☑ Always use fallback paths

Figure 33 - Path Map Editor

The figure above shows a mapping example for path *Z:\My files\ATLASti project data*.

With this mapping, the documents:

Z:\My files\ATLASti project data\interview_3.rtf and

Z:\My files\ATLASti project data\Special\interview_4.rtf

would also be assumed at:

H:\My files\ATLASti project data\interview_3.rtf and

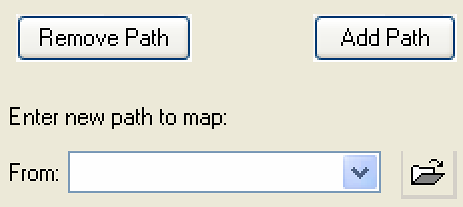
H:\My files\ATLASti project data\Special\interview_4.rtf

in case they are not accessible at their original location.

It is possible to define more than one replacement alternative for a given path. However, we strongly advise against making use of such multi mappings! As we have already pointed out, chances of accessing a wrong document with the same name increase with multiple alternatives.

To enter a path to be mapped:

3. Into the 'From:' entry field on the left side of the Path Map Editor, type in either the full path, select a path from the drop-down list, or click on the file browser symbol. Generally, useful options (non-accessible paths used in the current HU) are already offered in the drop-down list.



4. Once a path is entered or selected, click on the *Add Path* button. The path will be added to the list of currently mapped paths.
5. Now enter (or choose from the drop-down) a replacement path into the 'To:' field on the right side of the Path Map Editor in the same fashion:
6. Click on the *Add Path* button.
7. Repeat steps 3 to 6 for every path to be mapped.
8. Press Apply or Apply & Close to store and activate the new mapping(s).

Redirection: Fallback

A "fallback" path is used when a mapping does not exist or a valid path cannot be found. In addition, the fallback option must be switched on in the Path Map Editor.

The HUPATH is searched first, and if the document cannot be found, it looks into the TBPATH.

Note: In fallback mode, both folders are searched without searching any of their sub folders.

Change Path (for one PD at a time)

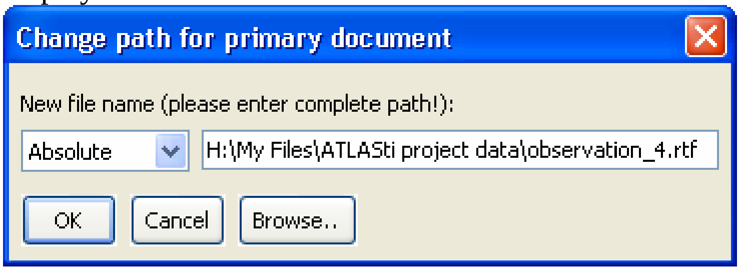
With Change Path, you can modify the reference of a single PD in a specific HU to its data source. You can modify the path, the file name, or both. Furthermore, the special path can be changed, or an absolute path can be replaced by a special path, if appropriate.

If you change the path for a perfectly accessible document, ATLAS.ti "thinks" that you want to move this document to a new location. Change Path is the best option to do this. But use caution:

you are changing conditions for a specific HU. In case you use Change Path to move a document that is also assigned in other HUs, this document will no longer be found. In such multi-project settings, path mapping, which affects ALL HUs and all of their PDs (of the current user), may be the preferred option.

How to Change a Path:

1. Select the PD whose reference will be changed.
2. Choose **Documents/Data Source Management/Change Path** from the main menu. If you attempt to change the path for an accessible document, a warning will pop up.
3. The Change Path prompter opens with the current path displayed.

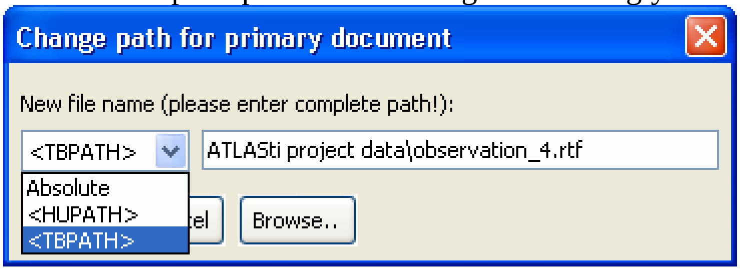


Change path for primary document

New file name (please enter complete path!):

Absolute | H:\My Files\ATLASti project data\observation_4.rtf

4. The drop-down list to the left shows the current reference type (Absolute, TBPATH, or HUPATH). The field to the right displays the documents path name relative to the reference type.
5. You can cancel the procedure at any time by clicking the Cancel button.
6. If necessary, change the reference type by selecting from the list. The complete path will be changed accordingly:



Change path for primary document

New file name (please enter complete path!):

<TBPATH> | ATLASti project data\observation_4.rtf

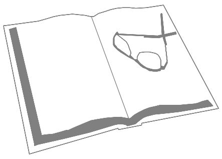
7. Now enter, if required, the new file name. Alternatively, you can use the **Browse** button to select a new location (using the previous file name). Hold down the Ctrl-key if you prefer a file browser to select the new file to be used.
8. If you are happy with the result, close this dialog by clicking OK.
9. If a valid document was detected at the old location, another dialog box asks for confirmation to move the file from its current location to the new location. If you click **Yes**, the file is moved and the PD’s reference is updated accordingly. If you click **No**, the reference is changed but the file is not

moved (do this, for example, if there already is a valid file in the target folder). If you click **Cancel**, you are back in the Change Path dialog box.

Note: You must save the HU to make these changes permanent.

The Textual Level - Basic Functions

As you may already know (see “The Process” on page 25), there are two principle levels of interaction with ATLAS.ti, the textual and the conceptual.



The **textual level** includes activities like segmenting and organizing data files, coding data segments, and writing memos, while the **conceptual level** focuses on model-building activities, such as linking codes to form semantic networks.

In this chapter, you will learn about the main procedures needed to begin your data analysis. These include how to mark, code, and comment text, graphic, audio and video segments; how to write memos; and how to group your documents, codes, and memos into families and super families.

Selecting Document Segments

The most common operations on primary documents -- especially when starting a project -- are selecting data sections, assigning codes and/or memos to them.

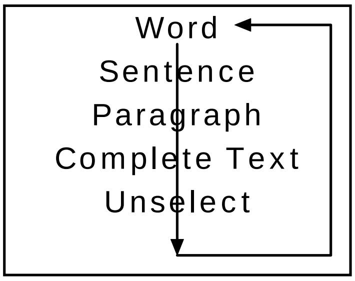
Marking a segment does not by itself create a quotation, though this is often the very next step after making a selection.

Selecting Text Segments

In addition to the usual selection techniques known from text editors and word processors, ATLAS.ti offers an extended “semi-automatic” double-click selection technique for textual primary documents.

Here is how it works:

Double-click selection sequence:



1. Double-click to **select the word** (assuming it is not yet selected).
2. Double-click on the selection to expand it to **the sentence** embedding the current selection.
3. Double-click on the selection to expand it to **the full paragraph** surrounding the selection.
4. Double-click again to select the **complete text**.
5. Double-click once more to **unselect the selected area**.

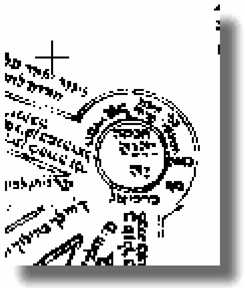
Note*:* To optimize retrieval of quotations using the Query Tool, using semi-automatic selection for creating quotations offers the necessary consistency.

For the semi-automatic selection of sentences and paragraphs, the currently used Paragraph Model plays a crucial role. For instance, if you have assigned a “Legacy” document with hard returns for every line, selecting a paragraph will select a line unless you have switched interpretation to an “Old Paragraph Model” (see “Handling Legacy Documents” on page 73)

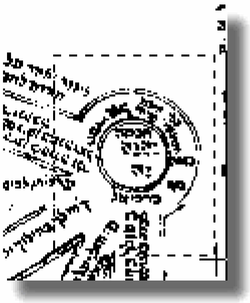
Selecting Graphical Segments

Selecting graphical segments differs from the operations required for selecting segments within textual documents. However, the overall look and feel is sufficiently similar.

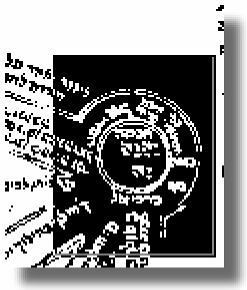
1. Move the mouse pointer to the upper left corner of the rectangular section that you are going to create.



2. Drag (holding down the left mouse button) the mouse to the lower right corner of the rectangle.

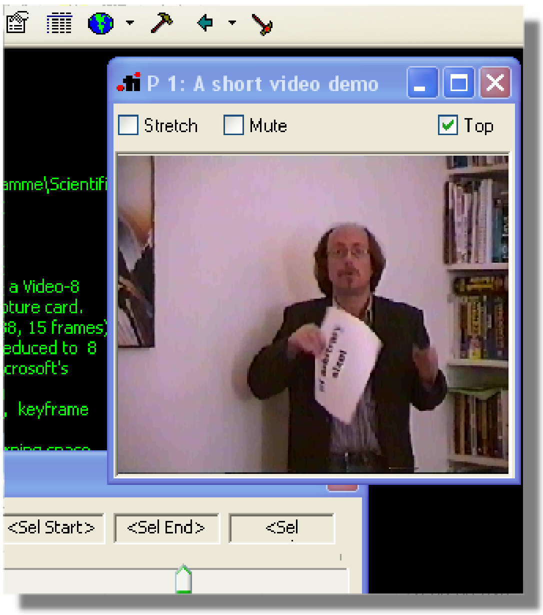


3. Release the mouse button. You have now created a selection and the rectangle will be highlighted (inverse display or thicker border).



Navigating Multimedia and Selecting Segments

Creating, (dis)playing, and modifying media quotations is as easy as creating textual or graphical segments. The following section explains the Media Control window that is used to create audio and video quotations. When working with video data, an additional video window is opened that plays the video. The video window floats on top of all other windows. It can be resized and moved to an appropriate position.



P 1: A short video demo

□ Stretch □ Mute ☑ Top

Figure 34 Active video window

The Multimedia Control Window

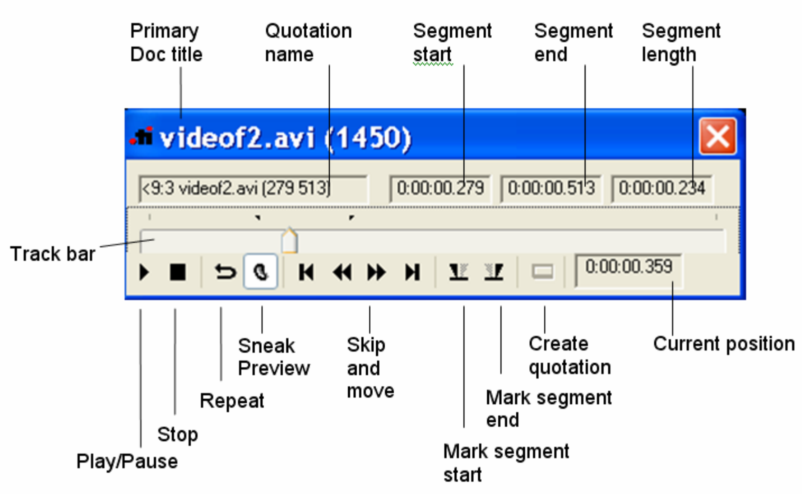


Figure 35 - The multimedia control window

The **title bar** displays the name of the selected primary document together with some information about the media contents (e.g., length, stereo vs. mono, recording quality, etc.).

Below the title bar are three **info fields** that display the name of the selected quotation, the start and end position, and its length. For audio files, the position data is displayed in *minutes:seconds: milliseconds*; for video files, it is displayed in *frames*. Next to the toolbar you will find another info field displaying the current absolute position.

The **track bar** represents the entire length of the audio (or video) file. The slider shows the current position. To navigate audio or video files, you can move the track slider, push the skip and move buttons, or use the right and left cursor keys.

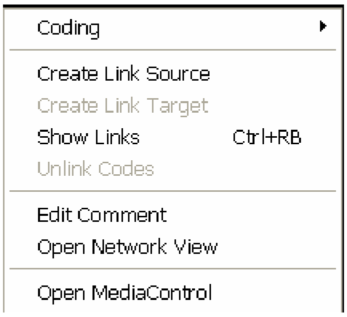
The **toolbar** offers the following functionalities (from left to right):

Tool	Description
▶ ⏸ Play/Pause	Clicking on this button will toggle between playing or pausing the current audio or video stream. When you hold down the Ctrl key at the same time, the current segment will be played. Keyboard shortcut: Play = p, toggle = Space.
■ Stop	Stops playing the current file and in addition also "releases" the resource, giving, as it were, other Windows applications the opportunity to access the resource and/or the media player. Keyboard shortcut: Stop = **s**
↺ Repeat/Loop	Repeats either the complete file or any selected segment until the pause or stop button is clicked. Especially useful to repeat noise-covered or otherwise hard-to-understand passages during transcription.
Sneak Preview	Helps to fine-tune a segment end, e.g., to isolate a word from a contiguous spoken text. When moving the position while the Sneak Preview mode is active, a short “preview” of 500 milliseconds (or 2 frames

	for video data) is played repeatedly, making it easier for marking the boundary of your segment. Using this function takes practice and is best used in combination with the cursor keys.
Skip back	Repositions the track slider to either the next selection mark to the left or the beginning of the file.
Move back	Repositions the track slider by 1/20 of the overall size of the file to the left.
Move forward	Repositions the track slider by 1/20 of the overall size of the file to the right.
Skip forward	Repositions the track slider to either the next selection mark to the right or the end of the file.
Selection start	The current position is made the start coordinate of a segment to be created. Keyboard shortcut: <
Selection end	The current position determines the end coordinate of a segment. Keyboard shortcut: > Holding down the SHIFT key while clicking the button creates a quotation for the current selection and starts a new selection. This facilitates fast creation of sequential quotations.
Create quotation	Creates a free quotation from the current selection. This button is disabled unless a valid segment is marked or if the segment already matches an existing quotation. Keyboard shortcut: q (note: q also starts a new selection). In combination with the CTRL key, this button trims the current media quotation to the current selection.

In addition to the buttons in the media control window, you can use the cursor keys on your keyboard for fine resolution positioning.

Opening and Closing the Multimedia Control Window



The multimedia control window opens automatically when you load a multimedia document. When you switch from a media to a graphic or text PD, the media control window is closed. You can also close the control window manually. To reopen the window, open the context menu on the background of the multimedia document pane (black with green text) and choose the menu option: ***OPEN MEDIACONTROL.***

Preferences

Under **Extras/General Preferences**/HU Editor, the following characteristics can be made permanent:

- Play multimedia PD when loaded
- Loop media clip

Creating Quotations

In most cases, creating quotations is part of a higher-level procedure like coding or writing memos (described later).

For immediate feedback, activate the margin area

There are a number of ways to create a quotation. These options are available via the toolbar and menus, and via drag & drop. For immediate feedback when creating quotations, switch on the margin area (if not yet activated).

Before a quotation can be created, an appropriate selection must exist, as described above.

Creating a free Quotation

To create a free quotation

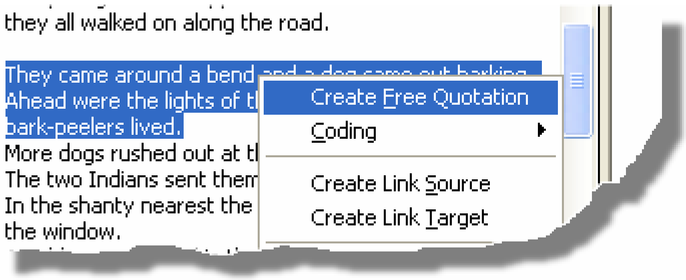
1. Mark a section in the primary document.
2. Click the **CREATE FREE QUOTATION** button in the HU Editor's primary document toolbar (also available in the multimedia control window). Alternatively you can choose **Create Free Quotation** from the HU Editor's main menu.

Creating Quotations Using The Context Menu

Only available for textual and graphical documents.

To create a quotation via the context menu

1. Mark a section in the primary document.
2. Open the context menu on the selection with a right mouse click.



they all walked on along the road.

They came around a bend
Ahead were the lights of t
bark-peelers lived.
More dogs rushed out at t
The two Indians sent them
In the shanty nearest the
the window.

3. Choose **Create Free Quotation**.

Note: If you have accidentally chosen a section for which a quotation already exists, the context menu will not include the CREATE FREE QUOTATION command.

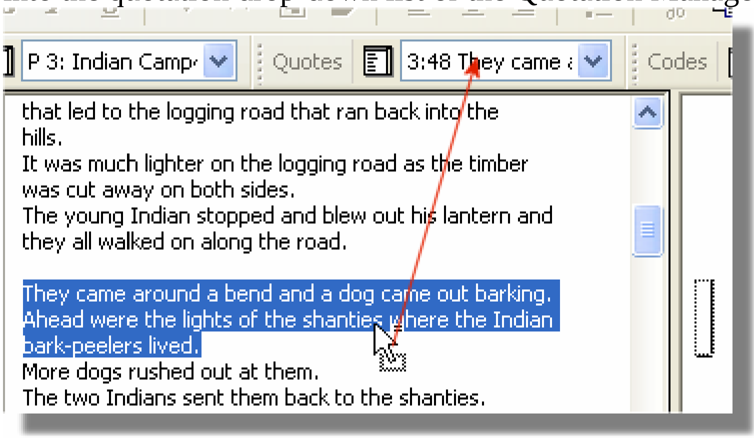
Creating Quotations Using Drag & Drop

This technique allows you to virtually "throw" pieces of text into the quotations list.

A number of drag & drop activities create quotations.

To create a free quotation from a textual document selection:

1. Move the mouse pointer into the selected text. The pointer will change to its "drag & drop" appearance.
2. By holding down the left mouse button, drag the selection into the quotation drop-down list or the Quotation Manager.



that led to the logging road that ran back into the hills.
It was much lighter on the logging road as the timber was cut away on both sides.
The young Indian stopped and blew out his lantern and they all walked on along the road.

They came around a bend and a dog came out barking. Ahead were the lights of the shanties where the Indian bark-peelers lived.
More dogs rushed out at them.
The two Indians sent them back to the shanties.

You have just created a quotation. A new entry appears in the quotations drop-down list and the Quotation Manager. In the margin, a new bracket will be displayed.

Quotations are also created in the course of coding or memoing using drag & drop.

Activating Quotations

Quotations can be activated (retrieved) and displayed by selecting an entry from the drop-down list, by double-clicking on an entry in the Quotation Manager, or by clicking on the quotation bracket in the margin area. Coded quotations can be retrieved by double-clicking on an associated code (see “Code Manager” on page 55 for detail). Quotations can also be activated from the results pane of the Query Tool (see “The Query Tool” on page 160).

A quotation can be activated and displayed from virtually any browser displaying quotations: drop-down list, Object Manager, Network Editor, Object Crawler, Object Explorer, etc.

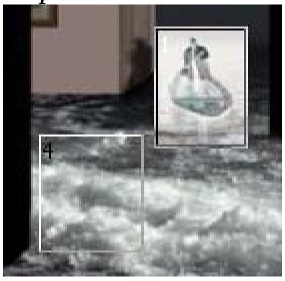
Activating Graphical Quotations

In addition to the general activation procedures listed above, a graphical quotation can be activated by directly double-clicking within its “box” in the document pane. Where two or more quotations intersect, you are presented with a list of quotations from which to choose.

Display Of Graphical Quotations

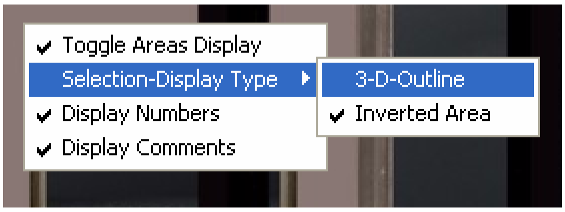
All graphical quotations are indicated by borders. A selected quotation is depicted either in inverse color or by a thicker border.

Graphical quotations in a document appear as rectangles. The selected quotation is emphasized.



Permanent display of graphical quotations' frames can be toggled off and on. To change the way graphical quotations are displayed:

Right click an area on the graphical document that is not a quotation and Choose ***TOGGLE AREAS DISPLAY*** from the pop up menu. The display style of selected quotations can be set via the ***SELECTION-DISPLAY TYPE*** submenu.



(Dis)playing audio and video quotations

Audio and video quotations can be selected and (dis)played like any other quotation with one exception. As there is no margin area for multimedia documents, no clickable brackets represent multimedia quotations. However, they may appear in the margin as hyperlinks (see figure below).

When you double-click on a multimedia hyperlink in the margin, you do not see the usual info text popping up. Instead, the quotation is played directly without opening the Media Control window. To display the info text instead, press the Shift-key when double-clicking on the hyperlink.

Media-type quotations can be distinguished easily by their icons. These icons may be used in the margin area, the Object Manager, the Object Explorer, the Crawler, and in Network Views. The figure below shows the media types of four hyperlinked quotations in the margin. From top to bottom: audio, video, text, and graphical hyperlinks.

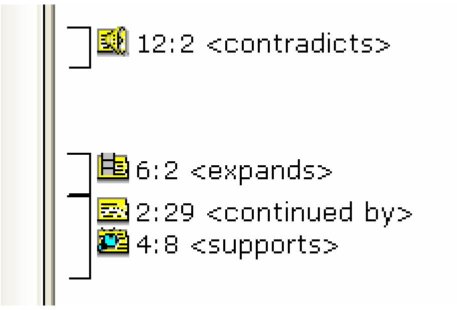


Figure 36 –Hyperlinks of different content type in the margin

Modifying Quotations

This feature lets you change the boundaries (start and end position) of a quotation.

Changing The Boundaries Of A Quotation

1. Activate the quotation if not already selected.
2. Select a data segment that you actually want to use as this quotation. This destroys the data selection of the quotation just selected. However, the next step simply modifies the most recently selected quotation.

✓

Click the modify button ✓, located to the left of the text window or choose **QUOTATIONS/MODIFY** from the main menu. For multimedia quotations, use the combination of the Ctrl key and the Media Control window’s Create Quotation button.

The quotation will be changed reflecting the new boundaries.

New boundaries match existing quotation

If the new boundaries match another existing quotation, you are asked for confirmation to "merge" the currently modified and the already existing quotation. The quotation resulting from the merge operation collects the references of both quotations. For example, if the modified quotation was coded with code A and the existing quotation with matching boundaries with code B, the new quotation will be referenced by both code A and B.

Note: If you modify a previously renamed text quotation, you are asked for confirmation using the newly selected string (truncated) as its list display name.

Deleting Quotations

Quotations can be deleted. Of course, nothing is removed from the primary document’s data source.

Deleting a quotation affects only its references. "Free" quotations are deleted silently. However, if references to codes, quotations, or memos exist, you are prompted for confirmation.

The option to delete quotations is available in a number of different places: the Quotation Manager, the drop-down list, the Object Explorer, and the margin.

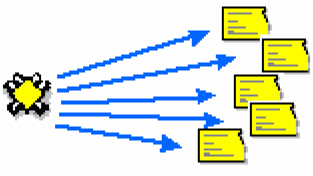
Deleting Quotation(s) in the Quotation Manager

1. Select the quotation(s) in question.
2. Click the Remove button ☒.
3. If references exist for the quotation, confirm or reject the deletion process.

Note: All quotations of a primary document are deleted when the primary document is disconnected from the Hermeneutic Unit.

Coding Techniques

The coding procedures described in this section do not fully encompass the complexity of the intellectual activity of coding as, for example, understood in Grounded Theory (GLASER & STRAUSS, 1967).



Code associated with multiple quotations.

Methodologically, coding is more than merely indexing data. Coding is simply the procedure of associating code words with selections of data. In ATLAS.ti's framework, the foundation of "coding" is the association between a quotation and a code. The following describes ways to establish, maintain, or remove such associations. Although some of the coding techniques reflect the ideas and terminology used in Grounded Theory, you do not have to use this methodology when analyzing your data within ATLAS.ti.

Four coding procedures are described: **Open Coding**, **In-Vivo Coding**, **Code-by-List**, and **Quick Coding**. In addition, the purpose and creation of free codes are explained. Automatic coding is described elsewhere (see "The Auto-Coding Tool" on page 151).

Make code names as succinct as possible.

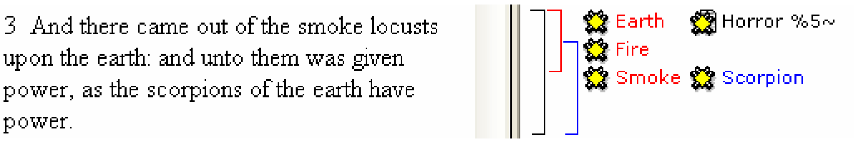
A code may contain more than a single word, but should be concise. Use the code comment area to write a definition. If you find yourself writing prose instead of a succinct code name, you might in fact want to annotate. If this is the case, use comments or memos instead.

General Coding Procedure

There are some common steps with each of the coding procedures described below.

First of all, it is useful to switch on the margin display to see the immediate effects of the coding process (note: there is no margin area for audio and video documents). The margin area also permits the direct manipulation of the codes and the associations between the quotations and the codes.

To display the margin area


3 And there came out of the smoke locusts upon the earth: and unto them was given power, as the scorpions of the earth have power.

Choose **VIEWS/MARGIN AREA** from the main menu, or click the Margin Area button in the primary document toolbar. The margin area is a useful feedback device during coding. Codes are displayed alongside the quotation to which they are attached.

Resize the margin area.

Note: the size of the margin area can be changed by dragging the "split bar" between the primary document pane and the margin area with the left mouse button.

Coding creates quotations for selected data sections if needed

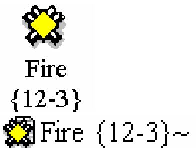
Coding results in codes linked to quotations. Any number of codes may be assigned to a quotation and vice versa: a code may refer to any number of quotations. Coding implicitly creates quotations for data segments that do not already match an existing quotation.

You may activate the basic coding procedures either in the primary document toolbar, the **CODING** submenu of the **CODES** menu, the Code Manager or the context menu of the data selection.

	The coding options in the primary document toolbar:
OPEN CODING	Create a new code, ask user for name of code
CODE IN VIVO	Creates a code from the selected text
CODE BY LIST	Selects existing codes from code list
QUICK CODING	Codes with the currently selected code

How Codes are Displayed

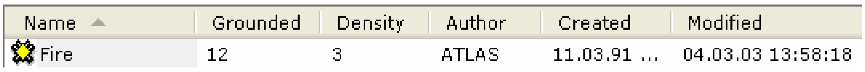
After a code has been created, it appears as a new entry in several locations (drop-down list, code manager). The Code Manager provides a number of display options:



A ‘classic view’ as known from ATLAS.ti 4.

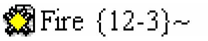
Typical Windows display options like Large Icons, Small Icons, List and Details.

The details view has already been described at “Code Manager List Columns” on page 56.



Name	Grounded	Density	Author	Created	Modified
Fire	12	3	ATLAS	11.03.91 ...	04.03.03 13:58:18

The Classic view



Fire {12-3}~

Within curly brackets following the code name, groundedness and density are displayed.

Grounded(ness). The number of quotations associated with this code (above example:12). Large numbers indicate strong evidence already found for this code.

Density. The number of codes connected to this code follows the dash (above example:3). Large numbers can be interpreted as a high degree of theoretical density.

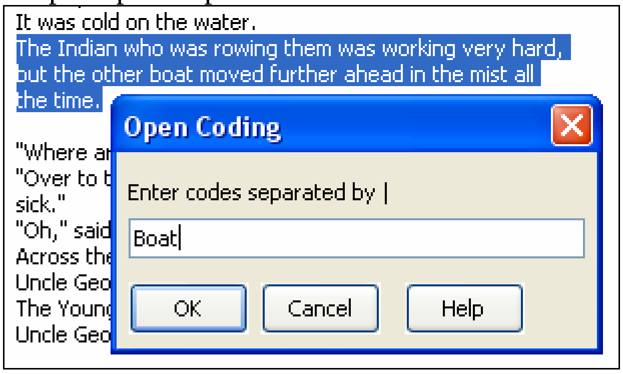
Comment. The tilde character "~" flags commented codes. It is used not only for codes but for all commented objects.

Open Coding

Open Coding assigns new codes with already existing or newly created quotations. You can create one ore more codes in a single step.

Coding with a single new code:

1. Select the data section or the quotation you want to code.
2. Click the Open Coding button or choose ***Coding/Open Coding*** from the main or context menu.
3. A “prompter” opens:



It was cold on the water.
The Indian who was rowing them was working very hard, but the other boat moved further ahead in the mist all the time.

"Where ar
"Over to t
sick."
"Oh," said
Across the
Uncle Geo
The Young
Uncle Geo

Open Coding

Enter codes separated by |

Boat

4. Enter the code name and click **OK**.

The new code now appears in the Code Manager. If a quotation was also created, a it is displayed in the Quotation Manager.

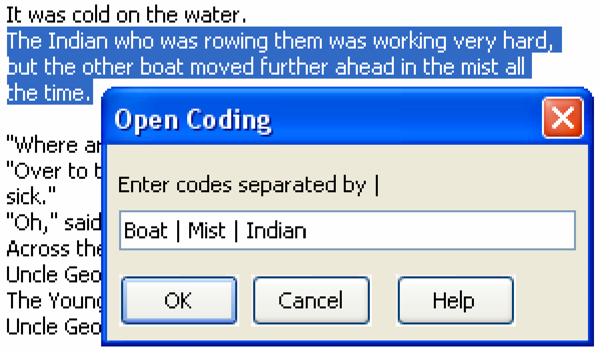
Write comments!

Make it a habit to write a comment for every new code (see “Writing Code Comments” on page 121).

Creating more than one code concurrently

When using the Open Coding procedure, more than one code can be created at a time. In order to do so, you need to separate the code names with the “vertical bar” or “pipe” character "|" (ASCII 124).

Create more than one code at a time using the "vertical bar" character.



It was cold on the water.
The Indian who was rowing them was working very hard,
but the other boat moved further ahead in the mist all
the time.

"Where ar
"Over to t
sick."
"Oh," said
Across the
Uncle Geo
The Young
Uncle Geo

Open Coding

Enter codes separated by |

Boat | Mist | Indian

Boat|*Mist*|*Indian* creates three new codes. Already existing codes are simply used and not created anew.

In-Vivo Coding

The term "in-vivo" in this context stems from grounded theory, which draws the researcher's attention to expressions used by the interviewees themselves.

Use in-vivo coding when the text itself contains a useful and meaningful name for a code.

In-vivo coding creates a quotation from the selected text AND uses the selected text (trimmed to 30 characters) as the code name. If the selected text's boundaries are not exactly what you want for the quotation, modifying the quotation's "spread" (see "Modifying Quotations" on page 115) is often the next step after creating the in-vivo code.

Note: In-Vivo coding can only be applied to *textual* primary documents.

To create an In-Vivo code

1. Mark the text passage that you want to use as an in-vivo code. Bear in mind that the code name is created from the text selection's first 30 characters.
2. Click the In-Vivo coding button or choose ***CODING/IN-VIVO CODING*** from the menu.
3. If needed, change the newly created quotation's boundaries ("Modifying Quotations" on page 115 for details).

In-Vivo coding can also be done using drag & drop.

To create an In-Vivo code via drag & drop

1. Mark the text passage that you want to use for In-Vivo coding.
2. Open the Code Manager.
3. Drag and drop the selected text into the Code Manager's list pane or the code drop-down list.

Create multiple In-Vivo codes

You can create a code from each word of the selected text by holding down the ALT key when dropping the text.

Code-by-List

This procedure offers a list of all current codes from which one or more code can be selected and associated with the current data selection.

The number of codes that you can select from the list is unlimited. If the data section resembles an existing quotation, only codes not already assigned to this quotation are offered.

To use the Code-by-List technique

1. Select the data section/quotation to be coded.
2. Click the Code-by-List button or choose ***Coding/Code by List*** from the menu.
3. From the list window with applicable codes select one or more codes (while holding the Ctrl key) and click **OK**.

To use Code-by-List via drag & drop

The Code Manager offers bi-directional drag & drop.

Drag & drop is also available for the code-by-list technique. The Code Manager not only offers the In-Vivo drag & drop technique described above. You may also drag any number of codes from the Code Manager onto a data selection.

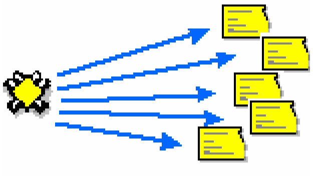
1. Select a data section.
2. Open the Code Manager.
3. Select one or more codes in the Code Manager.
4. Drag and drop the codes into the primary document pane. If a quotation already exists, you can alternatively drop the code onto the bracket in the margin area.

Note: it is not necessary to drop the codes into the selected area. You may drop the codes anywhere inside the primary document pane.

Code-by-List Inverse

Code multiple quotations at once.

The standard code-by-list technique associates a list of codes to one selected quotation. Sometimes, it makes more sense to associate a list of quotations to one code.



To link a code to many quotations

1. In the Code Manager, or the drop down list select the code to be associated with one or more quotations.
2. From the main or the code’s context menu, choose **CODES/CODING/LINK CODE TO:/QUOTATIONS.**
3. A list of quotations that were not already assigned to the selected code opens. Select one ore more quotations and click **OK**.

To link a code to many quotations via Drag & Drop

Drag quotations onto a code.

1. In the Quotation Manager select the quotations to be assigned to the code.
2. Drag & drop the selected quotations into the Code Manager onto the code.

Quick Coding

Quick Coding assigns the selected code to the current data segment. This is an efficient method for the consecutive coding of segments using the most recently used code.

To apply the Quick-Coding method

1. Select a code in the Code Manager.
2. Select a data segment.
3. Click the Quick Coding button or choose **CODING/QUICK CODING** from the menu.

Writing Code Comments

Use code comments to define your code words.

Like Primary Documents, comments can be added to clarify the meaning of a code or to explain how the code is to be used for coding. The practice of commenting objects greatly supports a transparent, and, if working as part of a team, cooperative working style.

Creating and Editing a Code Comment

1. Select a code from the drop-down list.
2. Choose **CODES/EDIT COMMENT** from the main menu.
3. A text editor opens. Write or edit an existing comment.
4. Save the changes and close the editor.

Of course, you can use the text pane of the Code Manager (see “Editing Text” on page 50) to create or edit a comment.

Note: By accepting a comment, it is not stored permanently on disk. You need to save the HU itself to save all such changes.

More Coding-Related Functions

This section describes some additional coding-related "housekeeping" functions, such as creating free codes, importing lists of codes, and renaming and removing codes.

Free Codes

You can create codes that have not (yet) been used for coding or creating networks. Such codes are called “free” codes.

Why Create Free Codes?

- To prepare a stock of predefined codes in the framework of a given theory. This is especially useful in the context of team work when creating a base project.
- To code in a "top-down" (or deductive) way with all necessary concepts already at hand. This complements the "bottom-up" (or inductive) *open coding* stage in which concepts emerge from the data.
- To create codes that come to mind during normal coding work and that cannot be applied to the current segment but will be useful later.

Creating a Free Code

1. From the main menu choose **CODES/CREATE FREE CODE** or click the Create Code button in the Code Manager.
2. A prompter opens as in Open Coding. Enter one or more code names and click **OK**.

Such a free code shows the name suffix "{0-0}": no quotations, no linked codes.

Importing Codes

Creating Free Codes via the Batch Method

To create a large number of free codes, use the procedure described in “Using Memos to Create a Code List” on page 134. This option can be found under the **MEMOS/MISCELLANEOUS** menu.

Transferring Codes from Other Projects

If you want to import an already existing list of codes from another HU (that might serve as a repository for codes), use the XML Export/Import function for codes (see “Exporting and Importing Codes in XML” on page 305). This option has the advantage that already existing code definitions (i.e., code comments) are transferred as well. If only a subset of codes is to be transferred from one project to another, set a code filter in the exporting HU.

How to transfer codes:

1. Select **CODES/MISCELLANEOUS/EXPORT CODES (XML).**
2. Select the option **Send Output to: File**.
3. A file dialog window opens. Select a folder, enter a file name and save the file.
4. Open a HU into which the codes will be imported.
5. For this HU, select **CODES/MISCELLANEOUS/IMPORT CODES (XML).**
6. A file dialog window opens. Select the XML file that you just exported and click **Open**.
7. The code list is imported. Check the Code Manager to see whether the procedure was completed successfully and according to your expectations.

Avoiding Name Clashes when Importing Code Lists

If a code with the same name already exists in the HU, the imported code name is prefixed with three exclamation marks. Another attempt to load a code with a conflicting name will be ignored.

Note to ATLAS.ti 4.x users: The 'old' Import Codes function still exists. In case you have some previously created code lists saved as *.cod files that you wish to import, select **CODES/MISCELLANEOUS IMPORT CODE LIST.** However, this format cannot be generated anymore.

Renaming and Deleting a Code

Renaming or deleting a code has global effects.

Renaming and deleting codes are procedures that seem trivial, but understanding the "scope" of these operations can be a problem for new users. For both operations you must understand, that there is only ONE code object, e.g., "Happiness" in a given HU, even if you *applied* (associated with quotations, other codes, etc.) this code many times. With the margin area switched on, you may see the code appear many times while scrolling through your document. In fact you are seeing "links" between a quotation represented by a bracket and the code, represented by its name, icon, etc.

Renaming or removing a code in the margin besides a text on real paper using an eraser and a pencil affects only one specific occurrence of a code; all other occurrences of the same code are untouched. The effect of the operation is local.

With ATLAS.ti you can do the same. However, you can do additional things that are not possible using traditional paper and pencil.

By renaming or removing a code from an HU, you are affecting every occurrence of the code throughout the entire HU. The effect is *global*. Renaming the code will instantly change all the code "links" in the margin to reflect the new name. Deleting it will remove all occurrences in the margin (and from all other contexts in which it was engaged, like network views, families, etc.).

To Rename a Code

1. Select a code in a Network View or in one of the following places: the code drop-down list, the Code Manager, the Object Explorer or the Code Forest.
2. When selecting a code from a list, you can use the **CODES/RENAME** function from the main menu. The Rename option is also available from the context menu.
3. Enter the new name and click **OK**.

Renaming or replacing?

Another method to rename a code is to use "In-Place-Editing". This option is available in the Code Manager, the Object Explorer, and the margin area. Renaming a code in-place in the margin area has two different effects. The code can be renamed globally – affecting all occurrences - or replaced by another code locally. This preference can be set via the Margin tab of General Preferences dialog. (**EXTRAS/GENERAL PREFERENCES/MARGIN/IN-PLACE-ACTION**).

Deleting Codes

Deleting a code removes the code from the entire HU. All references that involve this code are removed. It also disappears from Network Views and families that contained this code.

If you only want to remove a code from a specific quotation, you should “unlink” the code instead (see below).

To delete a Code

1. Select a code in a Network View or in one of the following places: the code drop-down list, the Code Manager, the Object Explorer or the Code Forest.
2. In the Code Manager or the drop-down list use the ***DELETE*** function from the menu. Object Managers also offer a Delete button ✕.
3. If the code has been used (e.g., is assigned to quotations, connected to other codes, part of a super code, etc.), you are asked for confirmation before the deletion process continues.
4. Furthermore, if quotations coded with this code are not used in any other context, you are asked whether these quotations should be removed as well.

Note: There is **no undo** function to get deleted codes back. If you are unsure about the effects of the operation, make a backup copy of your Hermeneutic Unit.

Unlinking Codes

This option is the reverse function of coding. It removes the links between codes and quotations. Unlike the delete function, neither codes nor quotations are removed; only the association between the code and the quotation is removed.

Two methods are described in the following sections.

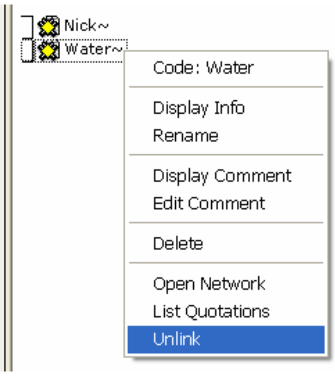
To unlink several codes from a quotation

This method is used to remove a number of codes linked to a specific quotation.

1. Open the context menu of the desired quotation.
2. Choose **UNLINK CODES** from the context menu.
3. From the list of all codes connected to this quotation displayed in a pop-up window select the codes to be unlinked and click **OK**.

In the margin area you can see the immediate effect of this operation: the unlinked codes disappear.

To unlink a single code from a quotation



This method is a very direct manipulation of the association between a code and a specific quotation using the interactive margin areas.

1. Switch on the margin area display.
2. Right-click a code in the margin area.
3. Choose ***UNLINK*** from the context menu. The code disappears from the margin area.It does not disappear from other places in the margin where it has been used.

Note: Remember, the ***DELETE*** option removes the code for good, including all associations with quotations, codes, memos, etc.

Merging Codes

When developing a coding scheme, it may happen in the course of the analysis that two or more codes essentially mean the same thing. One cause could be the import of code lists with different names but similar meanings.

Clean up synonymous codes by merging them.

ATLAS.ti offers a procedure to merge synonymous codes into one resulting “target” code. This target code replaces the merged codes and "inherits" all of their references, i.e., quotations, links to other codes or memos, and their comments.

There are two ways to merge codes: a list-based method, and one that works from within the Network Editor. For a description of the network method and a descriptive example of merging codes, see “Merging Codes using the Network Editor” on page 243.

Merging Codes Using the List Method

1. Select the “target” code into which a number of other codes are to be merged.
2. Choose **CODES/MISCELLANEOUS/MERGE CODES** from the HU editor's main menu.
3. In the multiple choice window, select the codes to be merged into the selected code.

Save the HU before merging codes.

Note: The codes merged into the resulting target node are deleted from the Hermeneutic Unit's code database. Since merging cannot be reversed easily, and since this procedure might affect many aspects, save the Hermeneutic Unit before doing the merge. If you are not satisfied with the merge result, you can reload the previously saved HU. Another more laborious way to revert to the previous state is to split the target code. See “Splitting Codes” on page 245.

Retrieving Coded Quotations

There are different ways to retrieve coded segments: Quotations for a single code or a combination of codes, quotations displayed in the context of their primary documents, or quotations sent? to a report. The simplest “retrieval” is by activating a code in the Code Manager with a double-click.

Activating a quotation for a code

Quotations are activated differently in context, depending on the media type.

A straightforward method is to display quotations in context: textual and graphical quotations will be selected in the document when activated. A multimedia quotation begins to play when selected.

When you select a code in the code drop-down list or double-click an item in the Code Manager, the following happens--depending on how many quotations are coded to that code:

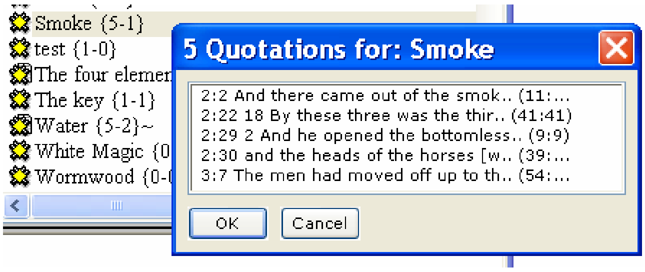
If there is only one quotation

If there is only one quotation for the selected code, it will be activated immediately.

If there are more quotations

Use the NEXT *and* PREVIOUS *button in the Code Manager to browse through all quotations for a selected code.*

If more than one quotation is associated with the code, they are offered in a pop-up list. Selecting one of the quotations activates and displays it in context.



Smoke {5-1}
test {1-0}
The four elemen
The key {1-1}
Water {5-2}~
White Magic {0
Wormwood {0-(

5 Quotations for: Smoke

2:2 And there came out of the smok.. (11:...
2:22 18 By these three was the thir.. (41:41)
2:29 2 And he opened the bottomless.. (9:9)
2:30 and the heads of the horses [w.. (39:...
3:7 The men had moved off up to th.. (54:...

Figure 37 - List of quotations for an activated code

Create a Report for Coded Quotations

As an alternative to the contextual display of quotations, you can get different reports of the quotations for a selected code. Reports are displayed in a text editor and can be printed or saved.

To create a quotation report:

1. Select a code.
2. From the main menu, select **CODES/OUTPUT/ QUOTATIONS FOR SELECTED CODE**. When selecting a code in the Code Manager choose **OUTPUT/ QUOTATIONS FOR SELECTED CODE**.
3. Select **QUOTATIONS FOR SELECTED CODE** to create a report including the full content of the quotations.
   Select **QUOTATION LIST** if you only want a list of the quotations' names.
4. If a comment has been written for any of the quotations, you will be asked whether you also want to include the comments in the report.
5. Next, you have the option to send the report to an editor, printer, save it to disk (select File), or to save it and run the file in the standard RTF application - usually Word or Wordpad - (select File & Run).

Reports on Quotations for Code Combinations

Use the Query Tool for complex retrievals of quotations.

To retrieve quotations or generate reports for combinations of codes use the Query Tool. For more information see "The Query Tool" on page 160.

Other Places to Activate Quotations

Quotations for a code can be activated from the margin area and any browser displaying codes:

The **Margin Area** displays codes (and other objects) associated with quotations. Clicking on a code in the margin area selects the associated quotation in the primary document pane.

By activating objects in the **Object Explorer** (see “The Object Explorer” on page 183) quotations are displayed in context similar to the object manager.

The **Network Editor** (see “The Network Editor et. al.” on page 215) also offers access to associated quotations via a node’s context menu.

Working with Memos

Writing memos is an important task in every phase of the qualitative analysis process. The **ideas** captured in memos are often the “pieces of a puzzle” that are later put together in the phase of report writing. **Theory-building**, often associated with building networks, also can involve the use of memos.

Possible uses for memos:

To take methodological notes

As a "bulletin board" in team projects

As a project planning device.

As a primary document

To create code lists

Memos are explanatory and descriptive texts that may be **associated with other** "**objects**" like quotations, codes, or other memos. Memos can also "**stand alone**" – simply as part of a HU. They can contain **methodological notes**; they can be used as a **bulletin board** to exchange information between team members; you can use them to write **notes about the analytical process**, keeping a journal of to-dos. Memos may also serve as a **repository** for symbols, text templates, and embedded objects that you may want to insert into PDs or other memos.

One important usage for memos is as internal data sources for primary documents, as described in “Using Memos as PDs” on page 133.

Difference between Memos and Codes

Code names are (or should be) succinct, dense descriptors for concepts emerging during the stage of closely studying the data. They often reduce complex findings to crisp placeholders and/or theoretically relevant concepts.

Beginners often stuff lengthy treatises into a code name, blurring the distinction between codes, comments, and memos and thereby mistaking codes for their more appropriate siblings.

If you find yourself using more than a few words as code word, consider using memos or the code comment instead.

Like codes, memos have names. These names, or titles, are used for displaying memos in browsers, and help to find specific memos. Just like code names, a memo’s title should be short and concise. Don’t mix the name with the content!

How Memos and Comments Differ

*A comment is a **part** of another object; a memo is an object by itself.*

Memos are very similar to comments in that both are intended to hold lengthy texts, as opposed to codes that are simply naming a concept. Comments exclusively belong to one entity. For example, the PD comment is part of the primary document.

Comments are not displayed in any browser separately from the object to which they are attached. Memos can be associated with more than one object and have an additional type attribute, e.g., theoretical, methodological, commentary, etc. They can also be free-standing, unlike comments.

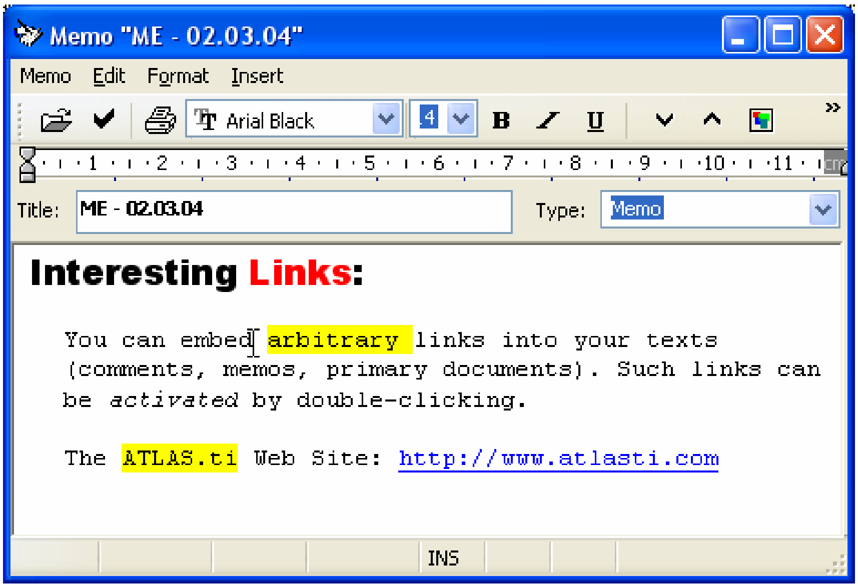
Memo Content

Memos may use plain-text as well as Unicode or Rich Text. The latter allows extended formatting and offers the option to insert pictures, tables etc.

The Memo Editor

For displaying and editing memos, a modified text editor is used. It is opened via the Memo Manager's toolbar for an existing, selected memo or when creating a new memo.

Below the toolbar, the editor includes a title and memo type field. The default title assigned to a newly created memo is: "*ME – today's date*". The title and the default type "*Commentary*" can be changed by overwriting the default title or by selecting a different memo type.



Title: ME - 02.03.04

Type: Memo

Interesting Links:

You can embed arbitrary links into your texts (comments, memos, primary documents). Such links can be *activated* by double-clicking.

The ATLAS.ti Web Site: http://www.atlasti.com

Figure 38 - Memo: The memo editor offers a memo name and type field.

Various options are available. You can change the default memo title and manage available memo types. You can also be prompted for a title when creating a new memo. For details see "Section: Memos" on page 346.

After having typed or changed something in the memo editor and before closing the editor, save the contents if you want to keep it.

Click on the Save button ✓ or select **MEMO/SAVE** from the editor's menu.

To create a free memo

1. In the Memo Manager, click the **CREATE NEW** button or select **CREATE FREE MEMO** from the HUEditor's **MEMOS** menu.
2. A new memo with the default memo title is created. The memo editor opens (if preferences are set accordingly).
3. Begin to type the memo. Change the memo title and type according to your needs.
4. Save the memo content before moving on to do something else by clicking on the Accept button. If you forget to save it, you are reminded by the program to do so before closing the editor.

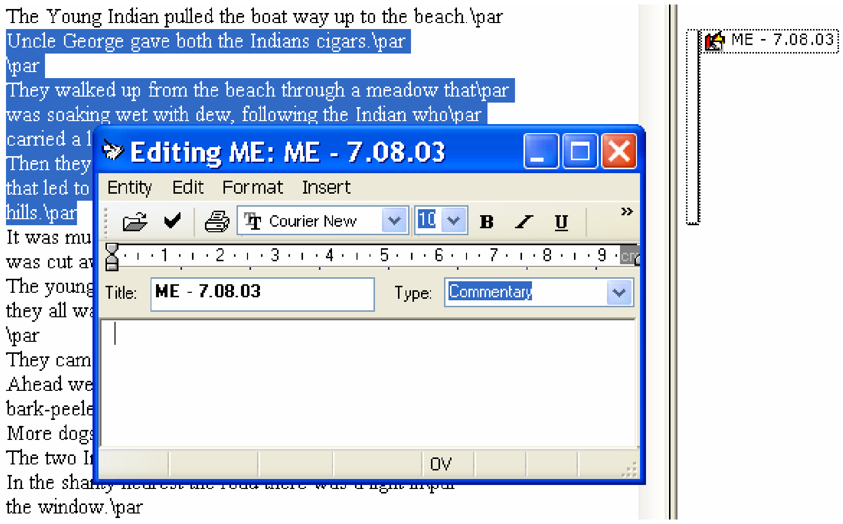
If you prefer that all new entries or modifications to a memo are saved automatically, you need to go to Setups and activate the option: 'Accept changes in browsers silently' (**EXTRAS/GENERAL PREFERENCES**/General).

"Memoing" – Attaching Memos to Data Segments

The procedure to create and associate a memo with a data segment or an existing quotation is similar to the coding procedures described above (see "General Coding Procedure" on page 116).

Creating a memo for a data segment

1. Select the part of the primary document for which you want to write a memo.
2. Click the memo button in the primary document toolbar.
3. If the selected data segment does not resemble an existing quotation, a new quotation is created and the memo is attached. An editor opens and you can start to type.



The Young Indian pulled the boat way up to the beach.\par
Uncle George gave both the Indians cigars.\par
\par
They walked up from the beach through a meadow that\par
was soaking wet with dew, following the Indian who\par
carried a l
Then they
that led to
hills.\par
It was mu
was cut a
The young
they all wa
\par
They cam
Ahead we
bark-peele
More dogs
The two I
In the shan
the window.\par

Editing ME: ME - 7.08.03

Title: ME - 7.08.03

Type: Commentary

Figure 39 – Creating a new memo for a data segment

4. Adapt the automatically generated memo type and title according to your needs.

Note: You can customize the default values used for memo title and type via **EXTRAS/GENERAL PREFERENCES/MEMOS**.

To attach a memo to a data section

1. Select the part of the primary document to which you want to attach the memo.
2. Open the context menu for the desired memo (for example, in the Memo Manager).
3. Choose the option **ATTACH MEMO** from the context menu or drag and drop the memo to the highlighted quotation.

To attach a memo to multiple quotations

One option is to drag a number of quotations from the Quotation Manager onto a memo in the Memo Manager. By using the Quotation Manager, one can comfortably browse and review display quotations before attaching them to the memo.

Another option is to select from a list of quotations:

1. In the Memo Manager, select a memo.
2. Choose menu option **LINK MEMO TO:/QUOTATIONS** from the context menu or the Memos menu.
3. A window pops up showing all quotations that are currently not linked to this memo. Select the quotations to be associated with this memo. Click **OK**.

As a third option you can connect a memo and quotations visually by using the Network Editor (see “To link more than two nodes” on page 224).

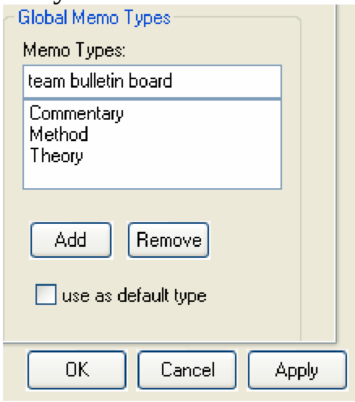
Memo Types

Memos can be organized, sorted and filtered by the **type** attribute. Several standard memo types are offered by ATLAS.ti (currently **commentary**, **method** and **theory)**. You can add new types or modify existing ones. Memo types may either have a global or local scope. Global types are available in all HUs; local memo types are known only for the HU for which they have been defined.

Memo types are displayed and can be sorted in the Memo Manager's details view in an extra Type column.

To add or remove global memo types

1. Open the General Preferences dialog and select the **MEMOS** tab.
2. In section 'Global Memo Types' enter a new memo type in the entry field and click the **ADD** button.



Memo Types: team bulletin board

Commentary
Method
Theory

☐ use as default type

3. **To remove** a global memo type, select a memo type from the list and click **REMOVE.**
4. Click **APPLY** and close General Preferences.

The **default memo type** is 'Commentary' unless you have set a different default in the dialog. This default type is used for newly created memos. To change the default type, select another memo type and tick the box 'use as default type'.

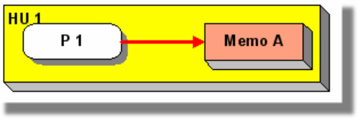
To create a local memo type

When creating a new memo, simply overwrite the default memo type displayed in the memo editor's type field with a new type. After saving the memo, this new type may also be used for other memos inside this specific HU.

To make a local type global

Choose the menu option **MISCELLANEOUS/MAKE TYPE GLOBAL** from the context menu or from the **MEMOS** main menu to make all types of the selected memos global.

Using Memos as PDs



Memos can be assigned as primary documents. How you implement this option in your work depends on the nature of your project, your creativity, and methodological considerations. While it is not always feasible to blend original data and interpretive thoughts, there are situations where you might want to make use of this feature:

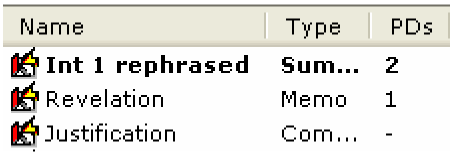
- To analyze paraphrased material stored in memos.
- To analyze partly transcribed or summarized information about graphic, audio or video data stored in memos.
- To be able to code your own thoughts and ideas stored in memos.
- For added security (embedded in a password protected HU).
- As an internal data source, no references to external files are needed.

Consequences of using memos as PD

Assigning a memo as primary document has two immediate consequences:

- If you want to edit the memo’s content, you need to edit the primary document. Once a memo has been assigned as a PD, you can no longer edit the memo in the Memo Manager. The reason is that, as a PD’s data source, the memo may be referenced from quotations. Only the PD editing technology guarantees the necessary synchronization after content changes.
- All editing in the primary document also affects the memo. The reason for this is that the data source for the Primary Document IS the memo.

The ‘PDs’ column in the Memo Manager indicates whether a memo is used as primary document. The number displayed indicates the number of PDs using the memo as a data source. A dash (-) indicates that the memo is not used as a PD.



Name	Type	PDs
Int 1 rephrased	**Sum...**	**2**
Revelation	Memo	1
Justification	Com...	-

Figure 40 The PDs column shows how many PDs use the memo is used as the data source.

To assign a memo as primary document

1. Create or select a memo in the Memo Manager.
2. Select the menu option **MISCELLANEOUS/USE AS PRIMARY DOC** from the context menu or the Memos menu. Or, drag the

memo into the PD Manager.

Miscellaneaous Memo Goodies

Memo Preferences

You may specify a number of settings for memos via **EXTRAS/GENERAL PREFERENCES/MEMOS.** See General Preferences “Section: Memos” on page 346.

Dragging a Memo to Another Hermeneutic Unit

You can drag memos between HUs. This transfers the memo (name, body, type), but none of its referenced quotations, codes, etc., are migrated along.

Using Memos to Create a Code List

Using a “pseudo” memo allows you to bulk-create a large number of free codes:

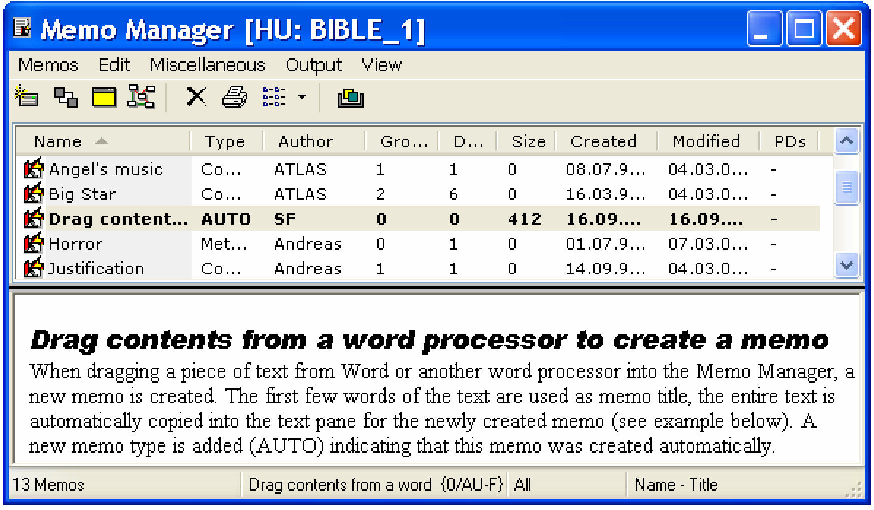
1. Create a new memo.
2. Type a list of codes with one code per line.
3. Save the memo.
4. From the **MISCELLANEOUS** menu, choose the option **CREATE CODES FROM SELECTED MEMO.**

Codes in the memo’s code list that already exist are prefixed with three exclamation marks. If such prefixed codes already exist, they are ignored.

Drag & Drop Text to Create a Memo

While dropping text into the text pane of the Memo Manager or the memo editor inserts the dropped text at the drop position, dragging selected text from Word or other drag & drop-capable application into the Memo Manager’s list part creates a new memo.

The dropped text becomes the body of the memo and the first few words are used as the memo’s name. Memo type AUTO indicates that this memo was created automatically. See figure below.



Name	Type	Author	Gro...	D...	Size	Created	Modified	PDs
Angel's music	Co...	ATLAS	1	1	0	08.07.9...	04.03.0...	-
Big Star	Co...	ATLAS	2	6	0	16.03.9...	04.03.0...	-
Drag content...	**AUTO**	**SF**	**0**	**0**	**412**	**16.09....**	**16.09....**	**-**
Horror	Met...	Andreas	0	1	0	01.07.9...	07.03.0...	-
Justification	Co...	Andreas	1	1	0	14.09.9...	04.03.0...	-

Drag contents from a word processor to create a memo

When dragging a piece of text from Word or another word processor into the Memo Manager, a new memo is created. The first few words of the text are used as memo title, the entire text is automatically copied into the text pane for the newly created memo (see example below). A new memo type is added (AUTO) indicating that this memo was created automatically.

13 Memos | Drag contents from a word {0/AU-F} | All | Name - Title

Figure 41 – Drag & Drop text into the memo manager list.

Margin Drag & Drop

All objects populating the margin area (i.e., "margin objects") support drag & drop. The brackets visualize quotations segmenting the document, and - depending on the context - the objects attached to the brackets represent themselves or the link with the bracketed quotation. A code appearing in the margin can be deleted via its context menu (the code is affected itself) or it can be unlinked from the quotation, hence affecting only the relationship between the code and that specific quotation.

The effect of a drag & drop operation depends on the objects that are involved as drag sources (those that are dragged) and targets (those onto which objects are dropped).

Margin Drag & Drop can be toggled on and off via General Preferences "Advanced Drag & Drop"

A large variety of objects from the margin area can be dropped into the margin area. Furthermore, objects can also be dragged from other object managers and browsers. Objects can be dragged from the margin into other windows and even into "foreign" applications like Word™. In the latter case, the ATLAS.ti objects lose their ATLAS.ti specific "objectness" but at least they render into something useful, e.g., a formatted title and rich text comment.

Move Linked Objects

When an object (e.g., a code, memo, or hyperlink) is dropped on a bracket, a new link is created between the object and the quotation represented by the bracket. In the figure below, the code 'Water' is unlinked from its original quotation (red bracket) and linked to the quotation of the target bracket.

Moving code Water to another bracket unlinks it from its original quotation.

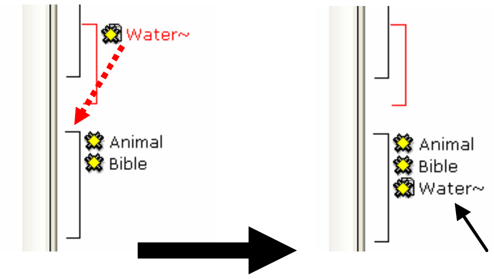


Figure 42 Moving a code link

Replace Linked Objects

When a margin object is dropped onto another margin object it is replaced. It combines the operation described above with the replacement of the dropped-on object. Three operations are accomplished at the same time: the object is removed from its original quotation, it is linked to the target quotation, and it replaces the object it was dropped on (the latter is unlinked from its quotation).

In the figure below, code 'Water' replaces code 'Animal'.

Replacing a code: *In the margin drag a code from one quotation onto another code and the target code is replaced.*

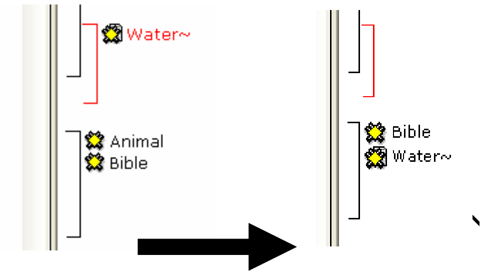


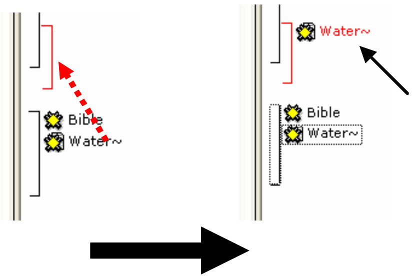
Figure 43 – Moving & Replacing a code

Copy Linked Objects

An object in the margin is unlinked from its original quotation when it is dropped onto another bracket or another margin object. To keep the object from unlinking from its original bracket, hold down the CTRL-key when dropping. This resembles dragging objects from managers and browsers into the margin area, which does not change existing links.

In the figure below, code 'Water' is linked to the quotation visualized by a red bracket. Of course, the quotation does not need to be "free".

To copy linked objects: hold down the Ctrl-key and drag a margin object (e.g., a code) onto another bracket.



Specialties – Merging Quotations

Dragging a bracket onto another bracket creates a new hyperlink between the two (see “Creating Hyperlinks in Margin Area” on page 257). However, by holding down the CTRL key you can merge the quotations.

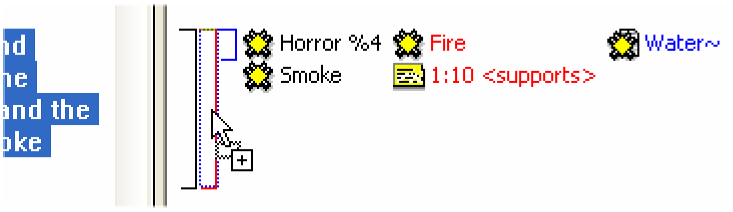


Figure 44 - Merge Quotations – Dragging the red quotation

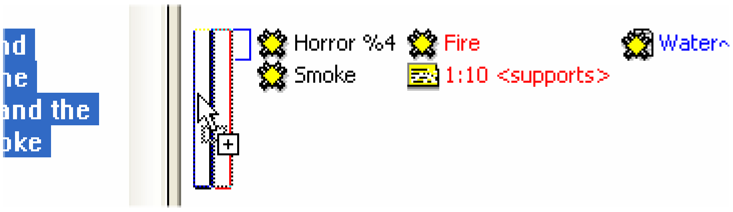
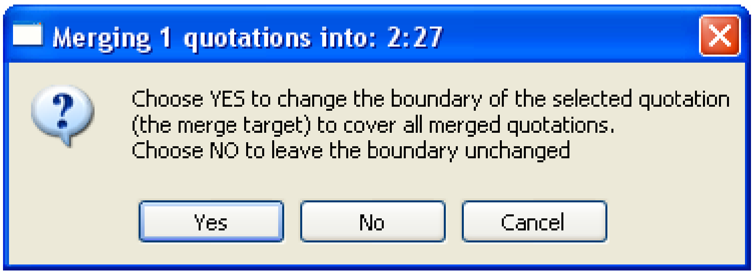


Figure 45 - Merge Quotations – About to drop on the black quotation

After confirming, the merge dialog box appears:



Merging 1 quotations into: 2:27

Choose YES to change the boundary of the selected quotation (the merge target) to cover all merged quotations.
Choose NO to leave the boundary unchanged

you can see the result:

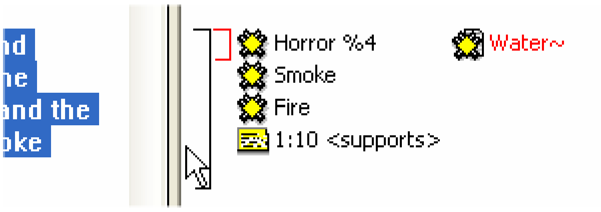


Figure 46 - Merge Quotations - Dropped and Merged

Note how all objects (code ‘Fire’ and a hyperlink) associated with the red quotation have migrated to the merged quotation. The former blue bracket has changed its color to red, which is meaningless.

Sorting and Filtering

What are the main strengths of a computer? According to common belief, these would be sorting and retrieving data. For such techniques to be deployed successfully however, the data itself must have attributes by which it can be ordered and filtered. A variety of attributes can be used for filtering and sorting data. Many entities within an HU can be filtered, e.g., primary documents, codes, memos, and quotations.

Sorting and filtering primary documents, codes, memos, and quotations can help you gain deeper insight into your data.

Sorting and filtering can be accessed via the HU editor's menu or the Object Managers' menus. The columns in the Object Managers' report views may also be used for sorting. Some options for sorting and filtering are common to all objects, while others are dependent on the object's type.

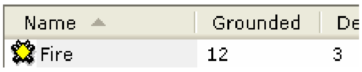
Sorting

Sorting is available via the Object Managers' columns and the main menus of the HU Editor and the Managers.

Sorting in Object Managers

Click the header to sort the items. Click again to reverse the sort.

Sorting is conveniently available in all Object Managers via the list headers while in details view: clicking on a header "button" sorts the list in either ascending or descending order.



Name ▲	Grounded	De
Fire	12	3

The column used for sorting is displayed in a darker shade. The sort direction is visualized by an arrow in the header. In the status bar, the sort criterion is displayed.

A double-click on the status bar's sort field refreshes the current sort. This is a useful option because newly added objects are appended to the end of the list regardless of their correct position in the sorted sequence.

Sorting via the menus

The Sort menu option is available in the object menus of the HU Editor (Documents, Quotations, Codes, and Memos) and from the corresponding Manager's menu.

The figure below shows the Sort menu for codes with the current sort criterion set to Name (which is also the default):

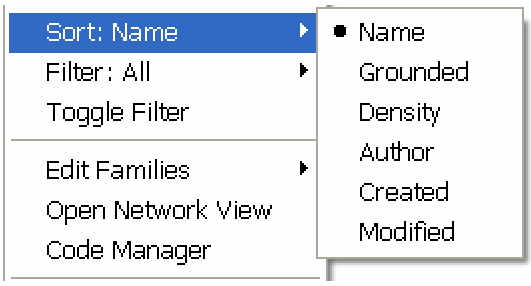


Figure 47 - Sort options for codes

In Object Managers, the currently selected sort criterion is also displayed in the status bar (see Figure 48). After new items are added to the list, refresh the sort with a double-click on the status pane's sort field.

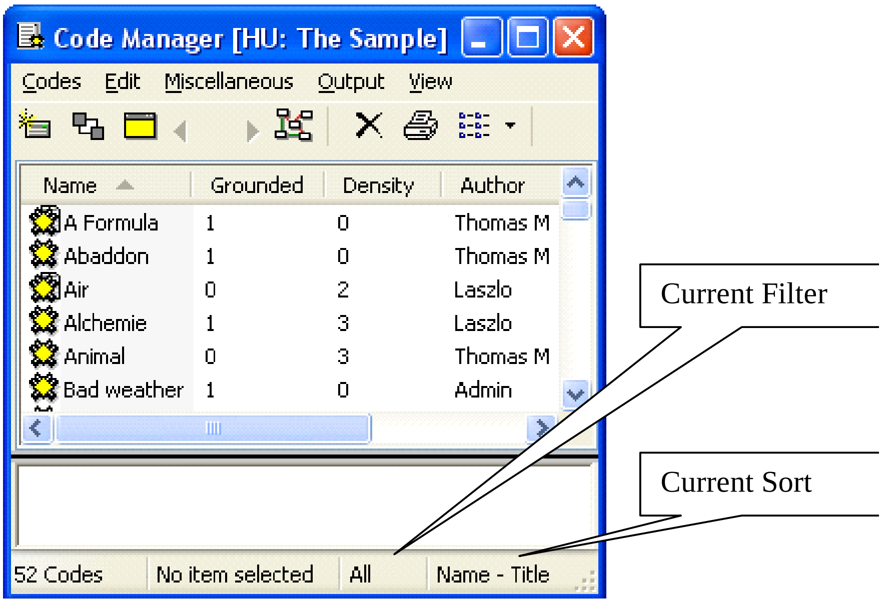
Overview of Sort Options

The following describes the sort options in more detail. Default sort order: D = descending, A = ascending.

Sort criterion	Entity type	Description	Sort order
Name	PDs, quotes, codes, memos	Entity name (string)	A
Author	PDs, quotes, codes, memos	Author's name (string)	A
Created	PDs, quotes, codes, memos	Creation date - or date of assignment for PDs. (date/time)	D
Modified	PDs, quotes, codes, memos	Modification date (date/time)	D
Density	quotes, codes, memos	Quotes, codes: number of links to objects of the same type Memos: number of links to all associated objects (i.e., quotes, codes, and other memos)	A
Grounded	codes, memos	Number of associated quotations.	A
ID	PDs, quotes	The system generated ID (number)	A
Size	quotes, memos	Quotations: number of lines/paragraphs	
Memos: size of text	A		
Media	PDs	Media type (i.e., audio, image, rich text, text, video)	A
Quotations	PDs	Number of quotations for the primary document.	D
Usable	PDs	Usability of the primary document	D
Origin	PDs	Origin of data source (alphabetically)	A
Location	PDs	Redirected path (if used)	A
Start	Quotes	The quotations' start position	A
Type	Memos	Memo type (string)	A
PDs	Memos	Number of PDs using the memo as their data source (if any).	A

Filtering

The status bar of all Object Managers displays the current filter and sort setting. The default filter criterion is "All".


Code Manager [HU: The Sample]
Codes Edit Miscellaneous Output View
Current Filter
Current Sort

Name	Grounded	Density	Author
A Formula	1	0	Thomas M
Abaddon	1	0	Thomas M
Air	0	2	Laszlo
Alchemie	1	3	Laszlo
Animal	0	3	Thomas M
Bad weather	1	0	Admin

52 Codes | No item selected | All | Name - Title

Figure 48 – Display of sort and filter settings in the status bar

It is possible to combine filtering and sorting (e.g., all "free" codes sorted by the time of their creation).

The filter options are available in the object menus of the HU Editor (Documents, Quotations, Codes, and Memos) and from the corresponding Manager's menu. The filter field in the status bar offers a few additional options like reversing or removing the filter. When a filter is active, the background color of the affected lists and Object Managers changes.

The figure below shows the Filter menu for codes with the current filter set to All (which is also the default):

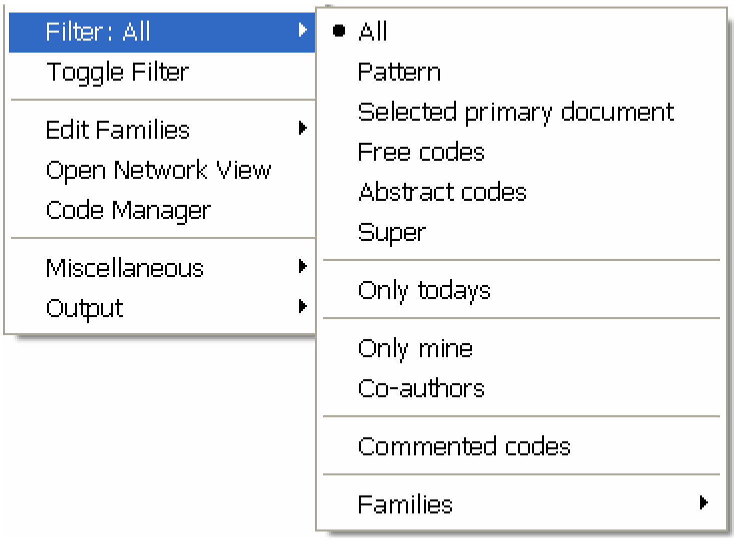
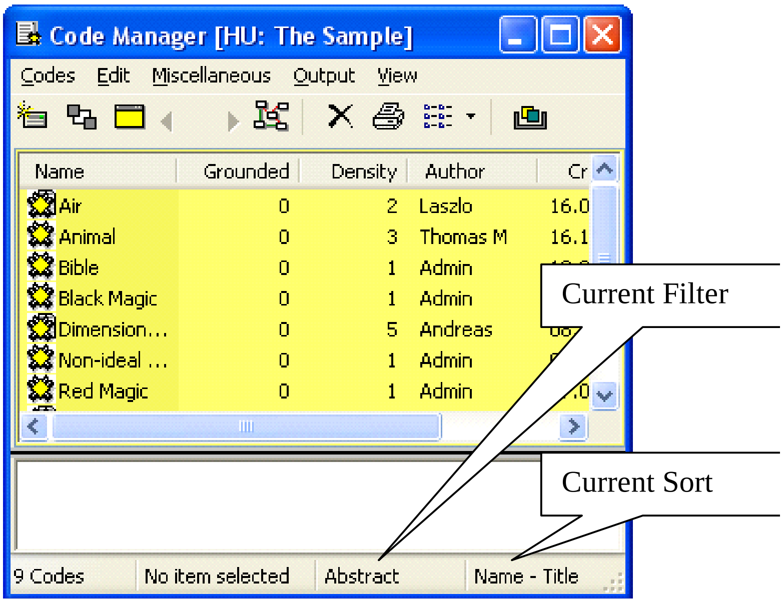


Figure 49 - Available filter settings for codes

After setting a filter, the background color of the affected Object Manager and drop-down list changes. You can modify this color by changing the tool tip color via Windows display preferences. In the figure below, the filter is set to **abstract** codes.


Code Manager [HU: The Sample]
Codes Edit Miscellaneous Output View
Current Filter
Current Sort

Name	Grounded	Density	Author	Cr
Air	0	2	Laszlo	16.0
Animal	0	3	Thomas M	16.1
Bible	0	1	Admin	[illegible]
Black Magic	0	1	Admin	[illegible]
Dimension…	0	5	Andreas	[illegible]
Non-ideal …	0	1	Admin	[illegible]
Red Magic	0	1	Admin	[illegible]

9 Codes | No item selected | Abstract | Name - Title

Figure 50 –Object Manager with active filter

Filters affect a number of procedures

Note: Most operations (e.g., display, printing, export) on sets of objects include only the currently filtered set. For this reason, if a filter was set for quotations, the output of “all” quotations would be restricted to the quotations currently present in the Quotation Manager. Network Views are not affected by filter settings and display all objects at all times. The margin area shows only the filtered objects.

An overview of all filter options for all object types is provided below.

Pattern Searches as Filter

New in ATLAS.ti 5 is a powerful pattern filter. Enter a GREP pattern to filter all objects with names matching this pattern.

For example, if you have used names prefixed with “ATT:” for all codes handling “attitudes”, the pattern “^ATT:” would filter all those codes (the caret character ^ anchors the search at the beginning of the name).

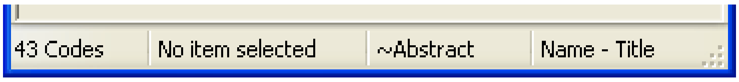
Enter “\[.*\]” to filter all items containing arbitrary text in brackets.

An overview of the available GREP expressions is listed in the section “GREP Search” on page 149.

To Reverse a Filter

Choosing Toggle Filter from the menu or double-clicking the filter field reverses the filter. The tilde symbol ~ indicates a negated filter in the status bar.

By reversing the codes filter ‘Abstract,’ you can display all codes that are *not* ‘Abstract,’ i.e., codes that do have quotations associated with them



43 Codes | No item selected | ~Abstract | Name - Title

Figure 51 – Negated Filter

To Remove a Filter

Press CTRL and double-click the filter field to remove a filter.

To deactivate a filter either select **FILTER: ALL** from the menu or double-click on the filter field while holding down the Ctrl-key.

Filter by Families

When double-clicking a family in any of the Family Managers, the corresponding objects are filtered to the members of the selected family. Double-click again to remove the filter.

Overview of Filter Options

Option	Entity type	Description
All	PDs, quotes, codes, memos	All objects are displayed (filter off)
Pattern	PDs, quotes, codes, memos	Objects matching the entered search pattern
Only today’s	PDs, quotes, codes, memos	Objects created today
Only mine	PDs, quotes, codes, memos	Objects created by the current user
Co-Authors	PDs, quotes, codes, memos	Objects created by any of the selected co-authors
Families	PDs, quotes, codes, memos	Objects belonging to a family
Free	PDs, quotes, codes, memos	Objects that do no reference any other objects
Commented	PDs, quotes, codes	Objects bearing a comment
Selected PD	quotes, codes, memos	Objects referring or belonging to the currently selected primary document
PD-Memo	PDs	Memo used as primary document data sources
Text	PDs	Textual primary documents (plain and Rich Text)
Rich Text (file)	PDs	RTF encoded primary documents
Graphic	PDs	Graphical primary documents
Audio	PDs	Audio primary documents
Video	PDs	Video primary documents
Uses Mapping	PDs	Redirected primary documents
Renamed	Quotes	Renamed quotations
Hyperlinked	Quotes	Quotations linked to other quotations
Selected code	Quotes	Quotations coded with the currently selected code
Abstract codes	Codes	Codes without quotations. Less selective than "Free"
Super	Codes	Super codes
Types	Memos	Memos of a certain type

Special Tools

In this chapter a collection of miscellaneous tools is presented that do not fit well under any of the other chapters. Included are tools to search text, to automatically code text matching specified patterns, to retrieve quotations for combinations of codes, to count words in textual documents, to explore the components of a HU in a hierarchically manner, and to remove redundantly coded quotations.

Text Search

The Text Search Tool is used to search within primary texts for the occurrence of specific text strings that match a designated string or pattern.

The Text Search Tool offers three distinct methods entitled **Standard Search**, **Category Search** and **GREP Search** to scan primary texts for specified text patterns. The functionality of the Text Search Tool is also fully integrated into the Auto-Coding Tool (see “The Auto-Coding Tool” on page 151).

The search mode is automatically determined by the kind of search string entered. Regular Expression search (GREP), however, must be explicitly selected. If you need to know what GREP stands for and what GREP searches are, a detailed explanation is provided at “GREP Search” on page 149.

The Text Search Tool

To open the Text Search tool:

Click this button to activate text search

Short-cut: Ctrl-F

1. Load a primary text. You might not see the Primary Document (PD) toolbar otherwise.

2. Either click the *text search* button in the PD toolbar, select **EDIT/SEARCH** from the main menu, or use the key combination **CTRL-F.**

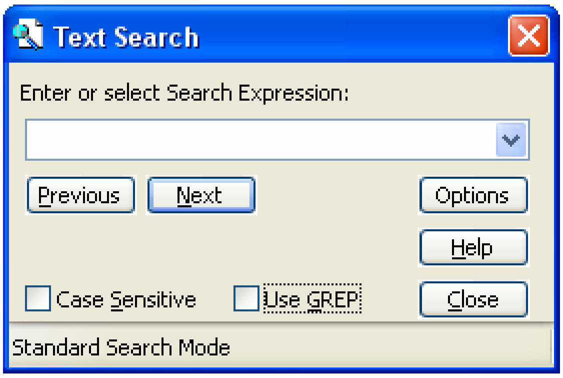


Figure 52 - The Text Search tool in standard search mode

Note: If the document is in Edit mode, Ctrl-F opens a Windows standard text search. Use the menu option or the search button instead.

Not all options are available for every type of search. For instance, backward and case sensitive searches are not available for Category Search.

Initially, the status bar displays the current search mode (in the figure above: Standard Search Mode). During a search activity, this is the place where you should look for warnings and messages.

A text search always starts from the current position of the text cursor in the currently selected primary text. When the end of this document is reached, you are asked if the search should continue through the rest of the primary text documents.

Search Options

Two options are available to control the search mode.

Case Sensitive

Check the **CASE SENSITIVE** box if you want characters to match the searched text exactly. If **CASE SENSITIVE** is selected, you will not find "Love" when you search for "love".

This option is not available in Category Search mode.

GREP Mode

Checking the GREP box enables GREP mode. If unchecked, the Search Tool is in "standard" mode. You may use the standard wildcard * character even without GREP. More discussion on GREP searches is provided at “GREP Search” on page 149.

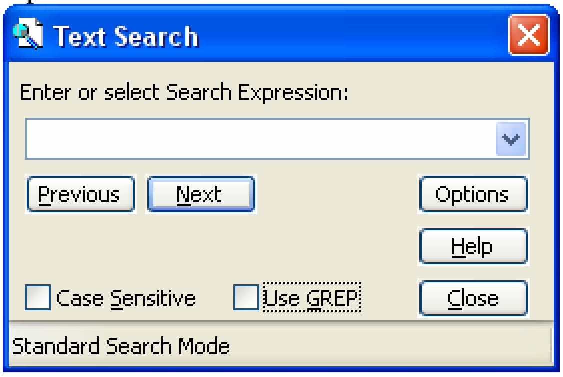
This option is not available in Category Search mode.

Standard Search Mode

Use the standard search mode when you want to find exact, specified strings of characters. Word boundaries are not recognized in this mode. Hence, searching for "the" would also find instances like "bo***ther,***" "***the***re," and "***the***ater." Searches that recognize word boundaries are available with the Category Search or by using appropriate GREP patterns.

To start a standard search

1. Open the Text Search tool.



2. Enter a string into the entry field. The search string should contain the special “pipe” character "|" as this initiates the Category Search.
3. Uncheck GREP mode.
4. Set **CASE SENSITIVE** as needed.
5. Start the search by clicking the **NEXT** or **PREVIOUS** button.

Category Search

The Category Search method combines two powerful techniques.

Parallel search is a sophisticated method that handles textual variations. You may specify a number of *patterns* that scan the text simultaneously. Secondly, search expressions (“search swarms”) can be stored as a search category and later reused. Search categories are managed in search libraries.

Categories are reusable, named search swarms.

Categories allow abstraction from the search string itself and permit easy re-use of complex expressions in later searches. With the simultaneous use of wildcards, a search request using a search swarm might look as follows:

`*caus*|why|*efore|since`.

The individual elements of the search swarm are delimited by the vertical bar character “|”. The bar can be read as a (Boolean) "OR." The search defined above yields text passages including any of the following strings: "because," "causes," "causation," "before," and "therefore," "why," and "since."

Note: Do not mistake search categories for codes. Search categories are shortcuts for complex search procedures, while codes are concepts representing some level of interpretation. However, when using search categories extensively and building hierarchies of search categories, such a "para" taxonomy might stimulate the construction of a matching network of codes.

Defining Categories

Search swarms that have proven useful can be assigned names (search categories) in ATLAS.ti to facilitate re-use. For example,

```
CAUSE := *caus* | why | *efore | since
```

defines CAUSE as a placeholder for the original search swarm.

Therefore, instead of retyping lengthy search strings, the user may later simply type the search category "$CAUSE" into the entry field. The dollar sign is a special character that indicates that the *content* of the CAUSE category is to be used for the search and not the string "CAUSE" itself. Categories can be mixed with ordinary strings to build complex search requests:

```
until|$CAUSE|when
```

Note: When *defining* a new category do not prefix its name with a “$”.

Create hierarchies of search swarms by embedding existing categories.

As categories may be elements of other categories, recursive search trees of arbitrary depth may be defined. Another advantage of categories besides being short and handy is that their contents can be modified later without changing a single character in other expressions using this category.

Hierarchies of Search Categories

Search categories can build hierarchical structures.

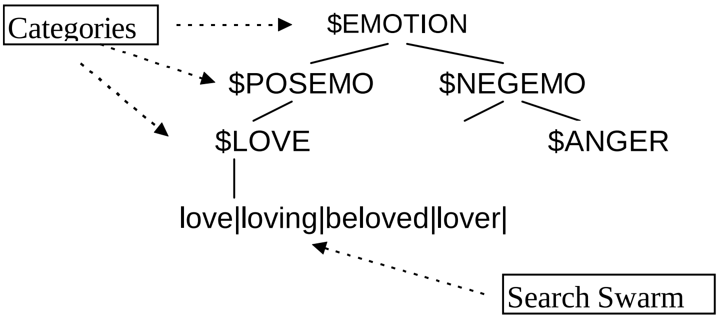


Figure 53 - Hierarchy of Search Categories

The definition for the taxonomy above is as follows:

EMOTION := $POSEMO|$NEGEMO

POSEMO := $LOVE|etc.

NEGEMO := $ANGER

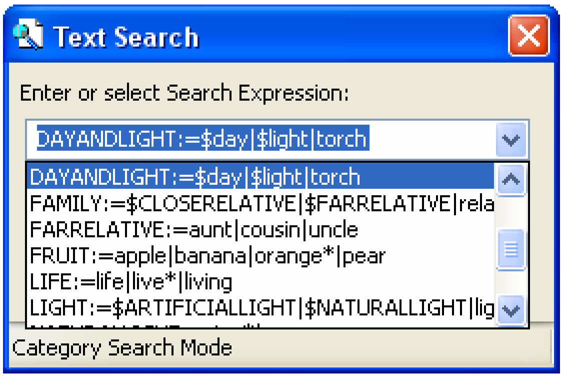
LOVE = love|loving|beloved|lover

Such category structures are efficient tools to exploit the literal properties of the textual materials you use in your research. Of course, this tool does not find relevant information beyond the characters specified in the search.

How To Use Category Search

1. Open the Text Search tool.
2. Enter a new search swarm or select an existing category from the library of search swarms by clicking on the drop down button at the right of the entry field.
3. Click **NEXT**.

List of example search categories in the standard search library.



Text Search

Enter or select Search Expression:

DAYANDLIGHT:=$day|$light|torch

DAYANDLIGHT:=$day|$light|torch
FAMILY:=$CLOSERELATIVE|$FARRELATIVE|rela
FARRELATIVE:=aunt|cousin|uncle
FRUIT:=apple|banana|orange*|pear
LIFE:=life|live*|living
LIGHT:=$ARTIFICIALLIGHT|$NATURALLIGHT|lig

Category Search Mode

Figure 54 – Example of Search Categories

When using Category Search, some of the controls become disabled. Category Search cannot be combined with GREP mode, can never be case sensitive, and the Previous button cannot be used.

To define a new category

1. Open the Text Search tool.
2. Enter a new definition into the entry field using the following syntax:

CATEGORY NAME:= <string or $category>|<string or $category>| etc.

As soon as you press the **NEXT** button, a new category is created and a search for the first occurrence starts. This category is now available to you for the current work session. If the new category should be available in the future, you need to save it to the search library.

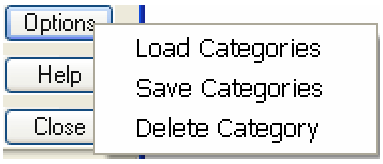
Managing Search Categories

Create search libraries for different languages, different topics, different projects, etc.

On startup, ATLAS.ti loads a default library of search categories named *srchbib.skt*. You can update this library by adding new categories and removing or modifying existing categories. It is also possible to create completely new search libraries that better fit your requirements (different languages, domains, etc.).

To manage categories, three options are available:

Click the search tool's **OPTIONS** button for this menu:



LOAD CATEGORIES opens a file dialog window showing existing search library files like *searchbib.skt* or *srchbib.skt*. If you select a library in the file dialog window, the categories from that library are added to the currently loaded categories.

To clear the internal database of search categories before loading new ones, use the option **Delete Category**.

SAVE CATEGORIES stores the currently loaded and newly created search categories in the default library file (*srchbib.skt*) or a new file. If you choose a new name, be sure to give the file the extension SKT, as in "*dutch.skt*".

DELETE CATEGORY opens a multiple selection list window. Choose one or more categories to be removed from the internal database of search categories. You can use the standard Windows techniques for multiple selections using the **CTRL**, **ALT**, or **SHIFT** keys in combination with the left mouse button.

GREP Search

GREP searches are very flexible.

GREP is a well-known tool in the UNIX environment. The original GREP tool printed each line containing the search pattern, hence the acronym GREP: *Globally look for Regular Expression and Print*.

Regular Expressions efficiently exploit the syntactical properties of the technical device called "text."

In ATLAS.ti, the results of a GREP search are not printed line-by-line. Instead, the text matching the search pattern is highlighted on the screen.

The core of a GREP search is the inclusion of special characters in the search string that control the matching process. GREP finds instances in your data that match certain patterns.

The ATLAS.ti GREP search offers a subset of the Regular Expression language used in sophisticated text search systems.

Supported Basic GREP Expressions

All GREP expressions supported by ATLAS.ti are shown in the table below.

GREP Expression	Description
^	Anchors the entered pattern to the beginning of a line. If used as the first character within brackets, it excludes the following characters (or range) from the search.
$	Anchors the entered search pattern to the end of a line.
.	Matches any (single) character

*	Matches any number (including zero) of the preceding expression
+	Matches at least one occurrence of the preceding expression or character
?	Matches zero or one occurrence of the preceding expression or character: *stones?* matches stone and stones
[]	Matches a range or set of characters: [a-z] or [0-9] or [aeiou]. For example: [0-9] finds all numeric characters, while [^0-9] finds all non-numeric characters.
:d	Matches any digit (equivalent to [0-9])
\	The escape character disables the special GREP functionality of the following character. For example: \[matches an opening bracket.

In the following, a few search examples are presented showing the matching GREP expression in the column on the right.

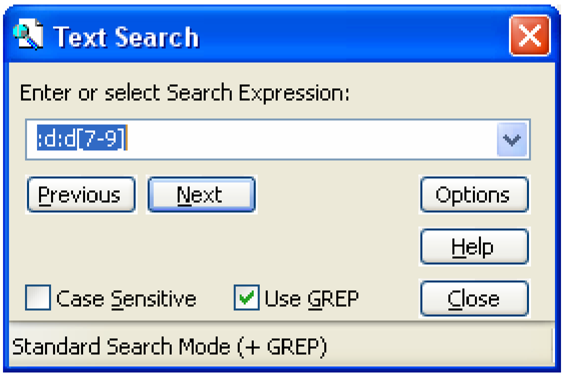
Examples of GREP Searches

Examples	GREP expression
Find text [of arbitrary length!] enclosed within brackets. Note, that the brackets had to be "escaped" with "\", as they are control characters themselves:	\[.*\]
Find all years between 2001 and 2004:	200[1-4]
Find all numbers with 2 digits at the end of a line or paragraph:	:d:d$
Find all "Meyer"s (spelled four different ways)	M[ae][iy]er
Find all lines (paragraphs) starting with one arbitrary letter followed by a colon: (If you search for a "d" following the colon you will have to use the Escape character: ^.\:d Otherwise, the letter “d” would be interpreted as a digit.)	^.:

To start a GREP search

1. Open the text search tool.
2. Enter a search pattern (Figure 55 shows an example).
3. Check the **Use GREP** box.
4. Click on the **PREVIOUS** or **NEXT** button.

The search expression entered in the text search window to the right finds all 3-digit numbers with the last digit being a 7, 8, or 9. This can be a useful search to find certain social security numbers or other personal identification numbers.



Enter or select Search Expression: :d:d[7-9]

□ Case Sensitive ☑ Use GREP

Standard Search Mode (+ GREP)

Figure 55 - Using GREP search

The Case Sensitive option can be used in combination with a GREP search.

The Auto-Coding Tool

The Auto-Coding tool finds text passages, selects a specified amount of text (e.g., the exact match, or spread to the surrounding word, sentence, or paragraph), and then codes the passages with a previously selected code.

Auto-coding is useful when coding structural information like speaker turns in group interviews, or other sections that can easily be identified by a text search.

Auto-coding allows you to quickly collect ideas that belong to a certain concept on the basis of words or patterns found in the text.

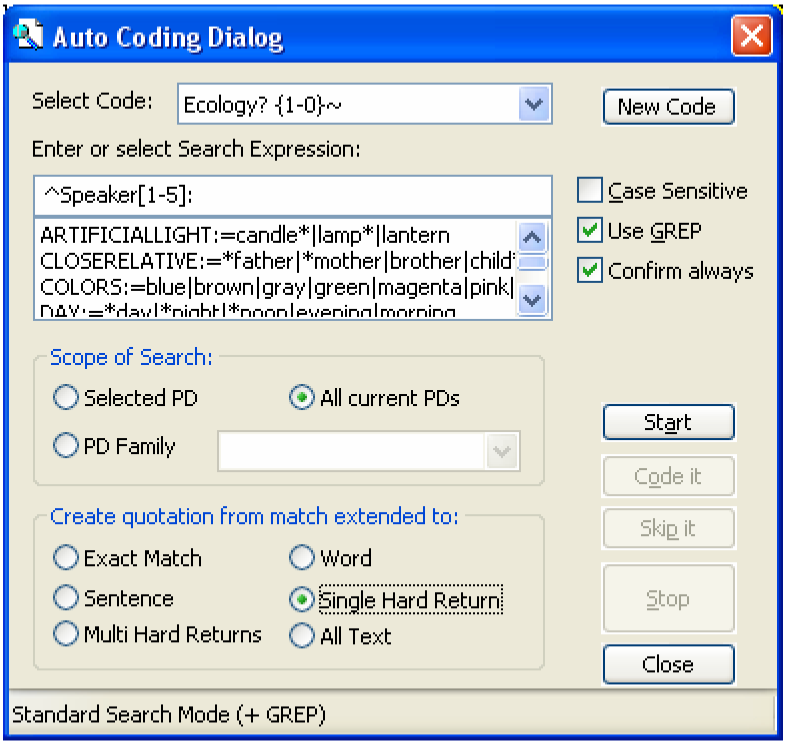
Concepts

The Auto-Coding Dialog

Auto-Coding = Text Search + Automatic Segmentation + Coding

The Auto-Coding tool combines the Text Search tool with an automatic segmentation and code assignment mechanism. To open the Auto-Coding Dialog, select ***CODES/CODING/AUTOCODING*** from the main menu.

The New Code button allows you to create codes on the fly.



Auto Coding Dialog

Select Code: Ecology? {1-0}~

Enter or select Search Expression:

```
^Speaker[1-5]:
ARTIFICIALLIGHT:=candle*|lamp*|lantern
CLOSERELATIVE:=*father|*mother|brother|child
COLORS:=blue|brown|gray|green|magenta|pink|
DAY:=*day|*night|*noon|evening|morning
```

□ Case Sensitive
☑ Use GREP
☑ Confirm always

Scope of Search:
○ Selected PD ● All current PDs
○ PD Family

Create quotation from match extended to:
○ Exact Match ○ Word
○ Sentence ● Single Hard Return
○ Multi Hard Returns ○ All Text

Standard Search Mode (+ GREP)

Figure 56 - The Auto-Coding Dialog

Note the New Code button, which allows you to create codes on the fly for the auto-coding procedure.

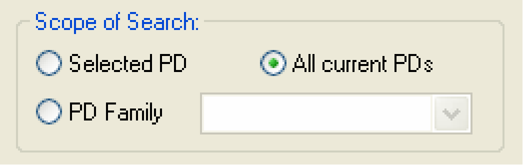
The GREP search expression entered looks for occurrences of string Speaker1 to Speaker5 located at the beginning of a paragraph in all textual PDs. The whole paragraph will be selected before a quotation is created and the code is assigned.

Search Expression

The top part of the Auto-Coding Dialog window resembles the Text Search tool (see "The Text Search Tool" on page 144). Search expressions can be entered or search categories can be selected. The search mode can also be set in a similar way as for the Text Search tool.

Scope of Search

Scope of Search can be all textual PDs, the selected PD only, or it may be restricted to a set of texts from a PD family. When you choose "All current PDs," the search starts at the beginning of the currently selected primary text.


Scope of Search:
○ Selected PD ● All current PDs
○ PD Family

If "Selected PD" is chosen, the auto-coding process starts at the current position of the text cursor.

Segment Size

When a matched string is found, the size of the segment to be coded can be specified as follows:

- the **Exact Match** only
- the **Word** surrounding the matched string
- the **Sentence** surrounding the matched string
- the matched string expanded to paragraph boundaries (**Single Hard Return**). This option is useful when using the new paragraph model (see "Handling Legacy Documents" on page 73).
- the matched string expanded to a "paragraph" with one or more empty lines as its delimiter (**Multiple Hard Returns**). Use this option to code a paragraph when using the old paragraph model or when you need to include the speaker ID in a line preceding a paragraph (i.e., all speaker turns separated by an empty line).
- **All Text** of the PD containing a match.

Test your Search Expression

Test search patterns with the Text Search tool first.

The Auto-Coding tool creates a new quotation for every matched text passage that is not yet a quotation. A potentially large number of inadequate quotations could be produced by an imprecise search.

For this reason, you should always test a search pattern by using the Text Search tool first (see "The Text Search Tool" on page 144) or select the Confirm option and click Skip. This test will give an indication if the final search will yield meaningful results. The advantage of testing with the Text Search tool is that no quotations are created.

How to Auto-Code

Auto-coding can be fully automatic or semi-automatic. The sections below will clarify the difference and will show the advantages of each method.

Fully Automatic Coding

1. Select the PD you want to code using the auto-coding procedure. If you only want to auto-code the current text, load the PD in question. If you want to auto-code all texts, load the first PD and position the cursor at the beginning of the document.
2. To open the Auto-Coding tool, choose **CODES/CODING/AUTO CODING** from the main menu.
3. If no code is selected, select a code from the drop-down list at the top of the Auto-Coding tool.
4. Enter a new search string or choose an existing search category.
5. Specify the search scope, e.g. "Selected PD"
6. Specify the segment size.
7. Start the process by clicking **START**.

Semi-Automatic Coding

As it is not always desirable to let the program decide whether or not to code a given text passage, you can control the process by checking "Confirm always." Specific confirmation from the user on each new code will then be requested.

An example for the usage of semi-automatic coding would be to code for the concept “distress.” Indications that a person might be distressed could be words like nervousness, tension, unease, edginess, etc. In order to capture this, you would do the following:

1. Create a code with the name Distress.
2. Open the Auto-Coding tool.
3. Select the appropriate code.
4. In the search entry field define a new category by entering: DISTRESS:= nervous*|tens*|uneas*|edg*|etc.

5. Depending on your data set, select a suitable scope of search (current PD, all PDs, or a specific PD family).
6. Select the segment size to be coded, e.g. sentence.
7. Check “Confirm Always” and click on the Start button.
8. Every time the program finds a piece of text that matches your search category, it stops the search and highlights the text it has found. You can then read the surrounding context and decide whether the text passage really has something to do with distress. If it does, click **CODE IT**, otherwise click **SKIP IT**. The program continues to search for the next match.

You can uncheck the “Confirm always” box at any time and let ATLAS.ti scan through the rest of your texts without prompting you for further confirmation.

Brushing-up Results after Auto-Coding

Since no automatic search can guarantee 100% meaningful results, the quotations created and assigned to the selected code during auto-coding should be screened and modified if needed.

Checking and Modifying Quotations

1. Close the Auto-Coding tool.
2. Open both the Code Manager and the Quotation Manager.
3. Select the code you just used for auto-coding.
4. In the Quotation Manager, set the quotation filter to "Selected Code".
5. Click the Created column header to find all recently created quotations at the top of the list.
6. Browse through the quotations assigned to this code by using the **NEXT** and **PREVIOUS** buttons in the Quotation Manager.
7. Modify or delete misaligned or inappropriate quotations. See “Modifying Quotations” on page 115 and “Deleting Quotations” on page 115.

Preparing Documents optimized for Auto Coding

The following instructions are useful for preparing transcriptions of focus group sessions, questionnaires, or interviews. Such data usually contains different speakers’ sections. The hints given here also apply for other documents that include sections you wish to identify for auto-coding.

It would be tedious to code speaker or section turns manually. Two things are needed: a good “marker” for which to search and, once the marker is found, a reliable identification of the unit (sentence, paragraph) to be coded.

Insert easily identifiable markup in the text to let the auto-coding pattern matcher do this for you. For proper markup, a little knowledge regarding the auto-coder’s search procedure is helpful. In combination with a few formatting rules, documents can be created that can readily support auto-coding quite a bit.

For the auto-coding tool to yield useful results, it is necessary to properly structure the source text using *unique identifiers*.

Simple examples are:

- ***P:*** or <Peter>for a respondent with the name Peter
- ***07-01-03letter*** for a letter written on the first of July 2003.

The identifier should be used exclusively to mark passages in the text that indeed relate to the person or object identified. The plain word *Peter* will likely also occur elsewhere in the text (for instance, when another person is referring to Peter). The markup "*P:*" or *<Peter>* however, is unlikely to occur elsewhere .

In order for the Auto-Coding tool to select a complete speaker section, a *section delimiter* is needed. As discussed above, a speaker or section turn will start with the speaker’s identifier markup. The end of a section can either be marked by a hard return (standard paragraph model) or an empty line (the “old” paragraph model).

We recommend inserting an empty line (two hard returns) to delimit sections. By doing this you can still use single hard returns to segment a speaker section into paragraphs.

When auto-coding such a document, you would choose **Multi Hard Returns** for extending the matched text.

Using <Peter> as the search pattern would then yield a quotation including everything from <Peter> up to the empty line:

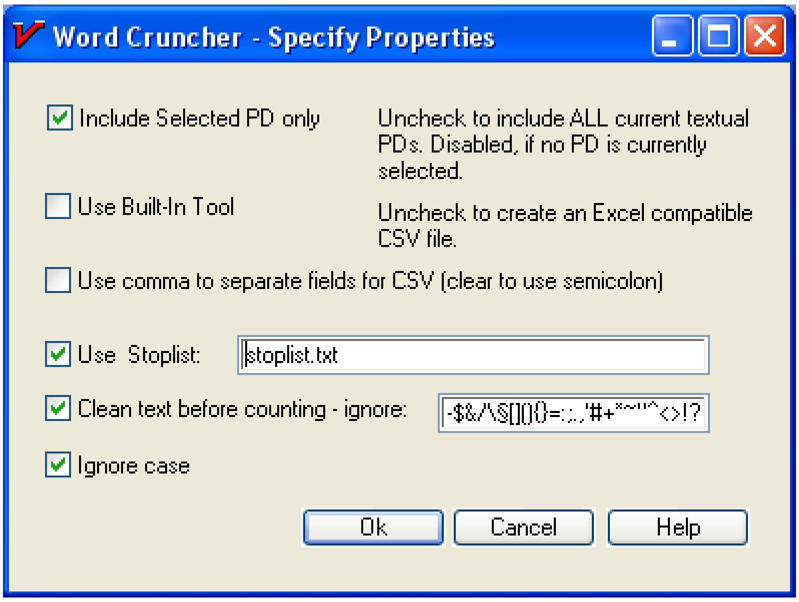
```
<Peter>Cutting! Cutting! Cutting!
I never wanted to be a hair stylist. Indeed I hate cutting hair.
I always wanted to be a lumberjack! [starts singing]

<Doreen>Oh Peter, I never knew you were so weird!
```

The Word Cruncher

This feature offers word “crunching” capabilities for a simple quantitative content analysis. It creates a list of word frequency counts for the selected or all (currently filtered) textual PDs. A stop list and a list of ignorable characters can be used to control the analysis.

Creating a Word Frequency Report

From the main menu, select **DOCUMENTS/ MISCELLANEOUS/WORD CRUNCHER**, or click the main toolbar’s Word Cruncher button . A property dialog opens offering a number of options that affect the procedure:


Word Cruncher - Specify Properties

☑ Include Selected PD only — Uncheck to include ALL current textual PDs. Disabled, if no PD is currently selected.

□ Use Built-In Tool — Uncheck to create an Excel compatible CSV file.

□ Use comma to separate fields for CSV (clear to use semicolon)

☑ Use Stoplist: stoplist.txt

☑ Clean text before counting - ignore: -$&/\§[](){}=:;.,'#+*~"^<>!?

☑ Ignore case

Figure 57 – Setting properties to start a word frequency count

You may specify a number of properties before starting the frequency count.

Include Selected PD only: Select the **scope of the count** to be all textual documents or the selected one only.

Use Built-in Tool: If you want to output the frequency count in Excel compatible format, uncheck this option. The built-in tool is a simple list window. In addition to the frequency count, size and percentage for each word is shown. The built-in tool can only be used for a selected PD.

Use comma to separated fields: When creating Excel compatible output, you can use either a comma or a semicolon as the field separator between the PDs' frequency counts. You may want to experiment with this option. If you find that Excel stuffs all output into a single column when using the comma, use the semicolon instead. This checkbox is disabled when the Built-In tool is checked.

Stop list: Use a stop list to exclude words from the count. Instead of enumerating every variant of a word, you can specify patterns. You can create powerful stop lists for different languages, different topics, and different levels of detail.

The user system folder (**EXTRAS/EXPLORER/USER SYSTEM FOLDER**), contains a sample stop list with some regular expressions:

Expression	Effect
:d+	excludes numbers of any length
-+	excludes strings of hyphens of arbitrary size
_+	excludes strings of underscores

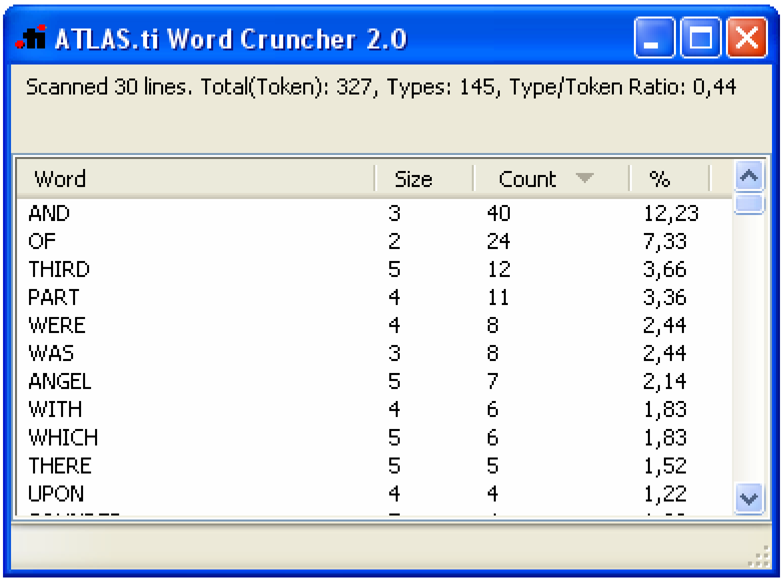
0+	exclude sequences of zeros

Clean text before counting – ignore: The characters specified in this dialog will be removed from the source word before it is counted. Example: including " eliminates the difference between "Hello" and Hello.

Ignore case: If checked, upper and lowercase letters are ignored: Hello, HELLO, and hello are not counted separately.

After all options are set, click the **OK** button.

The figure below shows the result when using the built-in tool for a single PD.



ATLAS.ti Word Cruncher 2.0

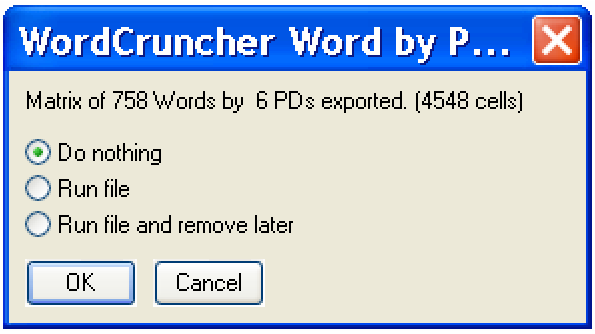
Scanned 30 lines. Total(Token): 327, Types: 145, Type/Token Ratio: 0,44

Word	Size	Count	%
AND	3	40	12,23
OF	2	24	7,33
THIRD	5	12	3,66
PART	4	11	3,36
WERE	4	8	2,44
WAS	3	8	2,44
ANGEL	5	7	2,14
WITH	4	6	1,83
WHICH	5	6	1,83
THERE	5	5	1,52
UPON	4	4	1,22

Figure 58 Wordcruncher internal tool

If you have chosen to output the result as an Excel™-compatible table, then you are first prompted for a file name. You can either accept the automatically created name or enter an alternate name.

Next, you are asked what to do with the output:



WordCruncher Word by P...

Matrix of 758 Words by 6 PDs exported. (4548 cells)

● Do nothing
○ Run file
○ Run file and remove later

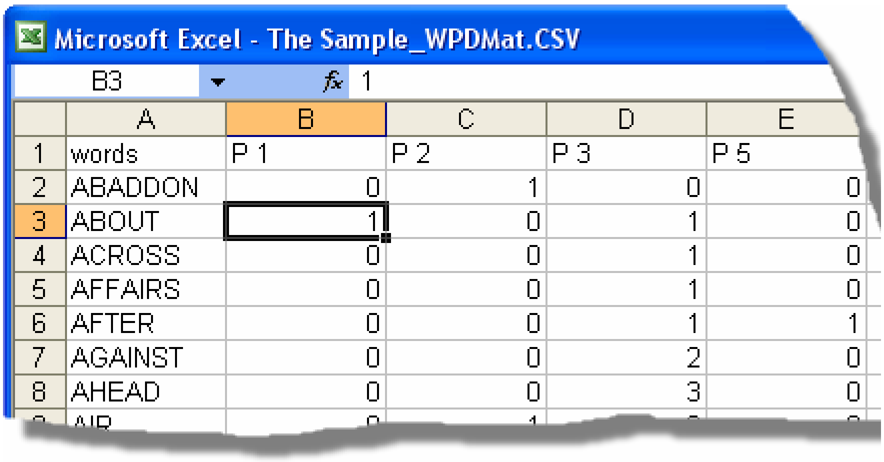
If you select the option **Do nothing**, then the frequency count is saved as an Excel™-compatible CSV file.

If you select **Run file**, then the file is opened in Excel™.

Select **Run file and remove later** if you want to view the results in Excel™, but do not want to keep the file.

Of course, you need to have Excel™ installed to be able to see the result.

Use Excel™ for further exploration of the WordCruncher output.



Microsoft Excel - The Sample_WPDMat.CSV

B3 = 1

	A	B	C	D	E
1	words	P 1	P 2	P 3	P 5
2	ABADDON	0	1	0	0
3	ABOUT	1	0	1	0
4	ACROSS	0	0	1	0
5	AFFAIRS	0	0	1	0
6	AFTER	0	0	1	1
7	AGAINST	0	0	2	0
8	AHEAD	0	0	3	0
9	AIR	0	1	[illegible]	0

Figure 59 – Word frequency count displayed in Excel

The Object Crawler

Use the Object Crawler to search for text and patterns in HUs, PDs, and all other entities that make up an HU. The search can be restricted to certain facets, like name, author, date, comments, and content. Regular expressions (GREP) as well as Category Search can be used as search expressions (see “GREP Search” on page 149 and “Category Search” on page 146).

Unlike the Text Search tool, the Object Crawler can search through all objects and fields that contain text. The Text Search tool only searches primary text documents. However, it finds all occurrences of the entered search term(s) and highlights a match at its original location. The Object Crawler stops at the first occurrence in an object and highlights the hit in the results pane of the Object Crawler window.

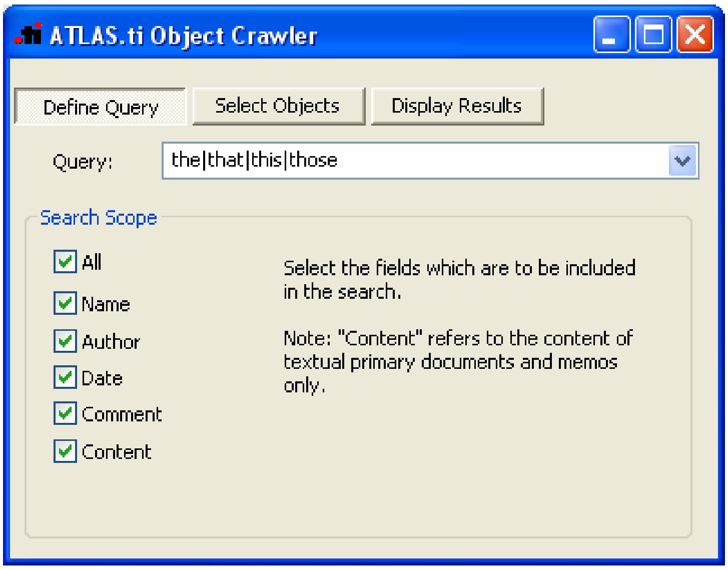
How To Use the Crawler

A Crawler search is a three-step procedure starting with entering a query and specifying the scope (e.g., name, comment, etc), and then selecting the object classes to be included in the search and, as the third step, displaying the results.

Starting the Crawler

From the main menu, select **TOOLS/OBJECT CRAWLER,** or click the Object Crawler button in the main toolbar.

The Object Crawler dialog starts with a page to enter the query and specify the scope:



Query: the|that|this|those

Search Scope

☑ All
☑ Name
☑ Author
☑ Date
☑ Comment
☑ Content

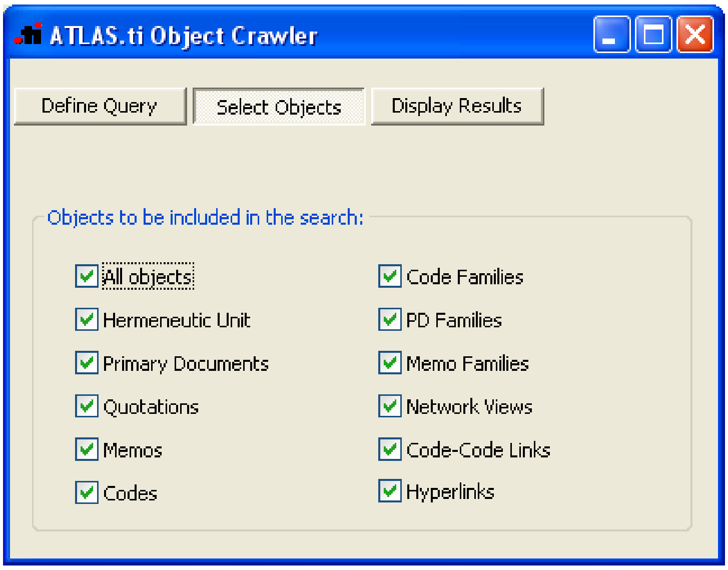
Select the fields which are to be included in the search.

Note: "Content" refers to the content of textual primary documents and memos only.

Figure 60 - Object Crawler – Define Query

1. Enter a query. Regular expressions and search swarms can be used (see “GREP Search” on page 149 and “Category Search” on page 146)
2. Select the **Search Scope**.
3. Click the Select Objects button to proceed to the next page:

Selecting the Objects



Objects to be included in the search:

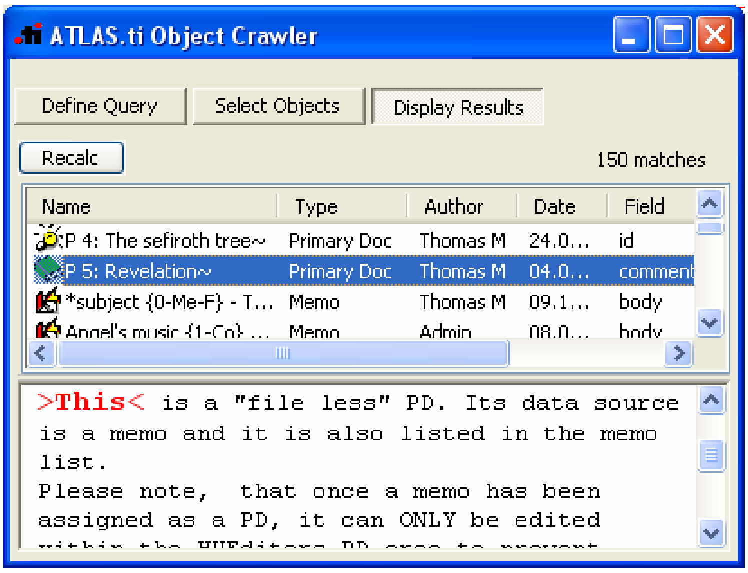
☑ All objects
☑ Hermeneutic Unit
☑ Primary Documents
☑ Quotations
☑ Memos
☑ Codes
☑ Code Families
☑ PD Families
☑ Memo Families
☑ Network Views
☑ Code-Code Links
☑ Hyperlinks

Figure 61 Object Crawler – Select Objects

4. Select the objects to be included in the search. Clicking All objects checks all other checkboxes.
5. Proceed with the next and last step by clicking Display Results.

Displaying the result

All objects for which a corresponding match has been found are displayed in the upper list pane. The **Field** column displays the facet in which the match appeared. The selected hit – a PD - in the figure below had its match in its comment. The hit itself is emphasized by red-colored font and with angle brackets for easy detection.



Name	Type	Author	Date	Field
P 4: The sefiroth tree~	Primary Doc	Thomas M	24.0...	id
P 5: Revelation~	Primary Doc	Thomas M	04.0...	comment
*subject {0-Me-F} - T...	Memo	Thomas M	09.1...	body
Angel's music {1-Co} ...	Memo	Admin	08.0...	body

```
>This< is a "file less" PD. Its data source
is a memo and it is also listed in the memo
list.
Please note,  that once a memo has been
assigned as a PD, it can ONLY be edited
```

Figure 62 Object Crawler – Display Results

The results list can indeed be used like an Object Manager in a variety of ways:

Double-clicking a hit in the results list activates the object. For instance, double-clicking a quotation displays it in context in the PD pane.

The list is also drag & drop capable: you can drag objects from the list into a Network Editor or into a Text Editor.

The Query Tool

*Searching **for** quotations **using** codes*

You need the Query Tool for queries using more than a single code.

The **Query Tool** is used for retrieving quotations using the codes they were associated with during the process of coding. This is different from a *text* search: To search for occurrences of text that match a specified pattern or string, you have to use the search command or the Object Crawler (see “Text Search” on page 144 and “The Object Crawler” on page 158).

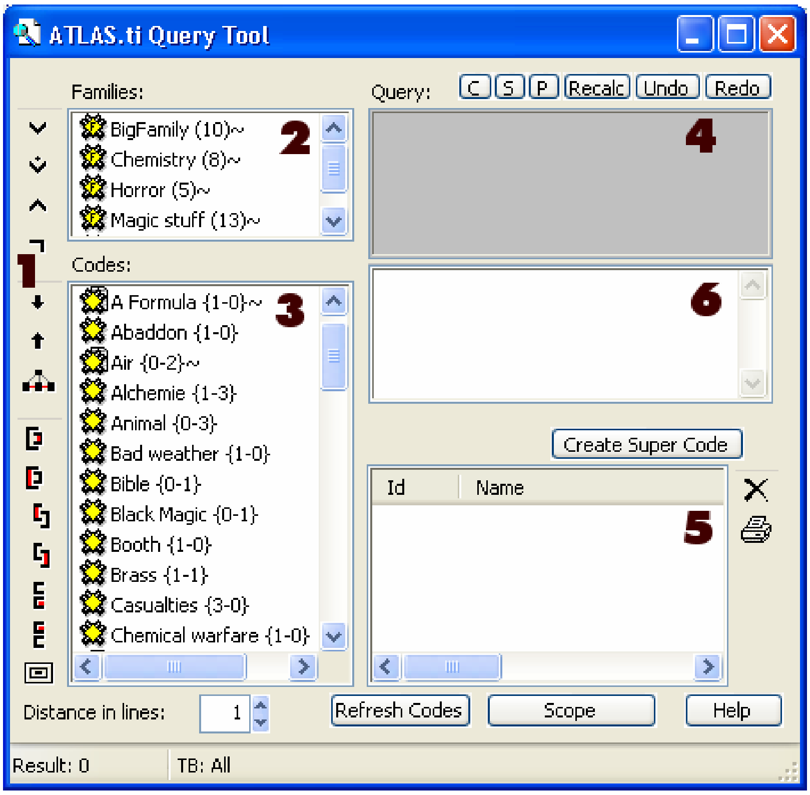
The simplest retrieval of this kind (“search for quotations with codes”) is what you frequently do with the Code Manager: double-clicking on a code retrieves all its quotations. This may already be regarded as a query, although it is a simple one. The Query Tool is more complex in that it can be used to create and process queries that include combinations of codes.

A ***query*** is a search expression built from operands (codes and code families) and operators (e.g. NOT, AND, OR, etc.) that define the conditions that a quotation must meet to be retrieved (e.g., all quotations coded with both codes A and B).

By selecting codes or code families – (i.e., the *operands* or *descriptors*) and operators, a query can be built incrementally which is instantaneously evaluated and displayed as a list of quotations. This incremental building of complex search queries gives you an exploratory approach toward even the most complex queries.

The Query Tool Window

The Query Tool is launched by clicking the Query Tool button , by choosing **CODES/OUTPUT/QUERY TOOL**, or **TOOLS/ QUERY TOOL** from the HU Editor's main menu.



Distance in lines: 1

Result: 0 TB: All

Figure 63 - The Query Tool

The Query Tool has the following main components:

The **operator toolbar [1]**, located near the left margin of the window.

The **code-family pane [2]** in the upper left lists code-families to be used in queries.

The **codes pane [3]** below the code-family pane contains all current codes (set filters do apply).

The **term-stack pane [4]** in the upper right displays the stack of all expressions entered in the current query. If more than one entry is visible, there are arguments still waiting to be used in the query. The topmost entry is the current query and its result is displayed in the **results list [5]** located in the lower right of the window.

Above the term-stack pane are several buttons for manipulating the stack: swapping or duplicating terms, clearing the stack, etc.

Close to the results list are two buttons for removing unwanted hits and creating a report.

Directly below the term-stack pane is a **feedback pane [6]** displaying the topmost entry of the term stack.

Operands

Operands (also called arguments or descriptors) and *operators* are the only ingredients of *queries* necessary for the Query Tool. Parentheses or other characters are not needed to construct valid queries.

Basic Operands

Two sorts of *basic or atomic operands* may be used in a query: **Codes** and **code families**.

A code represents a set of quotations, while a code family yields the quotations of all the codes that its members have. In other words, a family is interpreted as its member codes connected by the Boolean operator OR. Selecting a code family F1 which contains five codes C1-C5 is equivalent to the query: "C1 OR C2 OR C3 OR C4 OR C5".

Complex Operands

"Operand" does not only apply to basic descriptors. An operand can be **any expression** that itself is used as an argument. An expression "A AND B" may be used in a more complex query as an operand: "NOT(A AND B)", "(A AND B) OR (C AND NOT D)", etc.

All types of operands can be freely mixed in a query using any of the operators described below.

Operators

Three sets of operators are available. They are located within the toolbar at the left edge of the Query Tool.

Boolean operators allow combinations of keywords according to set operations. They are the most common operators used in information retrieval systems.

Semantic operators exploit the network structures that were built from the codes.

Proximity operators are used to analyze the spatial relations (e.g., distance, embeddedness, overlapping, co-occurrence) between coded data segments.

Note: You can display a short help message for each operator by right clicking on its corresponding button in the toolbar.

Boolean Operators

∨
⊻
∧
¬

Boolean Operators

Four Boolean operators are available with the Query Tool: OR, XOR, AND, and NOT.

OR, XOR, and AND are *binary operators* which need exactly two operands as input. NOT is a *unary operator* and needs exactly one operand. However, as stated above, the operands themselves may be of arbitrary complexity. Codes, code families, or arbitrary expressions can be used as operands: "(A OR B) AND (NOT C AND D)".

∨

OR button

OR

The OR operator retrieves all data segments (i.e., quotations) that are coded with any of the codes used in the expression. Example: "All quotations coded with 'Earth' OR 'Fire'". As arguments can themselves be arbitrary expressions, another formulation is: "All quotations that are retrieved by any of the expressions the query combines." Example: "All quotations coded with 'Earth' OR coded by both 'Fire AND Water'."

Note: the OR operator potentially generates MANY hits. It has high "recall" (a lot is retrieved), but low "precision" (many of the retrieved quotations may not make sense).

⊻

XOR button

XOR

The OR operator does not really match the everyday usage of "OR." Its meaning is "At least one of…," including the case where ALL conditions match. The XOR operator, in contrast, asks that "EXACTLY one of…" the conditions must meet. It translates into everyday "either-or." Example: "All quotations coded with EITHER 'Earth' OR 'Fire' (but not with both)."

∧

AND button

AND

The AND operator finds quotations that match ALL the conditions specified in the query. Example: "All quotations coded with 'Earth' AND 'Fire'." The AND operator is very selective and often produces an empty result set. "Precision" of this operator is high, but the "recall" is rather low. It produces best results when combined with less restrictive operators or when the overall number of the available text segments is large.

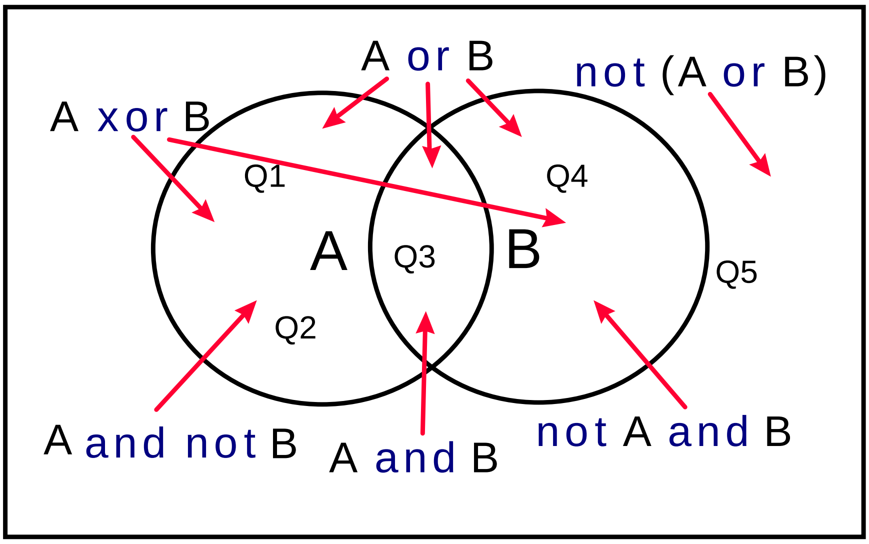
¬

NOT button

NOT

The NOT operator tests for the absence of a condition. Technically, it subtracts the findings of the non-negated term from all data segments available. Given 120 quotations in the HU and 12 quotations assigned to code "Fire," the query "NOT Fire" retrieves 108 quotations - those which are *not* coded with "Fire." Of course, the operator can be used with an arbitrary expression as in the argument "NOT (Earth OR Fire)" which is the equivalent of “neither Earth nor Fire.”

***Venn diagrams** are descriptive schemes for illustrating the different set operations associated with Boolean operators.*



The rectangle encloses the set of all retrievable quotations, e.g. the "document universe."

The two circles represent two codes A and B. Q1 to Q5 are quotations coded with A, B, or none (Q5).

Figure 64 - Boolean queries depicted as Venn diagrams

Semantic Operators

The Semantic Operator buttons

The operators in this section exploit connected codes resulting from previous theory-building work. While Boolean-based queries are *extensional* and simply enumerate the elements of combined sets (e.g., LOVE or KINDNESS), semantic operators are *intentional*, as they already capture some meaning expressed in appropriately linked concepts (e.g., SUB(POSITIVE ATTITUDES)).

SUB

SUB button

The SUB (or DOWN) operator traverses the network from higher to lower concepts, collecting all quotations from any of the sub codes. Only "transitive" relations between the codes are processed; all others are types ignored. When building a terminology from your codes, use the ISA relation for sub-term links.

Example: "All quotations coded with Magic or any (immediate or indirect) sub-term of Magic". Like the OR operator in the set of Boolean operators, the SUB may produce large result sets. However, unlike the OR operator, because you make use of a theory using SUB, the "precision" is much better (i.e., you get only what you expect). Of course, if your network contains dubious connections ("computer ISA intelligent entity"), the quality of your retrieval will decline.

UP

UP button

The UP operator looks at all direct Super Codes of the selected code. Unlike the SUB operator, it does not recursively traverse the structure. Only the next level is considered.

SIBlings button

SIBlings

The SIBlings operator finds all quotations that are connected to the selected code or any other descendants of its parents. Example: "All quotations coded with Horror %4 or any other value of Horror." This works because all values of "Horror" have a common ancestor ("Dimension: Horror").

Note: Only codes can be used as operands for semantic operators.

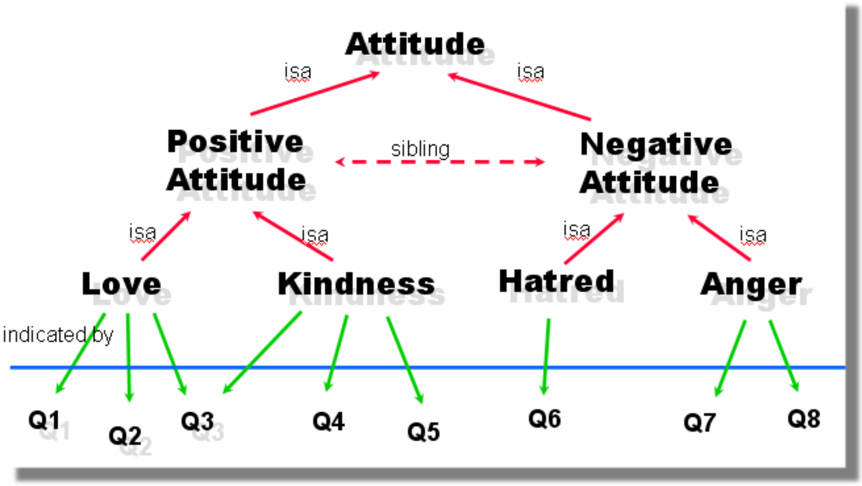


Figure 65 - A hierarchy of concepts suitable for semantic retrieval

With such a network of codes the following queries would make sense (Q1 to Q8 = quotations:

SUB (Positive Attitude) => {Q1, Q2, Q3, Q4, Q5}

SUB (Negative Attitude} => {Q6, Q7, Q8}

SUB (Attitude) => {Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8}.

Proximity Operators

The Proximity Operator buttons

Proximity describes the spatial relation between quotations. Quotations can be embedded in one another, one may follow another, etc. The operators in this section exploit these relationships. They require two operands as their arguments. They differ from the other operators in one important aspect: proximity operators are *non-commutative*. This property makes their usage a little more difficult to learn.

Non-commutativity requires a certain input *sequence* for the operands. While "A OR B" is equal to "B OR A", this does not hold for any of the proximity operators: "A FOLLOWS B" is not equal to "B FOLLOWS A". When building a query, always enter the expressions in the order in which they appear in their natural language manifestation.

Because of non-

Another important characteristic for these operators is the specification of the operand for which you want the quotations *commutativity, every proximity operator comes in two versions.*

retrieved. "A WITHIN B" specifies the constraint, but you must also specify if you want the quotations for the As or the Bs. This is done implicitly by the sequence. The code (or term) that is entered first is the one in which you are interested. If B's quotations are requested, you have to enter "B ENCLOSES A" using the query language described below.

The rectangular areas symbolize overlapping and adjacent quotations.

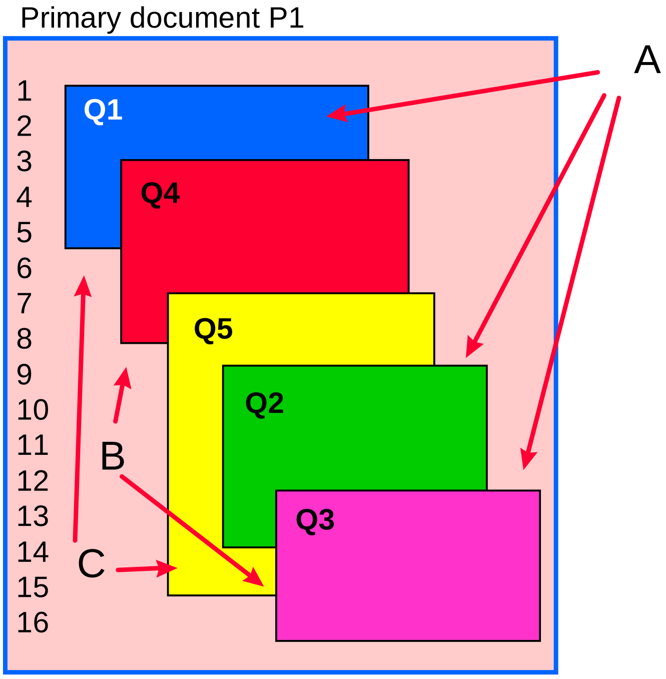


Figure 66 - Visualizing the spatial relations between segments

In the scheme above the quotations Q1…Q5 are referenced by the codes A, B, C.

Sample queries:

B overlaps A -> {Q3, Q4}

A overlapped by B -> {Q1, Q2}

C overlaps B -> {Q5}

A within C -> {Q2}

A overlaps C -> {Q3}

C follows A -> {Q5}

B overlaps C -> {Q3, Q4}

Embedding Operators

The *embedding* operators describe quotations that are contained in one another and that are coded with certain codes.

WITHIN button

WITHIN

A WITHIN B retrieves all quotations coded with A that are contained within data segments coded with B.

ENCLOSES button

ENCLOSES

A ENCLOSES B retrieves all quotations coded with A that contain quotations coded with B.

Overlap Operators

The *overlap* operators describe quotations that overlap one another.

OVERLAPPED_BY button

OVERLAPPED_BY

A OVERLAPPED_BY B retrieves all quotations coded with A that are overlapped by quotations coded with B.

OVERLAPS button

OVERLAPS

A OVERLAPS B retrieves all quotations coded with A that overlap quotations coded with B.

Distance Operators

The *distance* operators describe a sequence of disjoint quotations. The maximum distance in paragraphs may be specified.

FOLLOWS button

FOLLOWS

A FOLLOWS B retrieves all quotations coded with A that follow quotations coded with B.

PRECEDES button

PRECEDES

A PRECEDES B retrieves all quotations coded with A followed by quotations coded with B.

The Co-occurrence Operator

CO-OCCURRENCE button

CO-OCCURRENCE

Co-occurrence is essentially a short-cut for a combination of all the basic proximity operators except **FOLLOWS** and **PRECEDES**.

A CO-OCCURRING WITH B: Find all quotations that co-occur with B.

Note: the procedures used for calculating cooccurrence for two codes is also used in the Network Editor to imort co-occurring codes. See “Import Co-occurring Codes” on page 228.

The Query Language

Good ol' HP 19C using RPN and it’s still working!

Queries are built step-by-step from operands and operators using the principle of **Reversed Polish Notation (RPN)**. This sounds complicated, but it is actually quite easy.

RPN, invented by Polish mathematician Lukasiewicz, does not require parentheses to control the priority of operators, nor does it require any other characters like commas, periods, etc. Every click produces a meaningful result and it is impossible to create syntactically wrong queries.

Operands First, Operators Next

The most important point to understand about RPN is the *order* in which operands and operators of a search expression are entered. Using RPN, operands (codes, etc.) are entered first, followed by one or more operators. This is an unusual method for most of us who are familiar with notations where operators are placed *between* the operands, as in "3 + 5". Most calculators use this type of notation, also called "infix" notation.

Infix notation: good for reading.

Postfix notation: good for clicking.

Two aspects must be distinguished: how we read expressions and how we formulate them with a "point and click" language. The infix notation is usually easier to read, but the "postfix" notation is far easier to use when creating queries using mouse-controlled direct manipulation user interfaces like Windows.

An Arithmetic Example

Here are some simple arithmetic examples using an RPN calculator:

Arithmetic expression	RPN expression
Example 1: 3 + 4	3 4 +
Example 2: 3 + (4 * 5)	3 4 5 * +
Example 3: (3 + 4) * 5	3 4 + 5 *

Note: No parentheses are needed in expressions using RPN notation. The precedence of the operators is controlled solely by the order in which operands and operators are entered.

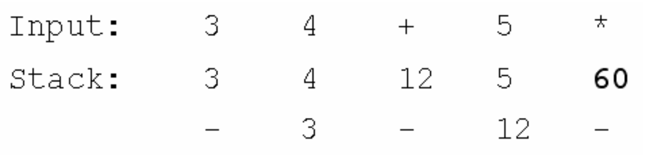
Let’s take a look at the changing contents of the term “stack” during the input of example 2’s operands and operators:

```
Input:      3    4    5    *    +

Stack:      3    4    5    20   23
            ----------------------
  |         -    3    4    3    -
  ↓
       -    -    -    3    -
```

If there is only one operand on the stack, entering a two-argument operator like AND will produce an error-message.

Note how every operand entry is pushed down the stack and how every operator entered takes the appropriate number of operands from the stack and pushes the result of the operation back to the top of the stack. Both operators (* and +) used in the example need two operands. The multiplier "*" takes the topmost two elements from the stack (5 and 4) and pushes the result "20" back on the stack. The subsequent “+”takes the remaining two operands (20 and 3) from the stack, calculates the result, and pushes the result 23 back onto the stack. The stack grows with every entry of an operand and it shrinks with every operator entered.

The following shows the execution of example 3:



```
Input:     3    4    +    5    *
Stack:     3    4    12   5    60
           -    3    -    12   -
```

Despite its seeming peculiarity, RPN is actually a very common procedure with all mouse & click interfaces. You use this technique all the time, e.g., when working with text software: First you select a text passage (the operand), THEN you would press the delete button (the operator).

Creating a Query with the Query Tool

*The result of **any** query is a set of quotations.*

The retrieval of quotations with the Query Tool differs from the arithmetic example above by the result in which we are interested.

We are really not interested in the operands (codes, code families) themselves, but in the set of quotations that is the result of *evaluating* an operand. By formulating a query “A OR B,” this is what we really mean: “*Quotations coded with code A OR quotations coded with B.*” Therefore, entering the operand code “X” displays all quotations which were coded with “X” in the results list. And even this list of the quotations’ short names is not the result for which we are looking. With yet another step, we can generate a report listing the full quotations or we can display each quotation in the context of its PD for further refinement.

To assemble a query with the **Query Tool**, you also select the operands first, then the operators.

The simplest query is one without any explicit operators at all: Just double-click on a code or code family. The result (if any) is immediately displayed in results list.

Now double-click on another code or code family. The same thing happens: the result for this operand is displayed.

Build complex queries incrementally with immediate feedback after each

Starting from such simple examples, you can readily construct a more complex query: for example, click on the OR operator (the topmost in the left toolbar). The combined result is instantly displayed in the results list.

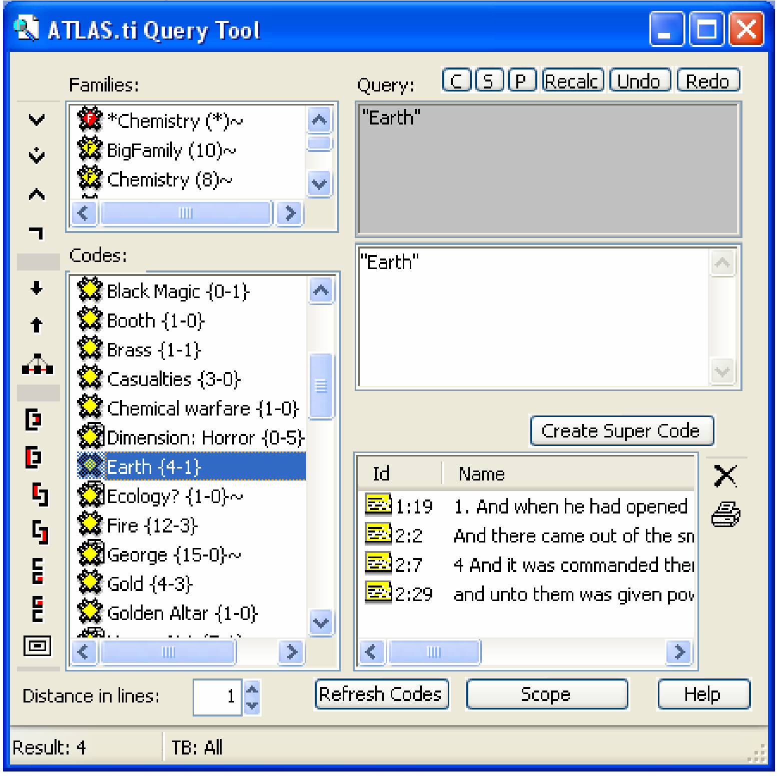
step.

A Boolean Query

The example below uses the HU “The Sample.hpr5.” Please load and display this HU while reading the following. It can be found in the ATLAS.ti samples folder, easily accessible via EXTRAS/EXPLORER/SAMPLES FOLDER.

Our sample query, using Boolean operators, is this: “Find all quotations coded with either code EARTH or code MAGIC.”

1. Open the Query Tool by clicking on the binoculars button in the main toolbar.
2. Double-click on the “Earth” code. The Query Tool displays the following entries:



"Earth"

"Earth"

Id	Name
1:19	1. And when he had opened
2:2	And there came out of the sn
2:7	4 And it was commanded thei
2:29	and unto them was given pov

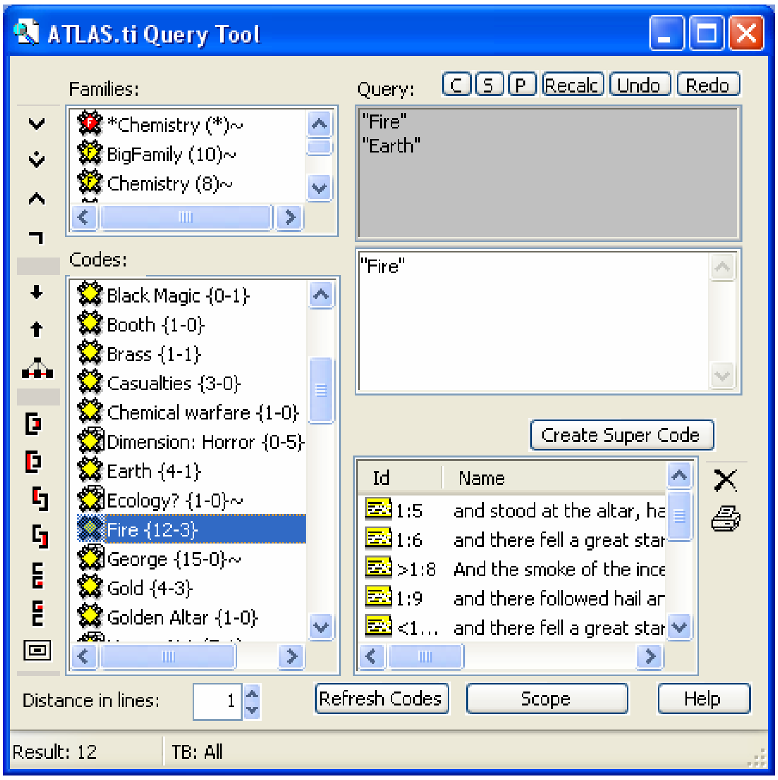
Distance in lines: 1

Result: 4 TB: All

The previously empty *term stack* now displays code “Earth”.

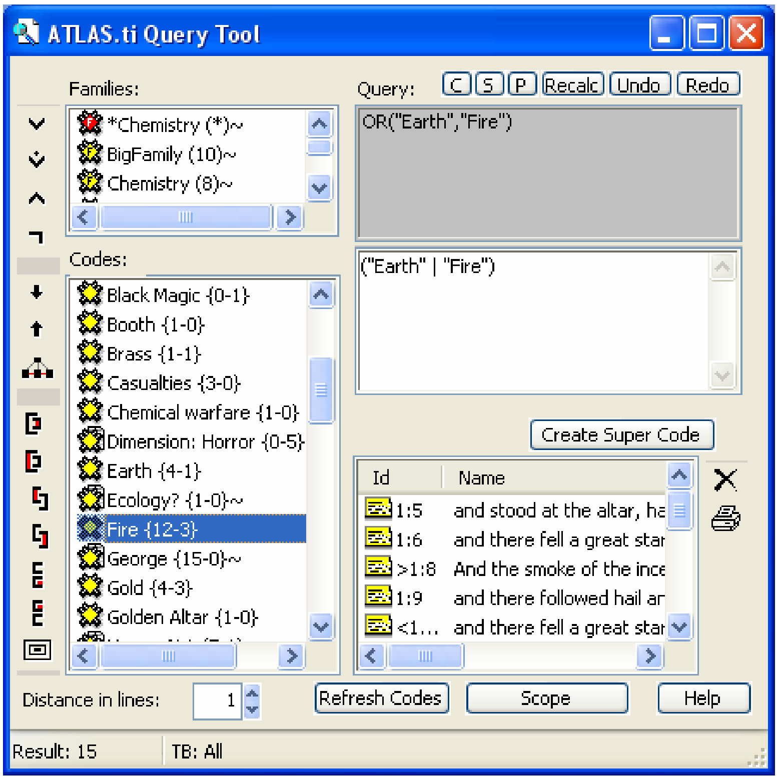
The results pane lists all quotations for code Earth.

3. Double-click on the code “Fire”.



Now there are two entries in the term stack, codes “Fire” and “Earth.” The feedback pane displays the active query, code “Fire”. The results of this query are shown in the results pane; the 12 quotations associated with the code “Fire.” With two operands on the term stack, we can combine them with an appropriate operator. The intention was to retrieve all quotations coded as “Earth” or “Fire.”

4. Click on the OR operator ⌄ to combine the two expressions from the stack:



*Chemistry (*)~
BigFamily (10)~
Chemistry (8)~

OR("Earth","Fire")

("Earth" | "Fire")

Black Magic {0-1}
Booth {1-0}
Brass {1-1}
Casualties {3-0}
Chemical warfare {1-0}
Dimension: Horror {0-5}
Earth {4-1}
Ecology? {1-0}~
Fire {12-3}
George {15-0}~
Gold {4-3}
Golden Altar {1-0}

Id	Name
1:5	and stood at the altar, ha
1:6	and there fell a great star
>1:8	And the smoke of the ince
1:9	and there followed hail ar
<1...	and there fell a great star

Result: 15 TB: All

The term stack now contains one term, OR(“Earth”,”Fire”), again, now the combination of the two codes. This term can be used as an operand to further extend the query, e.g. to negate the expression. But we will stop here for now.

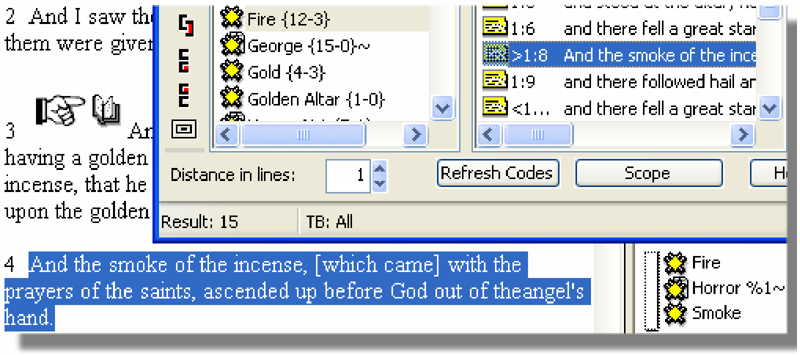
The feedback pane displays the query in infix notation, as we would have entered it into a regular calculator (“Earth” OR “Fire”). The results pane lists 15 quotations that have been coded with code “Earth” or with code “Fire,” or with both codes. You can look at the quotations in the context of the document by clicking on a quotation in the list, or you can create a report.

Viewing results in context

1. Make sure that the Query Tool does not completely obstruct the area where PDs are displayed.

2. Click on a quotation in the results pane.

3. The quotation is highlighted in the primary document pane:



2 And I saw th them were give

3 An having a golden incense, that he upon the golden

4 And the smoke of the incense, [which came] with the prayers of the saints, ascended up before God out of theangel's hand.

Figure 67 Displaying a hit in context

Output of Query Results

Before printing the quotations found with the query, you can optionally remove quotations that you don't want.

Cleaning up the Hit List

Before creating a report of all the quotations found by the query, you have the option to remove entries from the hit list. You can remove unwanted hits from the list using the erase button above the printer button, right next to the results pane. You could, of course, reformulate your query to improve the precision.

This is how you clean up the hit list:

1. Select an unwanted quotation in the hit list

2. Click the **ERASE** button.

Creating a Report

To print all hits found by a query, click the **PRINTER** button to the right of the results list.

Select one of the following report options:

- **LIST:** Print a list of all quotations in a compact format showing only the quotations' names.

- **LIST – INCLUDE COMMENTS:** Same as **LIST** but includes the quotations' comments if any.

- **FULL CONTENT:** Output the *complete text* of the quotations.

- **FULL CONTENT – INCLUDE COMMENTS:** Same as **FULL CONTENT** but includes the quotations' comments if any.

Then, choose whether the output should be displayed in a text editor, saved to disk, or printed.

More Query Examples

This section provides additional practical examples for effective queries. All examples are based on the HU “The Sample.”

Ideally, you should follow along Example 1 by clicking your way through the actual exercise to familiarize yourself with the ATLAS.ti Query Tool. You may try to find your own solutions for Examples 2 and 3 before reading through their step-by-step instructions. Working through these exercises should give you a better understanding of the Query Tool and its potential.

Note: To check if you have entered everything correctly, the number of hits are listed after each step. If the numbers do not match, but you are sure that you entered everything correctly, it could be that your sample HU has been modified in the meantime

Example 1: How to Formulate a Boolean Query

Task: *“Retrieve all quotations coded either with any of the codes included in the BIG FAMILY code family or with those in the MAGIC STUFF code family, but exclude those coded as MAGIC 3.”*

Step-by-step instruction:

1. Double-click code-family BIG FAMILY. The results pane immediately displays 13 hits.
2. Double-click code-family MAGIC STUFF. The results list displays all quotations coded with codes belonging to this code-family (26 hits). Two operands (BIG FAMILY and MAGIC STUFF) are now displayed on the term stack.
3. Click the XOR operator ⊻ and watch the results of applying the XOR operator on the two previously entered operands. The results pane displays 25 hits. The term stack shows one operand term that can be used in the following steps: *XOR (“Big Family”,“Magic stuff”)*
4. Double-click code MAGIC 3. For easy navigation, click with the mouse into the code list pane and then press the letter ‘M’ on your keyboard. The results pane displays all quotations coded with 'Magic 3' (16 hits).
5. Click the NOT operator ¬ . The results list now displays all quotations that are not coded with MAGIC 3 (e.g., the rest = 105 hits). We now have two operands in the "stack" and may use another - binary – operator to combine these two.
6. Click on the AND operator ^ . The following entry is displayed in the feedback pane:

(("Big Family" || "Magic stuff") & NOT "Magic 3")

The query results pane displays 10 hits that can now be inspected more closely.

Example 2: How to formulate a query with semantic operators

Task: *"Show me all quotations coded as MAGIC or any of its sub-terms, but not including quotations associated with code BLACK MAGIC."*

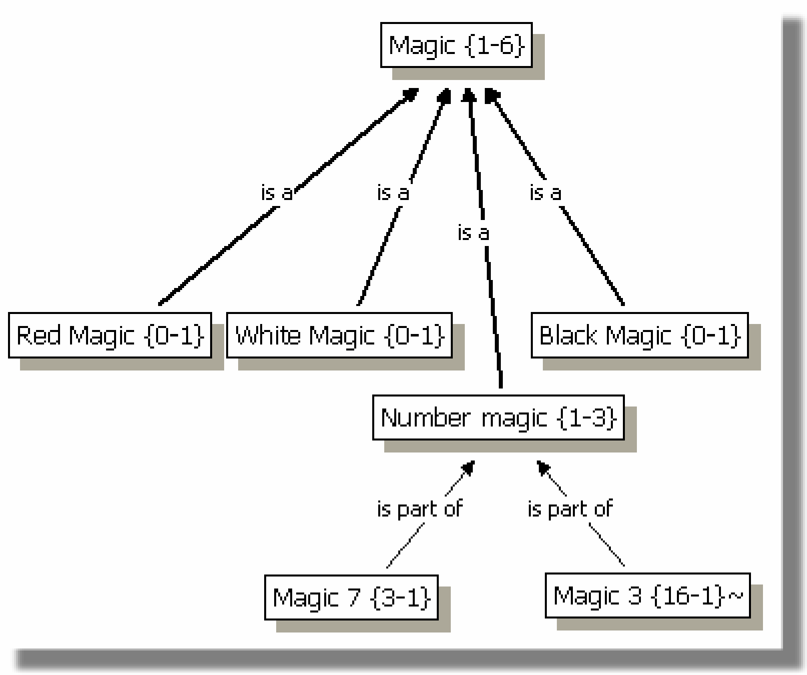


Figure 68 Magic network

Step-by-step instruction:

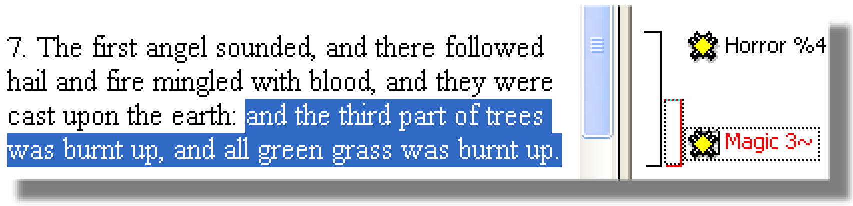
1. Double-click code MAGIC. Only one quotation is directly referenced by this code, so one hit is displayed in the results pane.
2. ↓ Click the SUB operator. The results list fills up significantly (21 hits).
3. Double-click code BLACK MAGIC. Result: Nothing!
4. ¬ Select the NOT operator. Result: Everything (121 hits)!
5. ^ Select the AND operator. Of course: 21 hits.

The feedback pane displays: (SUB "Magic" & NOT "Black Magic").

Note: Example 2, at first glance, may not seem like a particularly clever query. But with expanding analysis, it could be that more and more quotations are assigned to the code BLACK MAGIC. If the query was saved as a Super Code and reused at a later point in time, this would result in a different set of quotations (see "Super Codes" on page 176 for further detail).

Example 3: Creating a query using proximity operators

Task: “*Show me all quotations coded with MAGIC or any of its sub-terms that are embedded within larger contexts coded with HORROR %4.*”



7. The first angel sounded, and there followed hail and fire mingled with blood, and they were cast upon the earth: and the third part of trees was burnt up, and all green grass was burnt up.

Step-by-step instruction:

1. Double-click code MAGIC (1 hit).
2. Click the SUB operator (21 hits).
3. Double-click code HORROR %4 (10 hits).
4. Click the WITHIN operator (7 hits).
5. The query in infix notation reads as follows:
   (SUB "Magic" WITHIN "Horror %4")

Distance in lines: 5

Note: When using distance operators (such as "FOLLOWS" or “IS FOLLOWED BY”), the maximum distance in terms of paragraphs between two quotations can be specified in the lower left of the Query Tool. The appropriate count needs to be entered *before* entering any of the distance operators.

Super Codes

"Intelligent" Super Codes compute their quotations “on demand”.

Super Codes are a convenient way to store queries. Super Codes are very similar in look and feel to normal codes, with one important difference: instead of “hardwired” connections to quotations, Super Codes store a query to compute their virtual references whenever needed.

They “automatically” change their behavior during the course of theory building. If you have a Super Code “All about Magic” with a query “SUB Magic” and later add another sub code “White Magic,”, all quotations to which the latter code refers are also retrieved by the (unchanged) query of “All about Magic.” Super Codes can be clicked on in the code list like any other code and they will display their quotations in an identical way.

Normal codes are "hard-wired" to their quotations.

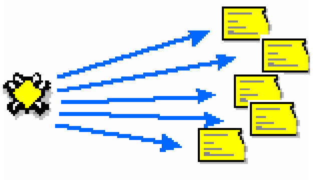
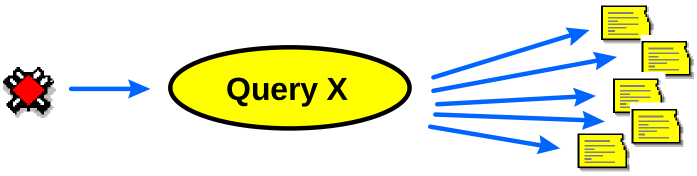


Figure 69 Code hard-wired to quotations

Super Codes automatically update.



Super codes are displayed in the Code Manager just like regular codes and can be recognized either by a red text color or by their red symbol, if images are switched on in the Views menu. The list of quotations associated with the Super Code can be displayed with a double-click, just as for any other code. Frequencies (density) are not indicated in the list view for performance reasons. Instead, an asterisk (*) replaces the frequency count. The reason for this is that a Super Code is dynamic and its density/frequency count changes as soon as you modify any of the codes contained in the query of the Super Code. For the same reason, Super Codes are *not* displayed in the margin area. ATLAS.ti 5, however, offers the possibility to create a regular code from a Super Code (see "Snapshot Codes" on page 179).

Super Codes can contain Super Codes can contain....

Super Codes can be used in code families, Network Views, and, last but not least, as powerful operands in queries, allowing you to incrementally build complex queries.

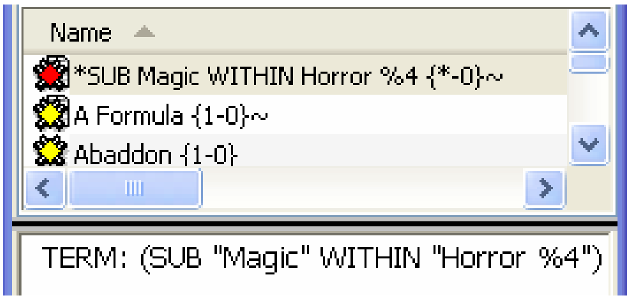
Creating Super Codes

To create a Super Code, you must have already constructed a query using the Query Tool which is displayed in the term stack. Note that because Super Codes are "intentional," you can also create a valid and useful Super Code with an empty results list (which might well change in a later stage of your analysis).

To create a Super Code

1. Click the "Super-Code" button.
2. Enter a name for the new Super Code or accept the default name created from the query expression. Click OK.
3. The newly created Super Code immediately appears in the list of codes and can be used for new queries (and Super Codes) right away.

A default comment for the new Super Code is also created showing the assigned query in infix notation.



SUB Magic WITHIN Horror %4 {-0}~

A Formula {1-0}~

Abaddon {1-0}

TERM: (SUB "Magic" WITHIN "Horror %4")

Figure 70 A super code displayed in the Code Manager

Auto-Optimization of Super Code Queries

In order to take into account quotations that were manually removed from the hit list, the query must be modified accordingly before a Super Code is created. Otherwise it would display the full set retrieved by the original query. To accomplish this task, a “suppressor” code is created, which refers to the quotations removed from the hit list. This suppressor code is negated and then ANDed with the original query.

Example: The original query “All quotations coded with Sanity or Health” (Sanity OR Health) yields 4 quotations 1:1, 1:2, 1:3 and 3:1. From the hit list, quotation 1:1 and 1:3 are removed. The query is now modified by creating a new “suppressor” code **Q1 referencing 1:1 and 1:3. The original query is modified as follows:

(Sanity OR Health) AND NOT (**Q1)

And returns exactly what you want: quotations 1:2 and 3:1.

Both the Super Code's and the suppressor code's automatically created comment reflect their mutual dependency.

Note: A suppressor code cannot be deleted before the referring Super Code is deleted.

What You Cannot do with Super Codes

As Super Codes are not directly associated with quotations, certain restrictions apply.

Coding

Supercodes cannot used for manual coding.

The most important constraint is that you cannot associate them with quotations directly. Therefore, Super Codes are not presented when doing "code by list," and drag & drop onto data selections is prohibited.

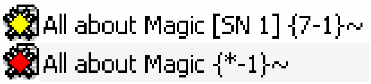
Merging

Code Merge operations including Super Codes are also not possible.

Prevent Cycles

If you created a Super Code whose query contains a reference to a code family, you cannot assign this Super Code to the code family later. This would create a cyclic structure and is therefore disallowed.

Snapshot Codes



All about Magic [SN 1] {7-1}~
All about Magic {*-1}~

A Snapshot Code is a normal code that records the current state of a Super Code by way of "hard-wired" links to the derived quotations. By creating a snapshot from time to time, you can analyze the development of a Super Code.

Unlike the Super Code, a code created by the snapshot is displayed in the margin area and can be used for further coding. The default snapshot code names are suffixed with [SN<number>].

How to create a snapshot

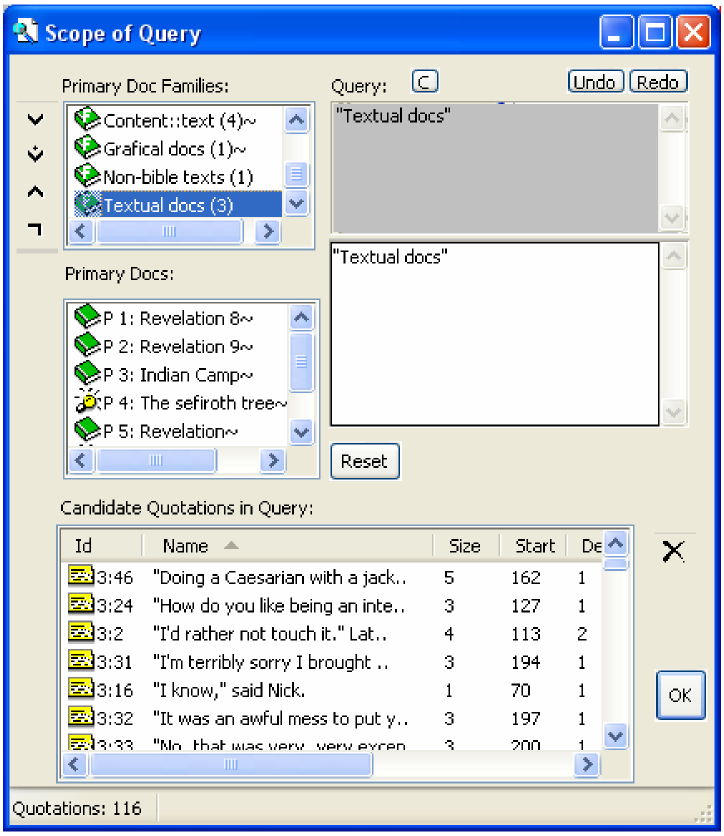
1. Select a Super Code in the Code Manager.
2. From the "**CODES/MISCELLANEOUS**" menu, select option **CREATE SNAPSHOT**.
3. The newly create code appears in the Code Manager.

Scope of Query

You can specify the documents that are to be considered in any subsequent query. By default, the query's "document universe" is *all* **PDs** currently filtered in the HU Editor. Clicking **SCOPE** opens another window that shows the PDs in the lower left pane and the **PD families** in the upper left. As PD families can be looked at as nominal variables, it is easy to pre-select "all interviews with male interviewees aged between twenty and thirty from small towns.

A restricted set of operators is offered (note that only Boolean operators make sense here) and can be used to construct scope selection queries in much the same way as the query itself.

The scope is not stored as part of a Super Code's query specification. When you process the query of a Super Code later, the complete textbase is queried by default.



Primary Doc Families:

- Content::text (4)~
- Grafical docs (1)~
- Non-bible texts (1)
- Textual docs (3)

Query: "Textual docs"

"Textual docs"

Primary Docs:

- P 1: Revelation 8~
- P 2: Revelation 9~
- P 3: Indian Camp~
- P 4: The sefiroth tree~
- P 5: Revelation~

Candidate Quotations in Query:

Id	Name	Size	Start	De
3:46	"Doing a Caesarian with a jack..	5	162	1
3:24	"How do you like being an inte..	3	127	1
3:2	"I'd rather not touch it." Lat..	4	113	2
3:31	"I'm terribly sorry I brought ..	3	194	1
3:16	"I know," said Nick.	1	70	1
3:32	"It was an awful mess to put y..	3	197	1
3:33	"No, that was very, very excep	3	200	1

Quotations: 116

Figure 71 - Defining the scope of queries

In the Scope of Query window above, the PD family "Textual docs" was selected. The results list below displays all quotations from the PDs that are members of this family. It does not show the PDs themselves.

PD families and PDs can be combined.

Additional QueryTool Functions

Stack Management

Several functions are available in pocket calculator style as a series of buttons. Other functions can be activated by context menus opened in one of the list panes.

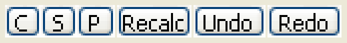


Figure 72 – Query Tool Stack Functions

C **Clear** the complete term stack of expressions.

S **Swaps** the two top elements of the stack. Use if you mix up the input order.

P "**Push**" a copy of the topmost element onto the stack (in other words: duplicate it). This is a useful feature if you need to replicate a complex expression.

If you created new coding that affect the current query while the Query Tool is open, you have to click **RECALC** to reprocess the query.

UNDO removes the topmost entry from the stack. This is convenient if you clicked on the wrong code.

Redo pushes the last removed entry back onto the stack.

Note: The functions above are also available from the context menu of the term stack pane.

More Functions

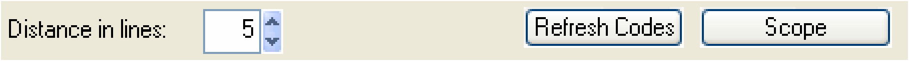
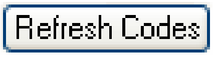


Figure 73 – Query Tool Miscellaneous Functions

The two distance operators FOLLOWS and PRECEDES use a certain number of paragraphs/lines as the maximal distance between two quotations to be considered as following one another.



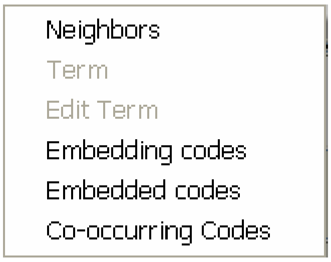
Use this option to refresh the list of codes and code families. This should rarely be necessary.

Define the set of PDs that form the basis for a query (cf. “Scope of Query” on page 179).

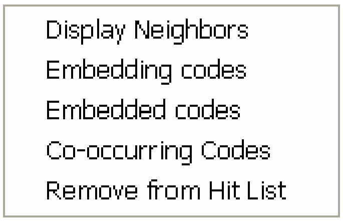
Context Menus

Several context menus are available in the various panes of the Query Tool that complement the functions available via the buttons. Most items in the context menus serve an informational need.

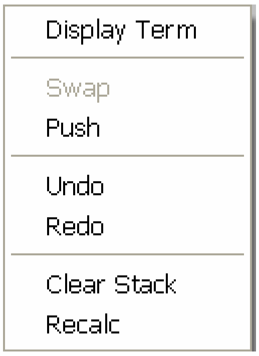
The *code family pane*'s context menu has a single command: **Display Codes**. Select to view the member codes of the selected code family.



The *code pane*'s menu offers information about the selected code **neighbors**, the **term** (i.e., query) if it is a Super Code, **embedding**, **embedded** and **co-occurring** codes.



The *results pane*'s menu offers information about the **neighbors** (codes, other quotations, memos), **embedding**, **embedded**, or **co-occurring codes** of a selected "hit." A further option offers the possibility to **remove** the selected hit from the results list.



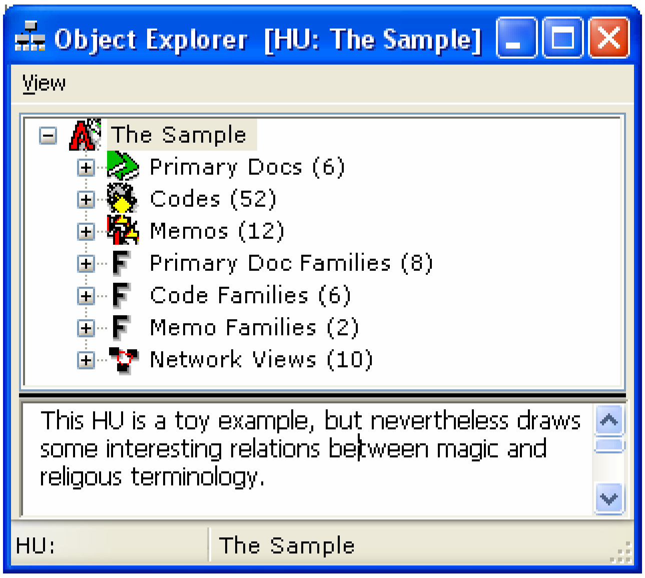
The context menu for the *term stack pane* resembles the stack function buttons described above.

The Object Explorer

Although the structures that can be created with ATLAS.ti are not necessarily restricted to hierarchical trees, the ATLAS.ti Object Explorer provides a hierarchical view of the HU and all of the objects that it references.

Main purpose of the Object Explorer is to serve as a hierarchical content table, which may be used to navigate between the different parts of the HU. Unlike the "pure" Object Managers that display only one type of object, the Object Explorer allows an integrated and structured display of all heterogeneous objects that make up an HU. These are PDs, quotations, codes, memos, families, and networks. The display, though, is not strictly hierarchical. You will notice some redundancy when expanding the tree view. For instance, quotations are listed under each PD. As PDs can also be members of PD families, their quotations appear there as well.

The upper pane displays the tree-structured contents of the HU. The text pane below displays the comment that is associated with the activated object.



This HU is a toy example, but nevertheless draws some interesting relations between magic and religous terminology.

Figure 74 - The Object Explorer

The upper pane displays the tree-structured contents of the HU. The text pane below displays the comment that is associated with the activated object.

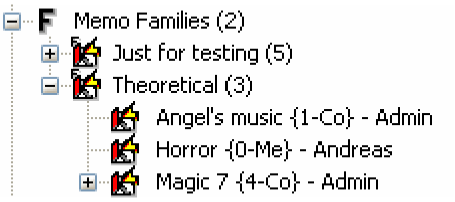
The root object of the tree is, of course, the HU itself. The direct branches from this root are: Primary Docs, Codes, Memos, Primary Doc Families, Code Families, Memo Families, and Network Views.

Using the Object Explorer

The Object Explorer can be launched by clicking on the button in the main toolbar or by selecting **EXTRAS/OBJECT EXPLORER** from the main menu.

Expanding and Collapsing Branches

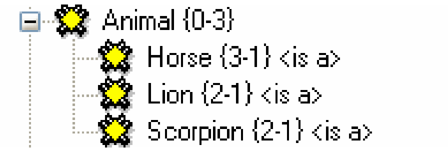
You can expand and collapse the branches of the Object Explorer tree. If a branch can be expanded, a plus sign is displayed to the left of the object, unless this is switched off via **VIEWS/HAS BUTTONS**. Expanded branches are indicated by a minus sign. You can expand or collapse a branch with a mouse click on the plus or minus sign. Below a partly expanded branch for memo families is shown.



```
⊟ F Memo Families (2)
    ⊞ Just for testing (5)
    ⊟ Theoretical (3)
        Angel's music {1-Co} - Admin
        Horror {0-Me} - Andreas
      ⊞ Magic 7 {4-Co} - Admin
```

Expanding the **Primary Docs** branch displays the PDs; expanding this branch displays quotations, expanding those displays codes, memos, and other associated quotations.

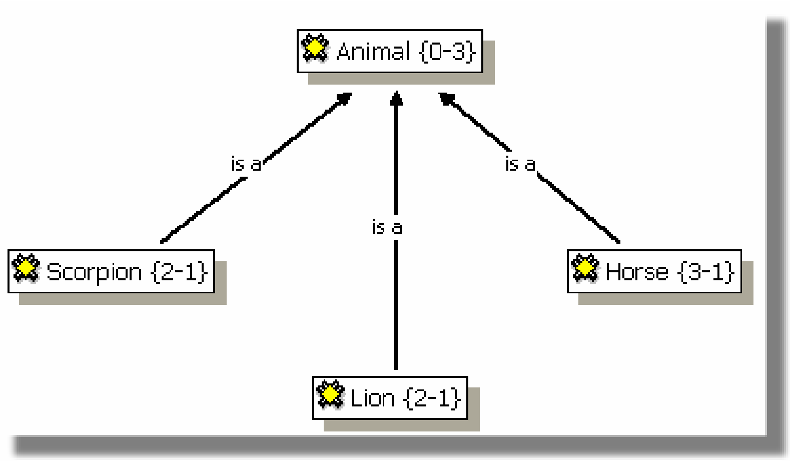
Expanding the **Codes** branch displays all codes and their connections to other codes. Following the code names, the semantic relation connecting the code with its parent code is shown:



```
⊟ Animal {0-3}
    Horse {3-1} <is a>
    Lion {2-1} <is a>
    Scorpion {2-1} <is a>
```

Each code appears at least once. This means that all codes are listed directly under the “Codes” branch, but may also appear further down in the hierarchy if they are connected to other codes. The order in the hierarchy is determined by the kind of relation you have used. If a directed, i.e. a transitive relation like the <is part of> relation was applied, codes are displayed hierarchically: the target code becomes the higher order code and the source code(s) the lower order code(s).

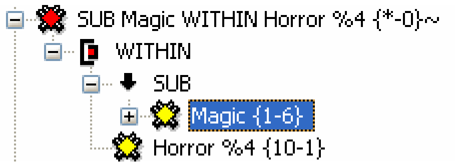
Codes linked via transitive relations as shown in the figure to the right are displayed in hierarchical order in the Object Explorer and Code Forest.



When using symmetric relations, the codes appear in at least two places since the direction/causal relation cannot be determined.

Associated memos (if applicable) are displayed under the code branch.

Expanding **Super Codes** allows access to the various parts of a query. Below you can see the expanded branch for the Super Code “SUB Magic WITHIN Horror %4” (see “Example 3: Creating a query using proximity operators” on page 176). When double-clicking on the entry SUB, all quotations associated with the first part of the query “SUB Magic” are shown. When double-clicking on “WITHIN,” the results of the full query are displayed.



Expanding the **Memos** branch displays all memos and then the memos associated with other memos. On the next level, all associated codes are shown.

When expanding the **Family** branches, on the first level all existing families are shown. On the next level, all members are displayed. Below the members, all objects that are usually associated with the type of object can be expanded (i.e., as described above: quotations underneath PDs, codes connected to other codes, and so on).

In case you have created **Super Families**, the operators used to build up the super families are also shown. When clicking on an operator, only the corresponding family members are shown, as explained above for Super Codes.

Expanding the **Network Views** branch shows the existing networks on the first level, and all objects contained in the Network Views on the next level. On the levels below, the usual elements as described above for the Primary Docs, Codes, and Memos branches can be made visible.

Note: All codes displayed in the Object Explorer can be used for drag & drop coding. PDs, codes, and memos can be dragged into family managers and assigned to families.

Double-click Actions

Double-clicking the entries directly below the root launches the respective Object Managers. These are the Object Managers for PDs, codes, and memos; the Family Managers for PDs, codes, and memo families; and the Network View Manager for Network Views.

- When double-clicking on a PD, its comment is displayed.
- When double-clicking on a quotation, it is highlighted in context.
- When double-clicking on a code, a list of quotations pops up. If only one quotation is associated with the code, it is highlighted in context.

- When double-clicking on a memo, its content is displayed.

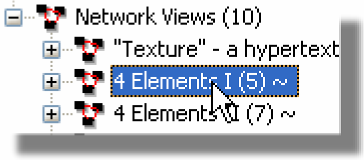
Renaming Objects

All objects, excluding the top-level entries like the name of the HU, the container entries “Primary Docs”, “Codes”, “Memos”, etc., can be renamed using the “in-place” technique. This technique is also used by Windows Explorer and other Windows file dialog boxes to rename files and directories.

To rename an object in the Object Explorer

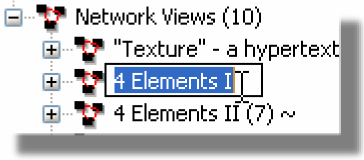
In the example below Network View “4 Elements” is renamed to “Four Elements”.

1. Select an object with a single left click.



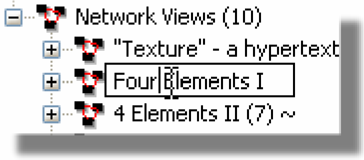
Network Views (10)
"Texture" - a hypertext
4 Elements I (5) ~
4 Elements II (7) ~

2. Click on the selected object again. After a short delay, the list entry changes its appearance into a small text entry field. Alternatively, press the F2 key.



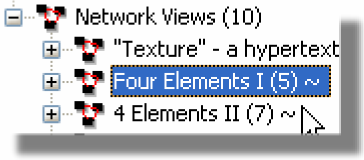
Network Views (10)
"Texture" - a hypertext
4 Elements I
4 Elements II (7) ~

3. Edit the name of the object (you can use the arrow keys, and cut-copy-paste).



Network Views (10)
"Texture" - a hypertext
Four Elements I
4 Elements II (7) ~

4. Click anywhere else to finish editing or press the Esc key to cancel editing.



Network Views (10)
"Texture" - a hypertext
Four Elements I (5) ~
4 Elements II (7) ~

Opening Object Menus

Each object in the Object Explorer has a context menu. These menus can be accessed in the usual manner with a right mouse click. This selects the object, if not already selected, and opens the context menu, which offers a few selected object-specific operations.

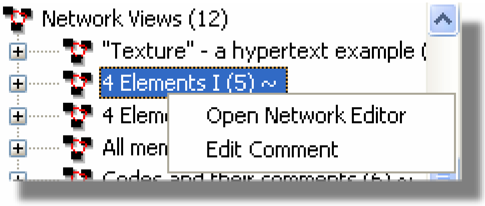


Figure 75 Context menu for a Network View

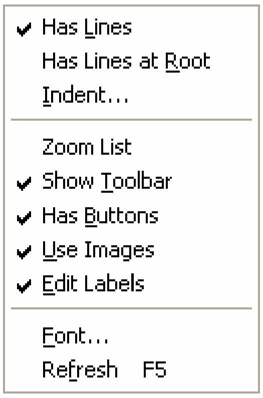
Displaying and Editing Comments

To edit an object's comment,

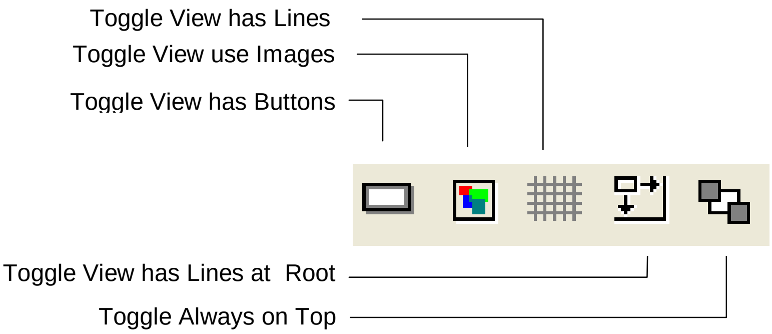
1. Select an object and edit the comment that appears in the text pane.
2. Save changes by opening the context menu inside the text area and choose **ACCEPT**.

The View Menu

The items offered by the View menu let you change the font (useful before capturing screen shots for presentations), the display of object-specific items, the length of the tree indentation, the presence of the collapse/expand buttons, the display of the object's icons, and the comment area (Zoom List). You can also disable the in-place editing capability.



The Toolbar



Code Trees & Forests

Special Object Explorers can be invoked to display codes only. To display a tree view for a selected code only,

1. Select a code, e.g., in the Code Manager.
2. From the **CODES/MISCELLANEOUS** menu, choose **CODE TREE**.

To display all root codes with their trees and branches,

1. Select a code.
2. Choose **CODES/MISCELLANEOUS/CODE FOREST**.

The rules and procedures described above for codes in the Object Explorer apply here as well (see “Using the Object Explorer” on page 183).

Codes displayed in code trees and forests can be used for drag & drop coding. This is a preferred alternative for users who like to work with hierarchically-ordered coding schemas.

Redundant Coding Analyzer

This procedure identifies overlapping or embedded quotations that are associated with the same code. Such “codings” -- possibly indicating redundancy -- can result from normal coding but may occur unnoticed during a merge procedure.

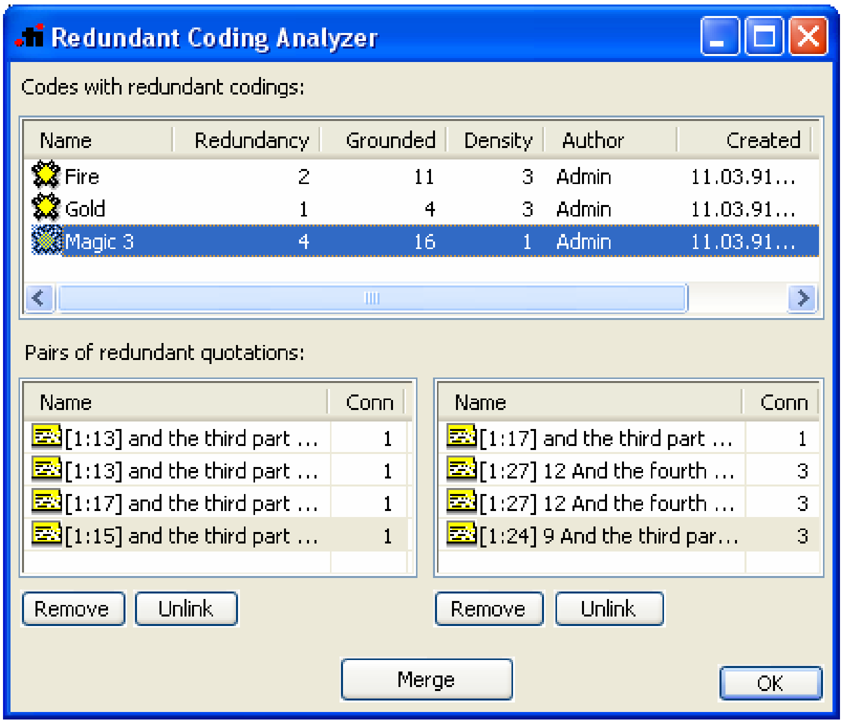
You might not need or want to correct redundant codings, but these occurrences may be indicative of methodological issues in your analysis.

The Coding Analyzer Screen

The Coding Analyzer finds codes with redundant codings and offers appropriate procedures.

To open the tool, select **EXTRAS/REDUNDANT CODING ANALYZER** from the HU editor's main menu.

The upper pane displays a list of codes referencing overlapping quotations. Clicking on a code displays the conflicting quotations pair wise. Double-clicking on a listed quotation displays it in context.



Codes with redundant codings:

Name	Redundancy	Grounded	Density	Author	Created
Fire	2	11	3	Admin	11.03.91...
Gold	1	4	3	Admin	11.03.91...
Magic 3	4	16	1	Admin	11.03.91...

Pairs of redundant quotations:

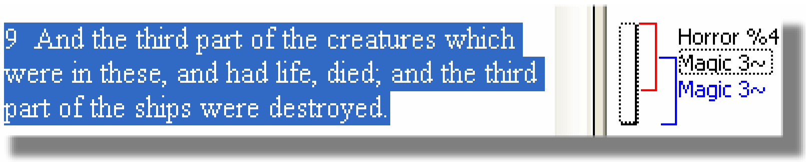
Name	Conn
[1:13] and the third part ...	1
[1:13] and the third part ...	1
[1:17] and the third part ...	1
[1:15] and the third part ...	1

Name	Conn
[1:17] and the third part ...	1
[1:27] 12 And the fourth ...	3
[1:27] 12 And the fourth ...	3
[1:24] 9 And the third par...	3

Figure 76 - The Redundant Coding Analyzer

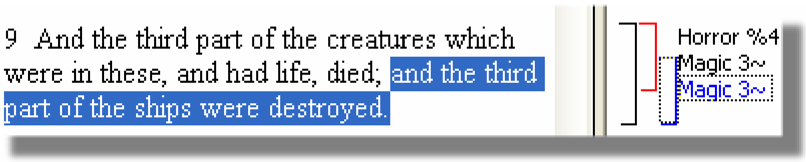
The upper pane lists all codes for which redundant codings were found. The Redundancy column displays the number of pairs of redundant quotations found for the codes. If you select one of the codes, the redundant quotations are listed in pairs in the two lower panes. Double-clicking on the listed quotations displays and highlights them in context. Because of this, you can check them in context and decide how to proceed.

The two figure below illustrate a typical redundant coding:



9 And the third part of the creatures which were in these, and had life, died; and the third part of the ships were destroyed.

Figure 77 Viewing quote 1:24 in context



9 And the third part of the creatures which were in these, and had life, died; and the third part of the ships were destroyed.

Figure 78 Viewing quote 1:15 in context

Three procedures to handle a redundant coding are offered:

Unlink detaches the selected code from the quotation selected in one of the quotation panes. This method is the least “destructive” of the available options.

Remove deletes the selected quotation.

Merge melts the quotation in the right pane into the quotation selected in the left pane. All references to and from the merged quotation is "inherited" by the other. If the two quotations overlap, the resulting quotation includes all data from both quotations.

Both quotation panes have a “**Conn**ectivity” column that shows the number of connections (to codes, quotations, and memos) for the selected quotation. The connectivity counter provides an additional clue about the next step. A quotation with less connections might be less painful to remove.

If you see a quotation listed more than once in one of the quotation list panes (1:27 and 1:17 in the figure above), it means that three or more quotations are involved in a redundant coding. You will notice, that merging one pair of quotations may have the effect that other pairs are removed from the list as well, as the redundancy assertion does not hold any longer for the remaining pairs of quotations for this code.

Unlinking, Removing or Merging a Redundantly Coded Quotation

1. Select a code in the upper pane. All pairs of redundantly coded quotations are then displayed in the two lower panes.
2. Double-click on the quotations of a pair to inspect them in context.
3. Decide whether you want to unlink or remove one of the two quotations, or whether you want to merge them.
4. To unlink a quotation click the **UNLINK** button below the appropriate list pane. The effect and alternative procedures of unlinking codes is described in further detail in “Unlinking Codes” on page 125.
5. To remove a quotation click the **REMOVE** button below the appropriate list pane.
6. To merge the pair of quotations, click the **MERGE** button.
7. Note that the quotations removed by this procedure cease to exist inside the Hermeneutic Unit.

Family Life

Just as codes describe sets of quotations, families cluster Primary Documents (PDs), codes, and memos. One important objective is to manage large amounts of objects by classifying them into subsets, e.g., all *theoretical* codes, all PDs from *respondents of a certain age group* or *location*, all memos related to a *theme*, etc.

Overview

In the following, the role of families as variables, super families and for controlling the HU merge procedure are introduced.

Families as Variables

While families are used to classify a group of objects, the objects they classify can be members of more than one family.

Unlike Network Views, which can contain objects of different types as nodes, families can only contain one type of object. For example, a code can never be a member of a memo family.

Partitioning objects into families reduces the number of "chunks" requiring the researcher's attention. Families are often used for filtering (see “Sorting and Filtering” on page 137), and when formulating queries in the Query Tool (see “The Query Tool” on page 160).

Example: When conducting an interview study with respondents from various backgrounds and locations, **PD families** can be created to classify the respondents into:

- Female / Male
- Location A, Location B, Location C
- Age Group 1 (20-30), Age Group 2 (31-40), Age Group 3 (41-50)
- Blue-collar worker, White-collar worker, Management, etc.

Families make effective user-defined filters. For example, you can filter PDs to only view female respondents.

In the Query Tool, PD families can be used to restrict the scope of the search. For example, you can ask for all quotations coded by Code_A and Code_B that occur in documents of white-collar female respondents from location B.

The **PD-Family table** function provides a convenient way to import and export variables (see below for a detailed explanation).

Code families can be used to loosely group codes that belong together. Other than in Network Views where specific relationships between codes need to be defined, in code families it is not necessary to specify the ways in which codes relate to each other.

Use **memo families** to sort, filter, and organize your memos.

Super Families

Super Families are combination of other families (including other Super Families). You can build complex families incrementally from existing families using a set of powerful Boolean operators. Super Families function just like Super Codes (see "Super Codes" on page 176) by calculating their members on-the-fly when needed.

Using Families when Merging Hermeneutic Units

A special application of families is used to specify the sets of objects to be excluded in the process of merging Hermeneutic Units (HUs) (see "Merging Hermeneutic Units" on page 289).

Common Procedures

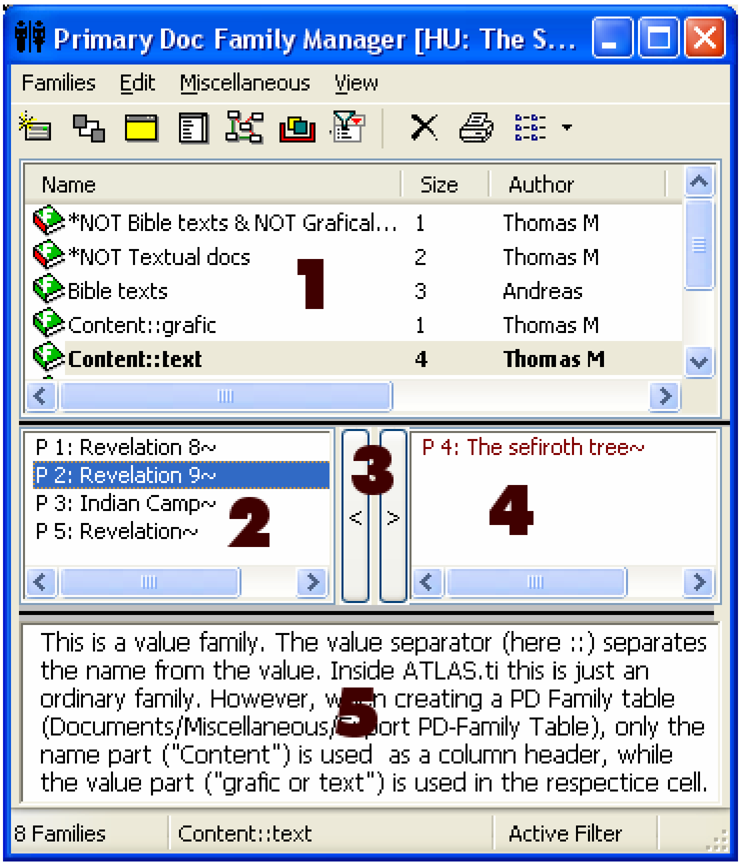
Although the handling of families and their members is identical, their usage differs between the types of families. In the following, the general aspects of and procedures for working with families are described. Thereafter, a description of specific characteristics of the different family types follows.

All procedures for displaying, editing, and creating families are found in the menus of their object type (i.e., under the Documents, Codes, and Memos menus).

The Family Manager

Using the Family Manager you can create, edit, and delete families. You can add and remove items ('family members'), write comments concerning a particular family, or set a family as filter.

Family Managers and the procedures described in the following are the same for all family types.



Name	Size	Author
*NOT Bible texts & NOT Grafical...	1	Thomas M
*NOT Textual docs	2	Thomas M
Bible texts	3	Andreas
Content::grafic	1	Thomas M
Content::text	**4**	**Thomas M**

P 1: Revelation 8~
P 2: Revelation 9~
P 3: Indian Camp~
P 5: Revelation~

P 4: The sefiroth tree~

This is a value family. The value separator (here ::) separates the name from the value. Inside ATLAS.ti this is just an ordinary family. However, when creating a PD Family table (Documents/Miscellaneous/Export PD-Family Table), only the name part ("Content") is used as a column header, while the value part ("grafic or text") is used in the respectice cell.

Figure 79 – PD Family Manager window

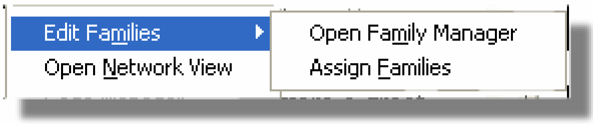
Components of the Family Manager

1. The Family Manager's main pane lists all families for the specific object type. In the figure above, the PD family "Content text" is used as a filter and appears in bold letters. The window displays the name, (member) size, author, and creation and modification dates (not currently visible). The columns can be used to sort the families according to these criteria by clicking the column header.
2. The left list below the family list displays the "family members" already assigned.
3. The two buttons between the list panes are for assigning or removing items from the selected family.
4. The right list displays all items not currently assigned to the selected family.
5. The comment area contains an optional description for the family.

To Open a Family Manager

Select **EDIT FAMILIES/OPEN FAMILY MANAGER** from the **DOCUMENTS**, **CODES,** or **MEMOS** menu.

The **EDIT FAMILIES** *submenu is available from the Documents, Codes and Memos menu.*



The Family Manager is also available by clicking the button in the corresponding Object Manager.

Creating Families

Before using a family, it must first be created in the Family Manager.

To create a new family

1. Open the Family Manager for PDs, codes, or memos.
2. Click the Create New Family button or select the menu option **FAMILIES/NEW FAMILY**.
3. Enter a name when prompted and click **OK**. If you enter the name of an already existing family, you will hear an error sound. A message pops up letting you know that the entered name is not accepted.
4. Now you can add members and write a preliminary comment describing the family.

Note: The number of items in a family is displayed behind the family's name in parentheses.

Adding and Removing Members

After a family is created, adding members is often the next logical step. However, the assignment and removal of items can be done at any time during the life cycle of a family. To add new items to a family:

To Add New Items to a Family

1. Open the Family Manager for the relevant object type (PD, code, or memo).
2. Select a family. If you have just created the family, it is already selected.
3. Select one or more items in the right list pane.
4. Click the Add Items button to make the selected items members of the selected family.
5. Watch the member list being filled with the items you have just assigned.

Add members via drag & drop from the Object Manager, the Object Explorer, or the margin area.

Another way to add members is to drag them from an Object Manager, the Object Explorer, or the margin area into the member’s pane.

If you want to add one item at a time, you can simply double-click an item.

To remove items from a family

1. Open the Family Manager for the relevant object type.
2. Select a family.
3. Select one or more items in the list pane entitled "Members."
4. Click the Remove Items button to remove the selected items from the selected family. The items are only deleted from this family and not from the system.
5. If you want to remove one item at a time, you can simply double-click on each item.

Note: If you *delete* objects that belong to a family somewhere else, they will be removed automatically from all their hosting families.

Writing a Comment for a Family

The family comment can be used to describe why and for what purpose a family was created. This is especially useful when families are treated as attributes.

Creating or Editing a Family Comment

1. Open the Family Manager for the relevant object type, e.g., by clicking the Family button in an Object Explorer.
2. Select a family.
3. In the text pane, write or edit a comment.
   Alternatively, you can open a full-fledged editor by clicking the Comment button in the toolbar.

Assigning Families to Objects

The option ‘Assigning families’ is another way of adding members to a family. Given a number of predefined attributes like "Male," "Female," "Age under 25," "Age between 26-35” and so on, this option allows you to easily assign suitable attributes to the objects selected in an Object Manager.

Assigning Families to Objects

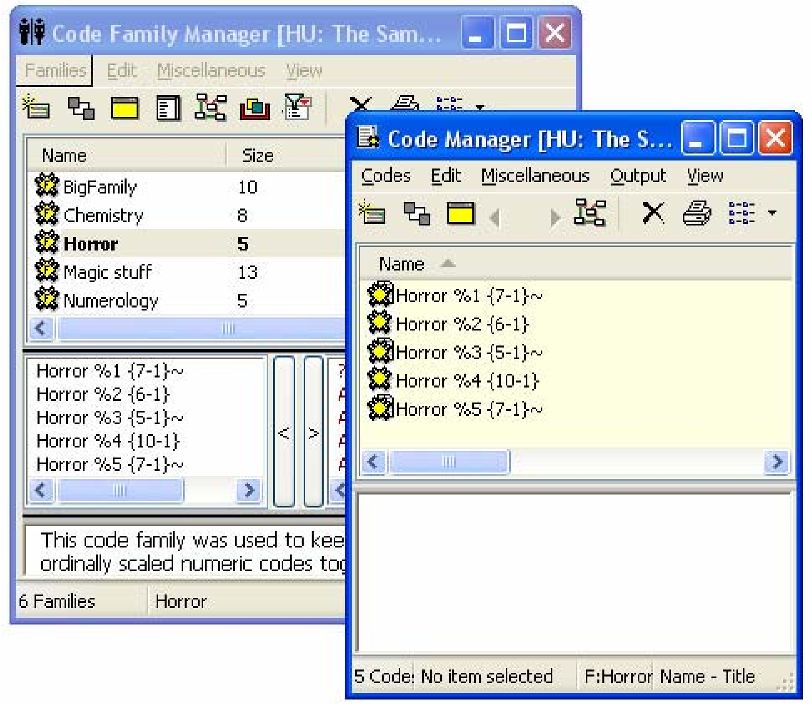
1. Select any number of objects in the Object Manager.
2. Choose EDIT FAMILIES/ASSIGN FAMILIES from the menu.

3. From the list, select one or more families to which the selected objects are to be assigned.
4. Click **OK**.

Using Families as Filters

One added value of families is that you can use them as filters. For example, if you have created a code family including only ‘Abstract’ codes, you can use this family as a filter to reduce the total number of codes displayed in the drop-down list in the Code Manager and the margin area.

If a family is activated as a filter, it is displayed in bold letters in the Family Manager. In addition, the background color in the Object Manager and drop-down list changes. The active filter is also indicated in the filter field of the status bar in the Object Manager.


Code Family Manager [HU: The Sam...
Families
Edit
Miscellaneous
View
Code Manager [HU: The S...
Codes
Edit
Miscellaneous
Output
View

Name	Size
BigFamily	10
Chemistry	8
Horror	**5**
Magic stuff	13
Numerology	5

Horror %1 {7-1}~
Horror %2 {6-1}
Horror %3 {5-1}~
Horror %4 {10-1}
Horror %5 {7-1}~

This code family was used to kee
ordinally scaled numeric codes tog

6 Families Horror

Name
Horror %1 {7-1}~
Horror %2 {6-1}
Horror %3 {5-1}~
Horror %4 {10-1}
Horror %5 {7-1}~

5 Code: No item selected F:Horror Name - Title

Figure 80 The code manager’s statusbar displays the current family filter(F:Horror)

To Filter Items using the Family Manager

1. Open the Family Manager.
2. Double-click a family. Watch how the display in the Object Manger and the margin area changes to display only items that are members of the selected family.
3. To change the filter back to "All," double-click on the family again, or click on the Toggle Filter button in the toolbar.

Note: Filters do not affect Network Views. Even if you have set a filter, Network Views still display all their nodes.

Removing Families

Removing a family does not remove any of the contained items.

To remove a family

1. Open the Family Manager for the relevant object type.
2. Select the family to be removed.
3. Click the Delete button ☒ or select menu option **FAMILIES/DELETE FAMILY.**

Primary Document Families

Along with sharing all the characteristics of code and memo families, PD families have some additional characteristics.

Primary Document Families as Variables

PD families as variables can be used in queries and SPSS jobs.

PD Families can be used to define the scope of a query when used as global attributes supplementing codes. For instance, if the PD families "female" and "under 25" were assigned to a number of interviews, one can then formulate queries like: "Show me all quotations from interviews with females under 25 coded with "coping" or "power." For a step-by-step instruction, see “The Query Tool” on page 160.

In SPSS jobs, PD families are a way to aggregate some of the data (see “How SPSS Export Handles Families” on page 302).

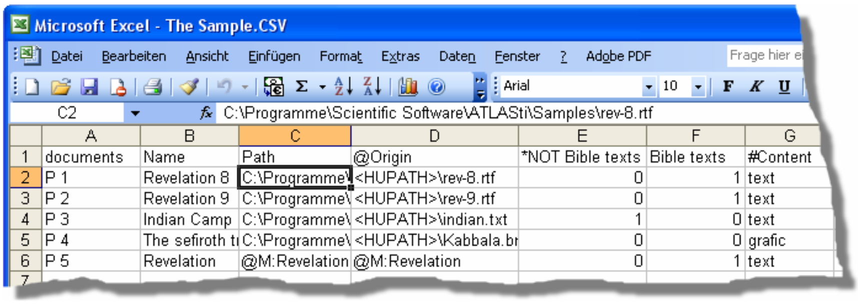
Use PD-Family tables to assign PDs and variables at the same time.

PD-Family tables are an efficient means to create families and to assign PDs to their respective families. You can also use them to assign PDs and to generate variables in one step.

PD-Family Table

PDs, PD families, and their relations can be transported (ex- and imported) using the Excel™ compatible CSV (Comma Separated Values) format. This data exchange format can be used to conveniently assign a large number of PDs from generic lists.

A Table Example



C:\Programme\Scientific Software\ATLASti\Samples\rev-8.rtf

	A	B	C	D	E	F	G
1	documents	Name	Path	@Origin	*NOT Bible texts	Bible texts	#Content
2	P 1	Revelation 8	C:\Programme\	<HUPATH>\rev-8.rtf	0	1	text
3	P 2	Revelation 9	C:\Programme\	<HUPATH>\rev-9.rtf	0	1	text
4	P 3	Indian Camp	C:\Programme\	<HUPATH>\indian.txt	1	0	text
5	P 4	The sefiroth tı	C:\Programme\	<HUPATH>\Kabbala.br	0	0	grafic
6	P 5	Revelation	@M:Revelation	@M:Revelation	0	1	text
7							

Figure 81 - PD-Family Table in Excel™

The above PD-Family Table was created from HU “The Sample” (rearranged a bit for clarity) and exported to Excel™ with the following columns:

Documents: The PD sequence number.

Name: The name of the PD.

Path: The resolved path of the PD’s data source, i.e., the actual location of the data source at the time the table was exported. In the figure above, the complete path of P 2 is displayed in the entry field below the Excel™ toolbar.

@Origin: Contains the original path reference that was valid at the time the document was assigned to the HU. May contain special paths (e.g., <HUPATH>). This attribute can only be handled intelligently when importing such a table with ATLAS.ti. Other applications may simply ignore it and use the Path attribute instead.

Note, that P 5 uses a memo as its data source. Its path and origin use a special notation indicating that the data source is not a file, but an internal object (e.g., a memo)

All following columns: Families.

Column E represents a Super Family, which is often prefixed by an asterisk (*). Note that during import of a table, Super Families are treated like standard families. **Column F** is a standard family. **Column G** shows the values of a family with string variables (see below).

PD-Family Tables can be exported or imported as tab-delimited or as *comma separated value* (CSV) files. Both formats can be read by Excel™.

PD Families as Non-Dichotomous Variables

Within ATLAS.ti, all families, when interpreted as variables, are dichotomous because an item may or may not belong to a specific family. However, by following a simple naming convention, PD families can be made to represent more than two values for use outside of ATLAS.ti. These families can be used in other statistical and database applications as string variables after being exported as part of a PD Family table.

For example, imagine a situation where your respondents represented by the PDs are from different locations: Berlin, New York, London, and Tokyo. To create one variable with four values, you would create 4 PD families named as follows:

Location::Berlin

Location::New York

Location::London

Location::Tokyo

The variable name precedes the name-value separator (default: **::**), and the value (name of city) immediately follows the separator, following the naming convention: **VARNAME::VARVALUE**.

PDs are assigned to their respective families in the usual way (i.e., PD 1 is a document from Berlin). When creating a PD Family table, the name and the value part are split, using the name for the column (prefixed with #) and the value in the cell.

documents	Name	Path	#Location
P1	Interview 1	C:\…….	Berlin
P2	Interview 2	C:\…….	Berlin
P3	Interview 3	C:\…….	London
P4	Interview 4	C:\…….	New York
P5	Interview 5	C:\…….	New York
P6	Interview 6	C:\…….	Tokyo
P7	Interview 7	C:\…….	0
P8	Interview 8	C:\…….	London

From the four families, only one variable and column location is created when generating the table. Missing values are indicated by a zero (0) and used for documents not assigned to any family.

PD families used as non-dichotomous variables should be used in a mutually exclusive manner.

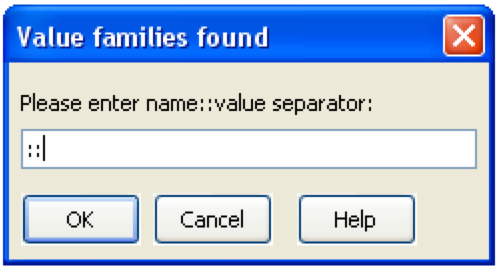
Note: Do not assign a PD to more than one family with the same variable name (e.g., both to Location::Berlin and Location::New York). ATLAS.ti allows this, as it treats every family as a separate dichotomous variable. However, when converted into a single non-dichotomous variable "Location" during export as a table, such multiple assignments could create problems.

To Export a PD-Family Table

If you have named your variable families using a different separator, change the separator when prompted.

1. Select ***DOCUMENTS/ MISCELLANEOUS /EXPORT PD-FAMILY TABLE*** from the main menu. This option is also available from the Families menu or the context menu in the PD Family Manager.

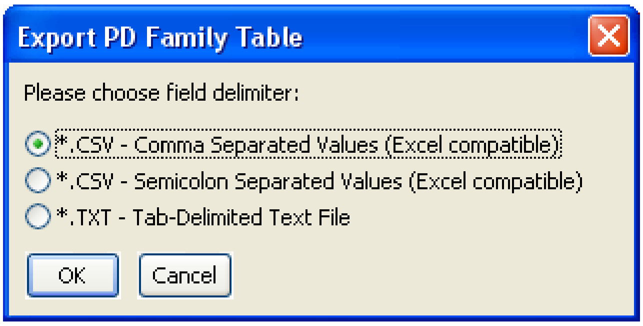
2. You are prompted for a separator value. Click OK to use the default value "::".


Value families found

Please enter name::value separator:

::

3. Select the output format in the next step and click **OK**. **Note:** Tab-delimited text files can also be interpreted by Excel™



Export PD Family Table

Please choose field delimiter:

● *.CSV - Comma Separated Values (Excel compatible)

○ *.CSV - Semicolon Separated Values (Excel compatible)

○ *.TXT - Tab-Delimited Text File

4. Finally, specify the output target as usual (see "Output Destinations" on page 311 for details). If installed, the File & Run option opens the table in Excel™ immediately.

If Excel™ does not display the table correctly (e.g. only one column containing all values), try the alternative field delimiter.

Preparing and Importing a PD-Family Table

Create the following columns when manually preparing a PD-Family table for import from a spreadsheet application such as Excel™:

First column: Use 'Documents' as the header and a PD number in subsequent rows.

Second column: Use header "Name" and enter a name for the PD in each row.

The next one or two columns: As already mentioned above, the document path is stored twofold when a table is created by ATLAS.ti: The actual path at the time of export (column Path) and the path at the time of the assignment of the document to the HU (column: @Origin). The latter can also contain special path components (<HUPATH>, <TBPATH>) that will be correctly resolved when imported into ATLAS.ti.

When reading a table into ATLAS.ti, the Path column has more or less descriptive character as the @Origin is always preferred. Path can be omitted when creating a table manually. Column @Origin is sufficient and may either be absolute or contain special paths. For details see "Reference Types: Many Paths, One Destination" on page 96.

If neither Path nor @Origin is defined, the **name** of the document is used as the file reference with special <HUPATH>. It is expected to be located in the same folder together with the HU.

All following columns: Enter variable names (the document families) into the subsequent columns. If you want to use string variables, use a hash (#) as the lead character, as in: #Education.

Note: If a field name or value contains characters resembling the separator, you need to enclose the name or value with quotation marks.

documents	Name	@Origin	#Education	Reading newspaper?
P1	Interview 1	C :\…….	High school	0
P2	Interview 2	C :\…….	bachelor	1
P3	Interview 3	C :\…….	unskilled	0
P4	Interview 4	<TBPATH>\….	High school	1
P5	Interview 5	C :\…….	High school	0
P6	Interview 6	<HUPATH>\…….	unskilled	1
P7	Interview 7	C :\…….	doctorate	1
P8	Interview 8	C :\…….	Bachelor	1

When importing the above table, ATLAS.ti links the name and the value part for the non-dichotomous variables and creates five PD families with the following titles:

- Education::unskilled
- Education::high school
- Education::bachelor
- Education::doctorate
- Reading Newspapers?

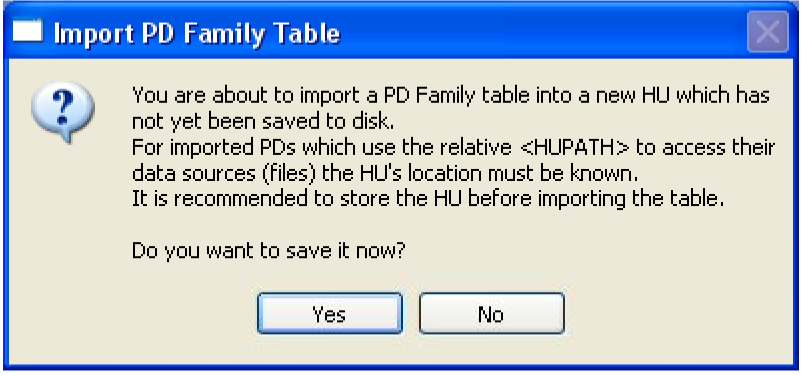
If the PDs do not yet exist in the HU, new PDs are created and are assigned to the HU. If you have *entered a valid path*, the PDs can immediately be loaded. *If no valid path is entered*, it can be entered or modified later (see “Change Path (for one PD at a time)” on page 104).

Adding new PDs: If your HU already contains PDs, you can assign additional PDs by importing a PD Family table. However, you must be sure that the new PDs are numbered consecutively. If your HU already contains P1 to P10, the numbers of the additional PDs in the documents column need to start at P11. If the document number and path reference do not match an existing reference, then this document is ignored and not assigned as a PD.

To Import a PD-Family Table

1. From the main menu, select **DOCUMENTS/ MISCELLANEOUS /IMPORT PD-FAMILY TABLE**. This option is also available from the Families menu, or from the context menu in the PD Family Manager.
2. If you are importing into a new HU, the following dialog opens, asking you to store the HU before proceeding. This is

needed to be able to access “HU follower” documents using the special <HUPATH>:



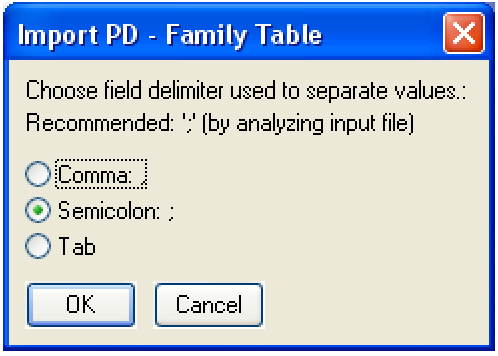
Import PD Family Table

You are about to import a PD Family table into a new HU which has not yet been saved to disk.
For imported PDs which use the relative <HUPATH> to access their data sources (files) the HU's location must be known.
It is recommended to store the HU before importing the table.

Do you want to save it now?

3. In the next step a standard file dialog window opens. Select and open a PD Family file (created as explained above).

4. Select the field delimiter: **comma**, **semicolon**, or **tab**.



Import PD - Family Table

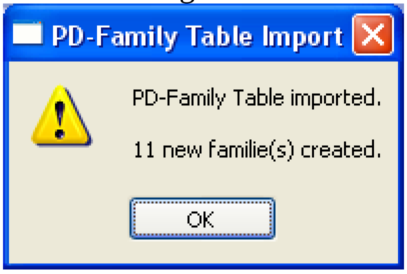
Choose field delimiter used to separate values.:
Recommended: ';' (by analyzing input file)

○ Comma: ,
● Semicolon: ;
○ Tab

ATLAS.ti analyzes the input and tries to determine which delimiter was used.

5. Click **OK** to start the import procedure.

6. A final message confirms the creation of the new families.



PD-Family Table Import

PD-Family Table imported.

11 new familie(s) created.

Primary Document Families in SPSS Jobs

In addition to being used within ATLAS.ti, PD families as well as code families are used when creating SPSS jobs. Both PD and code families are a way to aggregate data (see “SPSS Export” on page 299 for further detail).

Code Families

Code families in the ATLAS.ti framework

In ATLAS.ti, the term “code family” is used to sort codes into named sets or groups. For example, if you have four categories that *are simply named sets of codes.*

are types of actors you can group them into a code family. Four members of the "actors" family might be friends, parents, siblings, and partner.

Code Families in Queries

Code families can also be used with codes to construct queries using the Query Tool. Families are interpreted in queries as if all its contained codes were combined using the Boolean operator OR. For example, a code family containing the four codes water, fire, air, and earth is interpreted in a query as 'water OR fire OR air OR earth'. For more details refer to "The Query Tool" on page 160.

Code Families in SPSS Jobs

Code families are also exploited when exporting an HU to SPSS syntax files (see "How SPSS Export Handles Families" on page 302).

Creating Code Families from Network Views

This procedure assumes some acquaintance with networks (see "The Network Editor et. al." on page 215). Creating a code family from a Network View's code nodes might be useful when you need to print all quotations referenced by the codes in the Network View or to filter all codes contained in a Network View.

To create a code family from a Network View

1. Open the Network View.
2. From the main menu in the Network Editor, select **SPECIALS/GENERATE FAMILY.**
3. You are prompted for a name. The offered default name is the name of the Network View. Accept the name or type in a new name and click **OK**.

Memo Families

Memo families are useful for sorting and filtering your written reflections about the project. Memos can be separated by type such as theoretical or linguistic.

The procedures for creating and handling memo families resemble those for code families.

Super Families

Just like Super Codes, Super Families re-calculate their

Super Families follow the same underlying logic as Super Codes (cf. "Super Codes" on page 176). They are constructed by combining families (including Super Families).

members "on demand."

Their members are determined *dynamically* whenever you activate a Super Family.

Using Super Families

You are working in the Customer Department of an airline and have been given the task to analyze customer complaints. As basis for your analysis, you have a set of documents dealing with customer complaints about domestic flights and a set of documents dealing with customer complaints about international flights. Your company is particularly interested in differences between domestic and international flights and differences between business and leisure travelers. Important factors to analyze might be gender, level of income, and frequent flyer status.

The matrix below is based on the four customer groups:

Domestic Flights	International Flights
Business traveler	Business traveler
Leisure traveler	Leisure traveler

This matrix illustrates the four PD families that can be constructed which are domestic flights, international flights, business traveler, and leisure traveler. When this is done, documents should be assigned to the appropriate families.

Next code the data. For example, you may use codes such as "punctuality," "general service," "in-flight services," and "human interaction" to describe complaints customers had.

To find out how the four groups might differ in terms of certain type of complaints, you would make use of the Query Tool:

1. Open the Query Tool.
2. Double-click on the code containing the information you are interested in, e.g., complaints about 'in-flight services.'
3. Click Scope to define the documents to be included in the search.
4. Select the two PD families 'Domestic Flights' and 'Business Traveler' and combine them using the AND operator.
5. The result pane of the scope selection window now displays documents matching the above-defined combination of families.
6. The result pane of the Query Tool now displays quotations related to complaints about in-flight services from business travelers on domestic flights.

In order to compare the four groups in regard to different types of complaints, the steps above need to be repeated.

Having frequently used combinations of families available as Super Families eases such tasks considerably.

Below, a step-by-step instruction on how to create Super Families is provided.

To create a Super Family

1. Open a Family Manager and click the Super Family button, (or select FAMILIES/OPEN SUPER FAMILY TOOL from the menu).

2. The Super Family Tool opens:

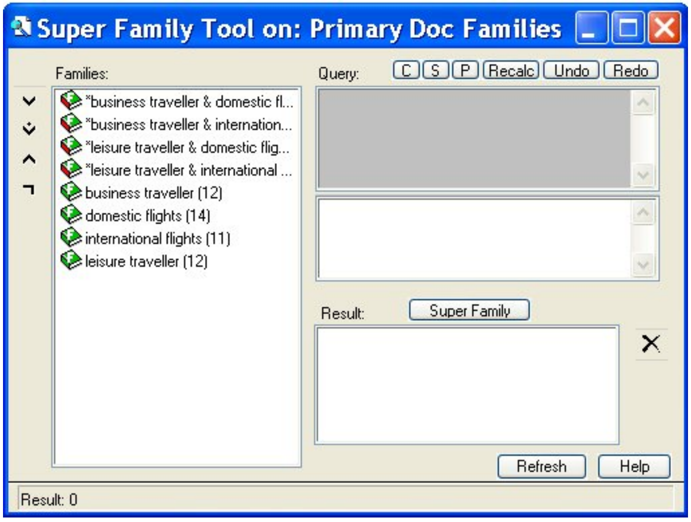

Super Family Tool on: Primary Doc Families
Families:
Query:
C
S
P
Recalc
Undo
Redo
*business traveller & domestic fl...
*business traveller & internation...
*leisure traveller & domestic flig...
*leisure traveller & international ...
business traveller (12)
domestic flights (14)
international flights (11)
leisure traveller (12)
Result:
Super Family
Refresh
Help
Result: 0

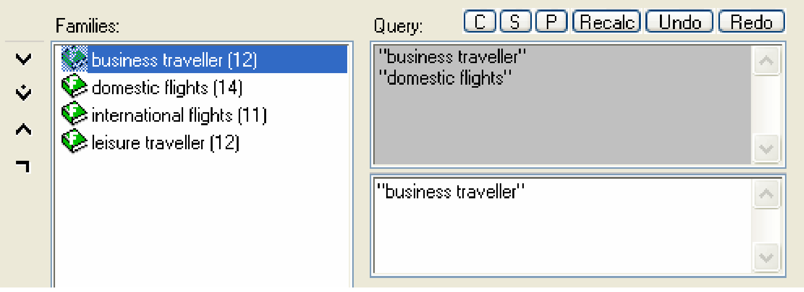
Figure 82 - Super Family Tool

The Super Family Tool is like a reduced Query Tool (see “The Query Tool” on page 160 for details). In the left pane, the available families are listed. For our example above, there are four Super Families and four regular families. The panes on the right-hand side (from top to bottom: the term stack pane, the feedback pane and the result pane) display information once you begin to create a combination of families. The buttons above the stack pane are described in the context of the Query Tool (see “Stack Management” on page 180).

To create a Super Family combining two families (such as “domestic flights” and “business traveler”), do the following:

3. Double-click on family ‘domestic flight’. It is displayed in the stack pane.

4. Double-click on the family ‘business traveler’. It is “pushed” on top of the stack.
Now you have two families on the stack that can be combined with one of the operators.

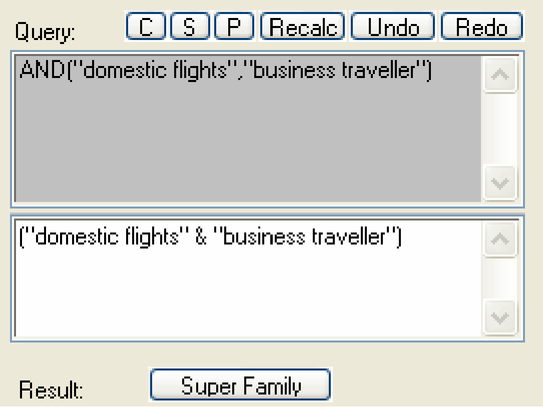


In our example, the resulting Super Family should contain the intersection of the other two families.

^

5. Click the AND operator. This operator “fetches” the two families from the stack and creates the combined expression.

6. The stack now contains the query expression, and the pane below the infix notation of the query is displayed. The resulting items are displayed in the results pane.



AND("domestic flights","business traveller")

("domestic flights" & "business traveller")

Note: In the results pane, those members of the families are listed (either PDs, codes, or memos) that match the current query.

7. Click the **SUPER FAMILY** button to store the query as a Super family.

8. You are prompted for a name. Accept the default or enter a new name, for instance “Business travelers on domestic flights”.

9. The new Super Family is displayed in the family browser with a red version of the family icon. If icons are turned off, the list entry is colored red.

Possible Family Combinations

You can combine families in numerous and complex ways to form Super Families. In the following section, some common combinations are presented. Once you are familiar with the tool, you can venture out and try out more complex combinations.

For the following descriptions of the four operators, looking at the Venn diagram (see *Figure 64 - Boolean queries depicted as Venn diagrams*) may be helpful.

∨ OR
⊻ XOR
∧ AND
¬ NOT

The Super Family tool offers four operators that can be used to combine families. The four operators are also known as Boolean operators: OR, XOR, AND, and NOT.

Combining two families with the OR operator yields those items that are members of one or both families. Combining two families with the AND operator yields only those members belonging to both families.

Combining two families using the XOR operator yields all members belonging to any of the families less those that are in both families.

The NOT operator inverts an existing family. By negating a family *female*, you could simply create a Super Family that, presumably, includes all males. The NOT operator, as well as all other operators, does not only work on families but also on Super Families or in arbitrary partial queries as in “NOT (A OR B)”.

Combining Families using Boolean Operators

Combining families to build Super Families is essentially the same as formulating code- and code family-based queries in the ATLAS.ti Query Tool. If you are interested in a more detailed (and more theoretical) explanation of the logic underlying both Super Families and the Query Tool, read the chapter “The Query Tool” on page 160.

The sequence of entering a query to create a Super Family is as follows: First, select all families that you want to combine, and then select the operator(s):

Intended Query	What to click	Display in query feedback pane
Members family A or family B (or both)	Family A, Family B, OR	(“Family A” | “Family B”)
Members that exclusively belong to either family A or family B	Family A, Family B, XOR	(“Family A” || “Family B”)
Members that belong to both family A and family B	Family A, Family B, AND	(“Family A” & “Family B”)
Members that do not belong to family A	Family A, NOT	NOT “Family A”

Combining more than two families

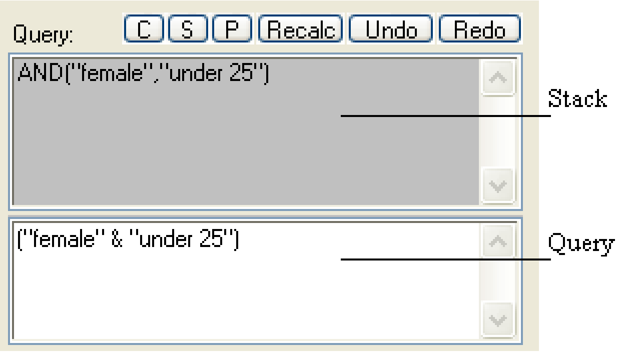
In order to combine more than two families, you can use a simple query to build upon, or you can click it as one sequence. For the beginner, it is recommended to build up to a more complex query step-by-step.

Creating a complex query step-by-step

Let’s assume you want to create a Super Family containing all female respondents under the age of 25, living in New York. This means you want to generate a Super Family based on the overlap of the three families *female*, *under 25*, and *New York*. We start by combing the first two families “female” and “under 25”.

1. Double-click family “female”.
2. Double-click family “under 25”.
3. Select operator AND.

The stack pane and the query pane now contain the following terms:

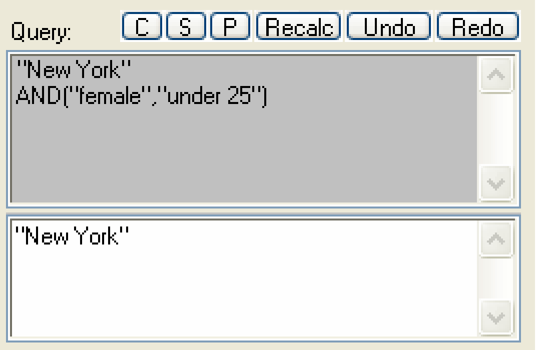


AND("female","under 25")

("female" & "under 25")

The display in the query feedback pane matches more or less the way we would express the query in everyday language. In the figure above, one item is displayed in the stack, namely the query we just entered. We can now incrementally build a more complex query from this query.

4. Double-click on the family “New York”. This pushes the family onto the stack, which now contains two items ready to be combined.



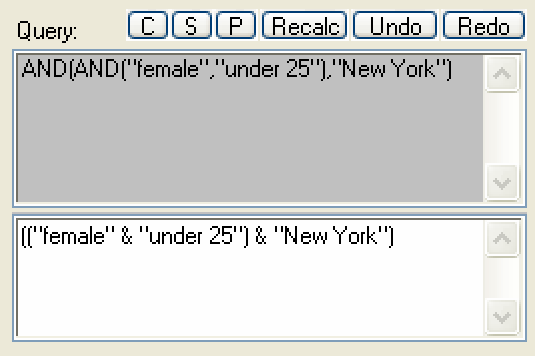
"New York"
AND("female","under 25")

"New York"

The feedback pane always displays the item that is on top of the stack. The topmost item on the stack has either been entered or is the result of applying an operator.

5. To yield all documents that match all three requirements: female, under 25, and from New York, click the AND operator again.

6. The stack and query feedback pane now looks as follows:



AND(AND("female","under 25"),"New York")

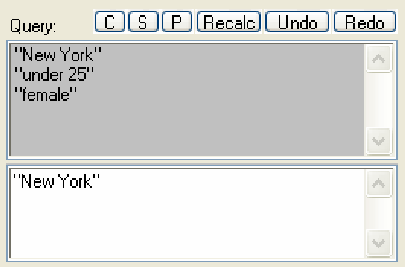
(("female" & "under 25") & "New York")

7. If these are all the attributes that you want to combine, click on the **SUPER FAMILY** button. If you want to combine a fourth or fifth attribute, continue as described above.

Creating a complex query as a sequence

When creating a complex query in one sequence, the rule is to select all families first, followed by the appropriate number and type of operators. Using the same example as above, the sequence would be as follows:

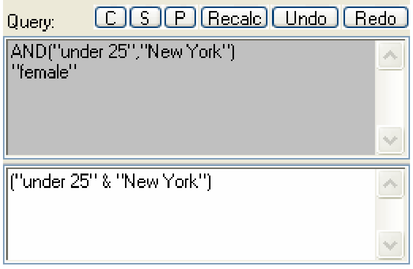
1. Double-click on the family "female".
2. Double-click on the family "under 25".
3. Double-click on the family "New York".



"New York"
"under 25"
"female"

"New York"

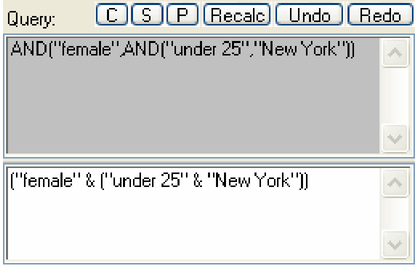
4. Select the operator AND.



AND("under 25","New York")
"female"

("under 25" & "New York")

5. Select the operator AND again.



AND("female",AND("under 25","New York"))

("female" & ("under 25" & "New York"))

6. Click the NOT operator, and you have created a family combination not containing female respondents, under the age of 25, living in New York.

As an exercise: how would you create a family combination yielding males over 25 not living in New York?[2]

Create a Snapshot

Snapshots are "hard-wired" versions of super families.

A snapshot creates a "hardwired" standard family containing the items derived from a Super Family as its members. It is a convenient shortcut for the following actions:

1. Creating a new family.
2. Double-click a Super Family to set the filter in the corresponding object manager.
3. Drag the displayed items from the Object Manager into the member pane for the newly created and selected standard family.

Example: By creating a snapshot from Super Code family Chemistry, a new (standard) family is created which includes all codes that the Super Family has as its members at this time. While a Super Family reflects any changes in regard to the members of any of its combined families, a snapshot will not change. This is identical to creating snapshot from Super Codes.

Snapshots are a means to audit the process of your analysis. By comparing Super Families with previous snapshots, you can see how and in which direction your thoughts have developed.

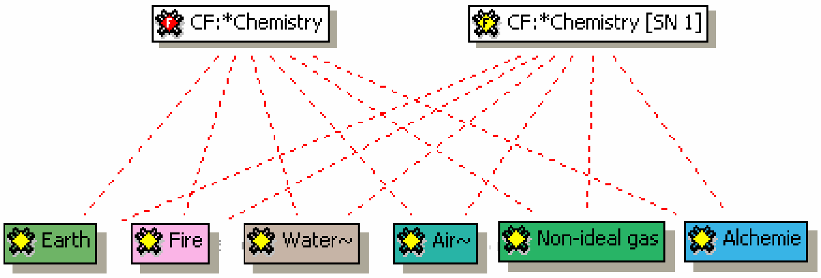
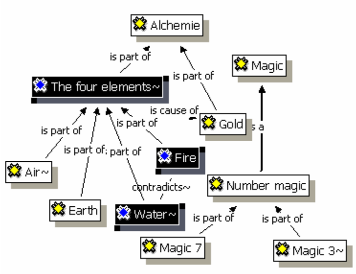


Figure 83 A snapshot of super code family Chemistry displayed in a network view

[2] Solution: Combine families Female, Over 25 and New York using the OR operator, then negate using NOT

The Conceptual Level: Networks



The word "network" is an ubiquitous and powerful metaphor found in many different fields of research and application. Flow charts in project planning, text graphs in hypertext systems, cognitive models of memory and knowledge representation (semantic networks) are all networks that serve to represent complex information by intuitively accessible graphic means. One of the most attractive properties of graphs is their intuitive graphical presentation, mostly in form of two-dimensional layouts of labeled *nodes* and *links*.

In contrast with linear, sequential representations (e.g., text), presentations of knowledge in networks resemble more closely the way human memory and thought is structured. Cognitive "load" in handling complex relationships is reduced with the aid of spatial representation techniques. ATLAS.ti uses networks to help represent and explore conceptual structures. Networks add a heuristic "right brain" approach to qualitative analysis.

Networks are more than just graphics

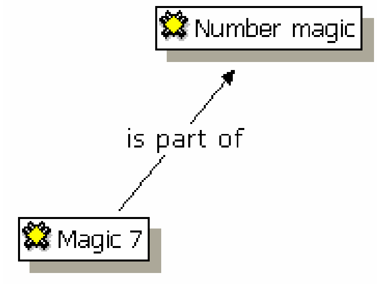
Along with using networks for "mind mapping" and the visual design of theoretical models, you can exploit the structural properties of code-networks to enhance the retrieval of quotations. Using networks for retrieval purposes is a well known technique in information retrieval. In that domain, a structured sets of keywords is usually referred to as a thesaurus. This usage of networks for semantic retrieval will be described at “Semantic Operators” on page 164 in more detail.

Nodes and Links

The term “network” is formally defined within graph theory, a branch of discrete mathematics. A network is defined as a set of nodes (or "vertices") and links. A node in a network may be linked to an arbitrary number of other nodes.

The number of links for any one node is called its degree; e.g., a node with a degree of zero is not linked at all. Another simple formal property of a network is its order: the number of its nodes. You may make practical use of the degree of nodes by using it as a sorting criterion in the codes list window. Column ‘Density’ in the Code Manager is the degree of the code.

Directed Links



Links are usually drawn as lines between the connected nodes in graphical presentations of networks. Furthermore, a link between two nodes may be directed or not. A directed connection is drawn with an arrow. With directed links, source and target nodes must be distinguished. The *source node* is where the link starts and the *target node* is where it ends: the destination to which the arrow points. *Connection* and *link* are synonymous.

Links are created either implicitly (e.g., when coding a quotation, the quotation is "linked" to a code), or explicitly by the user. The latter option is described in detail in this chapter.

Strictly speaking, code-quotation associations (“codings”) also form a network.

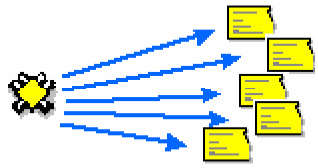


Figure 84 - Code-Quotations link

Strong and Weak Links

Strong links – or “first class” links – are links based on relations. Strong links are entities by themselves, with names, authors, comments, and other properties. A strong link is only a link between a code and another code or a quote and another quote.

Weak links are links that do not have individual properties, e.g., the links between quotations and codes, between codes and memos, between a family and its members.

Node Types

The user can manipulate and display almost all objects within the HU as nodes in a network: quotations, codes, code families, memos, memo families, other network views, primary documents (PDs), and PD families. The following discussion applies to all nodes regardless of their type.

See “Node Types” on page 217 in chapter “The Network Editor et. al.” for further details.

Relations

ATLAS.ti allows you to establish *named links* to more clearly express the nature of the relationships between concepts. With named links, you may express a sentence like "a broken leg causes pain" by two nodes (the source node "broken leg" and the target node "pain") connected with a named link ("causes" or "is-cause-of").

A default set of relations is provided. You may define your own.

The name of a link is displayed in the Network Editor as a label attached to the link midway between the two connected nodes. Six pre-set relations - or link types - are available in ATLAS.ti. These standard relations can be substituted, modified, or supplemented by user-defined relations. The default relations are listed in the table below. C1 and C2 are source and target nodes, respectively.

Relation	Label 1	Label 2	Width	Color	Formal Attribute	Layout Direction
C1 is-associated-with C2	==	R	1	Black	Symmetric	→
C1 is-part-of C2	[]	G	1	Black	Transitive	↑
C1 is-cause-of C2	=>	N	1	Black	Transitive	↑
C1 contradicts C2	<>	A	1	Black	Symmetric	→
C1 is-a C2	Isa	0	2	Black	Transitive	↑
C1 noname C2			1	Black	Symmetric	→
C1 is-property-of C2	*}	P	1	Black	Asymmetric	↑

Some of these characteristics directly affect the display of links, while others affect processing (e.g., search routines, automatic layout). A link between concepts is displayed in a Network Editor by a line with the relation’s label. You can choose from three different labels (label 1, label 2 and the name used for the menu when selecting a relation).

The “formal attribute” affects both the display and processing capabilities of a relation. For example: All asymmetric relations are symbolized in the Network Editor with an arrow pointing toward the target code (C2). Symmetric relations are displayed without arrows.

A typical transitive relation is the is-cause-of relation: if C1 is-cause-of C2 and C2 is-cause-of C3, it follows that C1 is-cause-of C3. Transitive relations also enable the "semantic retrieval" described in chapter, “The Query Tool” on page 160.

There are some additional properties that the user may define when creating new relations: a comment explaining the relation, two labels and a longer text that can be used as alternative display options in the Network Editor, the width and color of the line linking two nodes, and the preferred layout direction. This property affects the layout of a network when ATLAS.ti automatically arranges the nodes. See “Layout Procedures” on page 230.

Link vs. Relation

It is important to understand the difference between a relation (or a link type) and the link itself: There is only one "is part of" relation, but potentially many links *using* it. In the Network View below, the relation "consequence" is used only once, while the relation “strategy” is used four times.

Relations are like "styles" in a word processor. Changing the style will change all occurrences of its usage, in this case: the links.

Another way to think of links and relations is to view links as *instances* of relations. Links are well informed about the characteristics of relations, which define their styles. If a characteristic of a relation is changed (e.g., line width, color, symbol), these changes are propagated to all links using it.

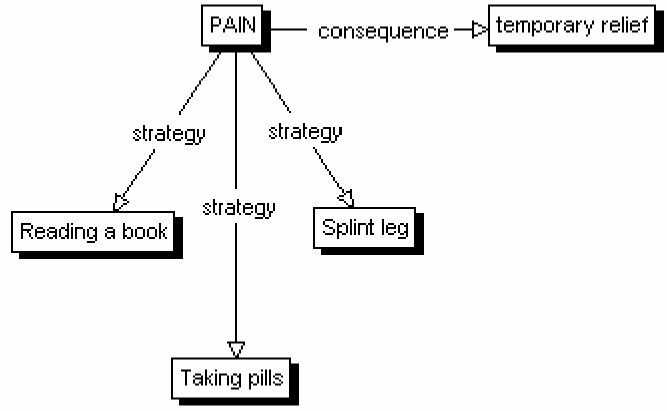


Figure 85 - Four links using two relations, "strategy" and "consequence"

The Role of Relations

It is useful to understand the role that relations play in the construction of a theory. The concepts (codes) that are linked using relations represent aspects of the problem domain under investigation. On the other hand, the relations used to link these domain concepts are part of the methodology used to analyze the phenomena. As important epistemological tools they constitute the main questions that guide the development of a model or a theory.

Define your own "epistemological primitives."

The "Grounded Theory" method of Glaser & Strauss uses relations like "is-phenomenon, "is-context-of," "is-consequence-of," "is-condition-for," "is-strategy-for," etc., to relate concepts found during the data-oriented *open coding* phase.

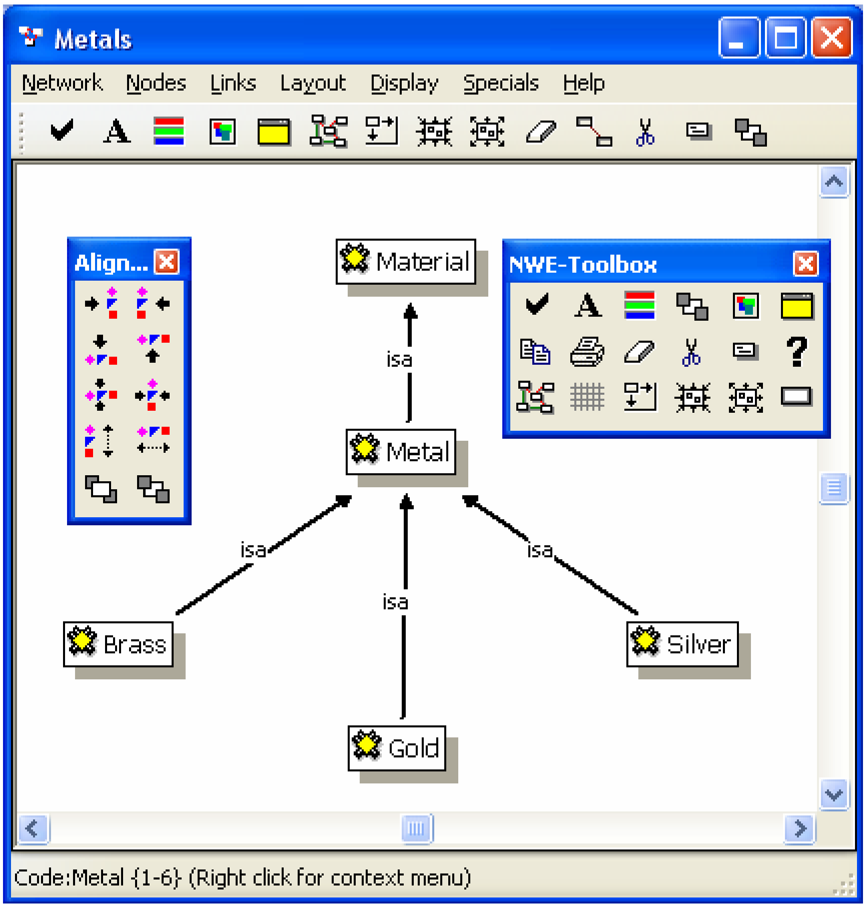
In the analysis of argumentation structures, other relations are more suitable: e.g., "is evidence of," "is contradictory to," "warrants," etc. A medical expert attempting to capture diagnostic knowledge would use, e.g., "is-symptom-of," and "is medication for."

The Network Editor et. al.

The Network Editor lets you visually connect codes and other objects to create semantic networks or hypertext webs.

The Network Editor offers an intuitive and powerful method to create and manipulate network structures. It favors a direct manipulation technique: You can literally "grab" codes, quotations, memos, or other objects using your cursor and move them around the screen as well as draw and cut links between them.

The following describes various methods available for creating and editing Network Views.



Code:Metal {1-6} (Right click for context menu)

Figure 86 - The Network Editor

The Network Editor has two "helper" windows ("NWE-Toolbox" and "Alignment Tool") that offer convenient support for some tasks (see References at “Display Menu” on page 384).

The Relation Editor for maintaining the relation "database," and for creating and editing relations is described in a separate chapter (see “The Relation Editor” on page 235).

Network vs. Network View

The difference between a ‘Network’ and a ‘Network View’ is an important distinction that is necessary to understand the way networks are handled within ATLAS.ti.

An ATLAS.ti network is the set of *all* objects and their links inside the Hermeneutic Unit (HU). It exists independently of any display-oriented characteristics (layout, color, line width, etc.). It is the *logical structure* of the HU's objects. It exists even before the first Network View is created.

Network View = logical structure + visual layout

A Network View is typically only a subset of this global structure of nodes and links combined with an individual layout of nodes. It is like viewing the same thing, i.e., the network, from different angles and with different pieces visible.

Network View Characteristics

Network Views have certain important characteristics:

- Several different Network Views on the same network are possible.
- Network Views can be given names under which they are stored and accessed inside the HU.
- Network Views can be commented.
- Network Views are displayed and edited in the Network Editor.
- Network Views allow individual layout of the nodes.
- As a node, a single object can be a member of any number of Network Views, just like a code can be an element of more than one code family.
- An object, e.g., a specific code, can only appear once in any Network View.

Network Views allow for a flexible but logically consistent display of the network of objects, so there are a few constraints to keep in mind:

If code A is linked to code B using relation R, then every Network View that contains code A and code B will necessarily include the R-link between the two. Furthermore, as only one link can exist between any two nodes at any given time, no Network View will display any other relation between those two nodes. Compare the figure below with Figure 85 above. Any two nodes appearing in both Network Views will have the same link, if any. The positions of the nodes, or how they are displayed, may, of course, differ.

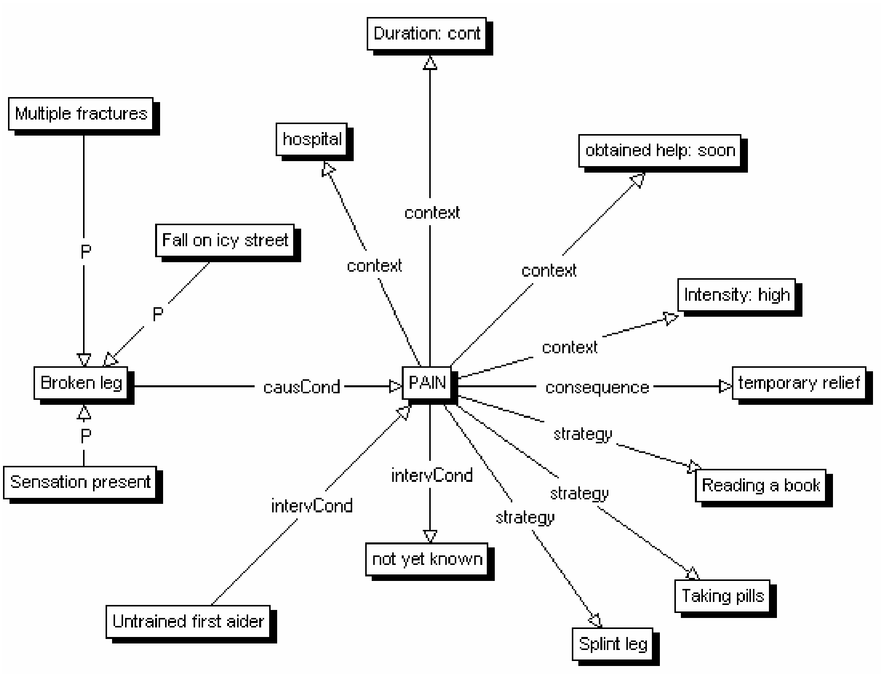


Figure 87 - This network view is consistent with the partial network view in Figure 85 above.

Node Types

The following object classes can be displayed and edited as nodes within the Network Editor. The display characteristics of the nodes can be altered in a variety of ways.

Codes as Nodes

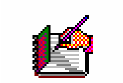
The node icon and label for codes:

Animal {0-3}

Codes are probably the most prominent objects in ATLAS.ti networks. They provide the main ingredients for models and theories.

Memos as Nodes

The node icon for memos:



Memos in networks are often an important supplement to code networks.

Several theoretical memos can be imported into a network to map out their relationship. The visual layout provides comfortable territory for moving from memo to memo to read and contemplate each individually and the relationship(s) between them.

When dragging a piece of text from a "drag-enabled" application (like MS Word™) into a Network Editor, the text becomes a memo with an automatically assigned title. The title can be renamed later.

Primary Documents as Nodes

The icons displayed for files in Windows Explorer are used as standard icons for PD nodes.

P 4: The sefiroth tree

PDs as nodes are useful sometimes, but in the presence of quotations may clutter the view by myriad links. However, PDs as nodes make a nice graphical content table for graphical primary documents. When selecting the option **DISPLAY/FULL IMAGE FOR PDS**, "thumbnail" images of the PDs are displayed. This option only affects graphical PDs.

Quotations as Nodes

The node icons for quotations:

text *audio*

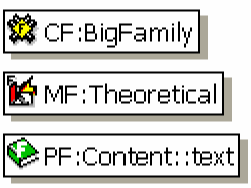
image *video*

Quotations and codes have one thing in common that is not true for the other objects. They can link to each other (quotations to quotations and code to codes) with fully qualified "first class" links using relations.

The inclusion of quotations in a Network View supports the construction and inspection of hyperlink structures.

Quotations can be included in a Network View by simply dragging a piece of text from the PD (only possible for text documents).

Families as Nodes



CF:BigFamily

MF:Theoretical

PF:Content::text

Families are a useful device to group codes, memos, or PDs that belong to one concept. Instead of displaying all of the codes belonging to the concept, the Code Family may be displayed.

The links between families and their members are depicted by a dotted red line.

Network Views as Nodes

The node icon and label for network views:

4 Elements II

Network Views as nodes allow the inclusion of Network Views in other Network Views. The Network View’s context menu offers the option to open the View in a separate Network Editor. This is also available via double-click with Ctrl pressed.

Basic Network View Procedures

Creating Network Views

Two methods for creating Network Views are available. The first one creates an empty Network View into which objects are imported in sequential steps. The other method creates a Network View from a selected object and its neighbors.

To create a new Network View

1. Select **NETWORKS/NEW NETWORK VIEW** from the HU editor's main menu or from the drop down list offered by the Network button in the main toolbar.

2. Enter a name for the new Network View. A Network Editor opens.
3. Import nodes with any of the methods described in the section “Importing Nodes” on page 226.
4. Arrange the nodes.
5. Save the Network View. It will now be listed in the HU’s repository of Network Views available via the network button.

When you save the HU, the newly created Network View is also saved.

To open a Network View on an Object

A Network View for an object is created with a selected object and its neighbors. Proceed as follows:

1. Open an Object Manager (e.g., the Code Manager) or the Object Explorer.
2. Select one or more objects with a left mouse click.
3. In Object Managers, you can click the network button. For an object selected in the Object Explorer, select **OPEN NETWORK VIEW** from the context menu
4. A Network Editor opens with the selected object and its neighbors.

Note: If multiple objects are selected, their neighbors are not automatically included in the network view. You can import their neighbors in a subsequent step.

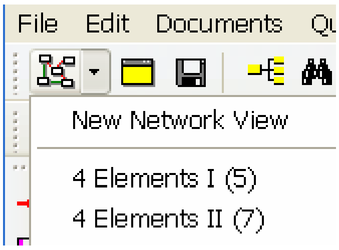
The nodes are initially placed using the semantic layout procedure, but can be rearranged manually.

More nodes can be added to this Network View using different techniques (see “Importing Nodes” on page 226 for details).

Note: Each time a network is opened on a selected object, a new Network View is created. There is no need to save it, as you can easily display it at any time following the steps above. If you rearrange the nodes and want to preserve the new layout, or if you add or remove nodes, then you need to save it explicitly (**NETWORK/SAVE AS**). Saved Network Views can be selected from the pick list or the Network View Manager.

Launch a Network View

You can open a Network Editor on a specific Network that is already part of the HU. Open a Network View by one of the following methods.



To open a Network View from the pick list

1. Click on the network button's down arrow on the main toolbar to display the drop-down list of existing Network Views.
2. Select one of the listed Network Views.
3. A Network Editor opens on the selected Network View.

To open a Network View using the Network View Manager

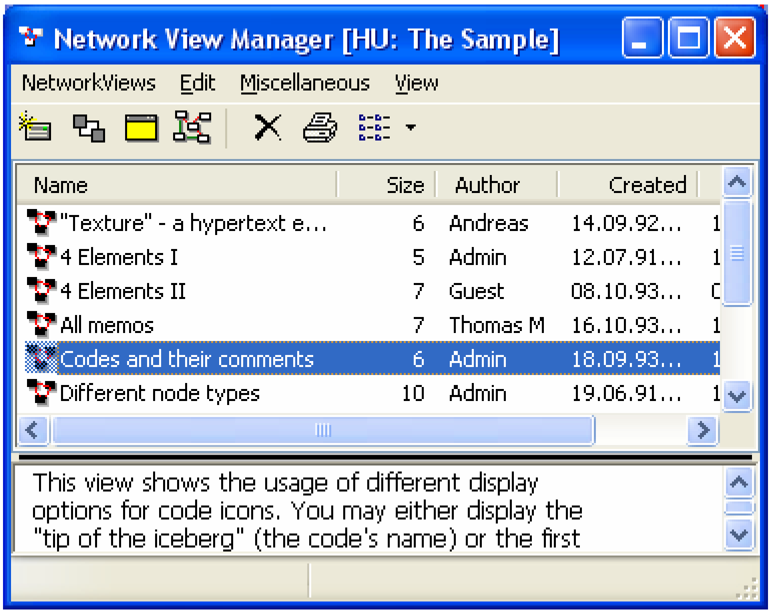
Use this method if the number of Network Views already defined is too large to be comfortably displayed using the pick-list method.

The Network View Manager also allows you to view some properties of Network Views without opening a Network Editor.

1. Select NETWORKS/ NETWORK VIEW MANAGER from the main menu or click the Network button in the main toolbar.
2. Select one of the displayed Network Views.
3. Click on the network button above the list.

The Network View Manager offers easy access to all Network Views of a given HU. The text area displays the comment for the selected Network View.

Note: Steps 2 and 3 can be replaced by double-clicking a selected Network View.


Network View Manager [HU: The Sample]
NetworkViews Edit Miscellaneous View

Name	Size	Author	Created	
"Texture" - a hypertext e...	6	Andreas	14.09.92...	1
4 Elements I	5	Admin	12.07.91...	1
4 Elements II	7	Guest	08.10.93...	C
All memos	7	Thomas M	16.10.93...	1
Codes and their comments	6	Admin	18.09.93...	1
Different node types	10	Admin	19.06.91...	1

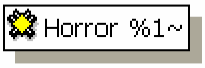
This view shows the usage of different display options for code icons. You may either display the "tip of the iceberg" (the code's name) or the first

Figure 88 - The Network View Manager

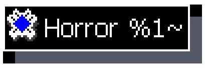
Selecting Nodes and Links

Selecting nodes is an important first step for all subsequent operations targeted at individual objects within a Network View. Such operations have their corresponding menu commands in the main menu of the Network Editor.

To select a single node



Horror %1~



Horror %1~

1. Move the mouse pointer over the node to be selected. The mouse pointer changes its appearance to .
2. Click the left mouse button.
3. The selected node will be displayed inverted.
4. All previously selected nodes are deselected.

To select multiple nodes - method 1

1. Hold down the **CTRL** key on your keyboard.
2. Select a node as described above.
3. Repeat steps 1 and 2 for every node to be selected.

To select multiple nodes - method 2 ("marquee selection"):

This method is very efficient if the nodes to be selected fit into an imaginary rectangle.

1. Move the mouse pointer above and left to one of the nodes to be selected.
2. Hold down the left mouse button and drag the mouse pointer down and right to cover all nodes to be selected with the selection marquee.
3. Release the mouse button.
4. Repeat steps 1 to 3 to add nodes from other parts of the Network View to the current selection.

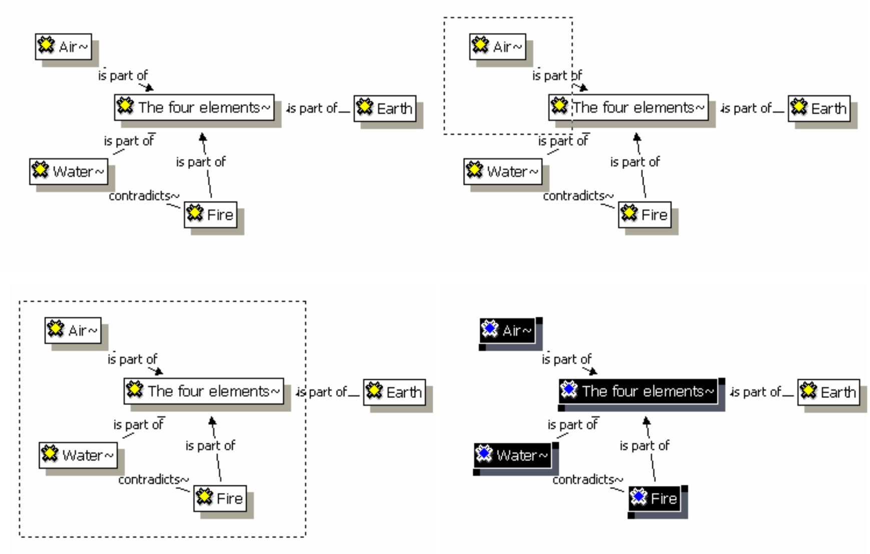


Figure 89 - Selecting nodes via marquee selection

Selecting Neighbors

Neighbors are the nodes linked directly to a node. Using this procedure repeatedly selects a complete “connected graph”, which is a partial Network View where every node has a path (either a direct link or via intermediate nodes) to each other node.

To select neighbor nodes:

1. Select the initial nodes.
2. Choose **NODES/SELECT NEIGHBORS** from the Network Editor's menu, or press **CTRL-N** on the keyboard.
3. To mark a complete connected sub-network, repeat the previous step until all nodes within the partial Network View are highlighted.

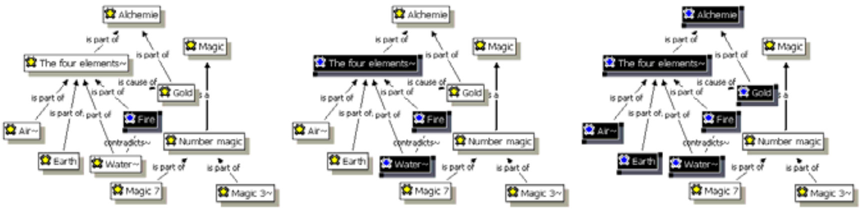


Figure 90 One node selected, then two neighbors via Ctrl-N, then a complete sub-network

Selecting or deselecting all Nodes

To select all nodes or deselect all selected nodes, select **NODES/DESELECT ALL NODES** from the Network Editor’s main menu or press Ctrl-A on the keyboard.

Inverting the current selection

To invert the current selection, press Ctrl-I or select **NODES/INVERSE SELECTION** from the Network Editor’s main menu. This will select all unselected nodes and deselect all previously selected.

Selecting a Link

Only “first class” links can be selected. First class or “strong” links can only exist between quotations or between codes. Selecting links is similar to selecting nodes.

To select a link

1. Move the mouse pointer onto the label of the link to be selected.
2. The mouse pointer changes its appearance to .
3. Click the left mouse button.
4. The selected link label will be displayed inverted. All previously selected nodes/links are deselected.

Selecting links is a convenient way to cut or flip multiple links (see “Cutting Links” on page 226).

Deselecting Nodes and Links

To deselect a selected node or link

1. Hold down the **CTRL** key on your keyboard.
2. Click on a selected node or link.

To deselect all nodes and links

1. Move the mouse cursor over the Network Editor's background.
2. Double-click the left mouse button

Moving Nodes

By moving nodes to different positions, you can modify an initial layout created by the automatic layout procedure.

For precision placement of nodes, use the node alignment procedures (see References at “Layout Menu” on page 381).

Note: Do not forget to save the Network View (and the HU itself at the end of the session) if you want to make the new layout permanent.

To move a single node

1. Move the mouse pointer onto the node to be selected.
2. Hold down the left mouse button.
3. Drag the selected node to its new position.

To move multiple nodes

1. Create a multiple selection of nodes as described above.
2. Hold down the **CTRL**-key and drag the selected nodes to their new position.

To move nodes with the arrow keys

1. Select one or more nodes using the selection methods described at “Selecting Nodes and Links” on page 220.
2. Use the arrow keys in combination with the **CTRL** key to move the node(s) 1 pixel at a time in all four directions.

Ctrl-Z - Undo node placements

Note: To undo an erroneous placement, use the function ***UNDO POSITIONING*** or the key combination ***CTRL+Z***.

Linking Nodes

The links between nodes in a network are real connections between the objects. Therefore, creating and removing links should not be regarded as solely "cosmetic" operations. Links make permanent changes to the HU.

A quick way to link two nodes.

There are several ways to link nodes but this one is recommended for linking exactly two nodes:

To link two nodes

1. Place the mouse pointer over the source node. The mouse pointer changes its appearance.
2. Hold down the **SHIFT** key on your keyboard.
3. Hold down the left mouse button and drag the mouse pointer to the target node. A "rubber band" between the mouse pointer and the source node is drawn.
4. Release the **SHIFT** key.
5. Release the left mouse button.
6. Select a relation (applies to code-code and quote-quote links only).

Note: A selection of relations is only offered if either two codes or two quotations are linked.

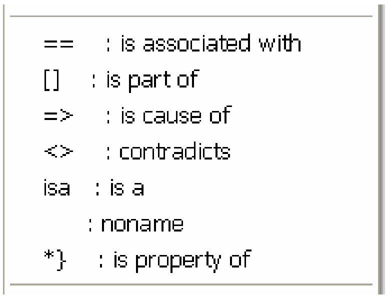
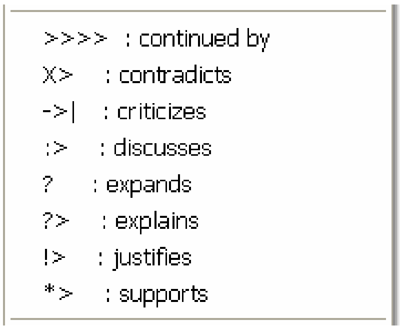
Code-Code Relations	Quote-Quote Relations
 == : is associated with [] : is part of => : is cause of <> : contradicts isa : is a : noname *} : is property of	 >>>> : continued by X> : contradicts ->| : criticizes :> : discusses ? : expands ?> : explains !> : justifies *> : supports

Figure 91 – Lists of standard code-code and quote-quote relations

To link more than two nodes

If more than one source node is to be linked with a target node, use the following method.

1. Choose the source nodes.
2. Choose **LINKS/LINK NODES** from the Network Editor's main menu.
3. Move the mouse pointer with the "rubber bands" to the target node and click the left mouse button.
4. In case of code-code and quotation-quotations links, you are prompted to select a common relation that applies to all links. You can modify the relations later, if needed.

To link code nodes using the list method

Besides using the Network Editor for creating links between codes, you can also use the "**CODES/LINK CODE TO**" option available from the main menu or the code context menu.

1. Select the target code (i.e., the general, broader concept) in the Code Manager.
2. Select **CODES/ LINK CODE TO:/CODES** from the main menu.
3. Select the source code(s) from the multiple-choice list.
4. Select a relation that links the selected codes with the target code. If needed, the relation can be modified.

Magic {1-6}

Groundedness: 1

Density: 6

One immediate effect of linking can be noticed when the Code Manager is open: the ‘density’ counter for all linked codes is updated.

“Density” counts all direct links to other codes. For instance, if six source codes are linked to one target code, the target code is incremented by 6; each source code is incremented by one.

Note: Using **CODES/LINK CODE TO:** From the HU Editor’s main menu, memos and quotations may also be linked to codes. Memos can also be linked to other memos, quotations, or codes via the menu option **MEMO/ LINK MEMO TO.** However, no specific relation can be selected to link memos to other objects.

Creating code-code links and hyperlinks using the Object Manager

Not really a topic for chapter Network Editor but should be mentioned here. Codes and quotations can also be linked in the Code Manager or Quotation Manager via drag & drop.

1. Identify the target item in the Object Manager’s list pane.
2. Select one or more source items in the Object Manager’s list pane and drag them to the target item in the same pane.
3. Select a relation from the list of relations.

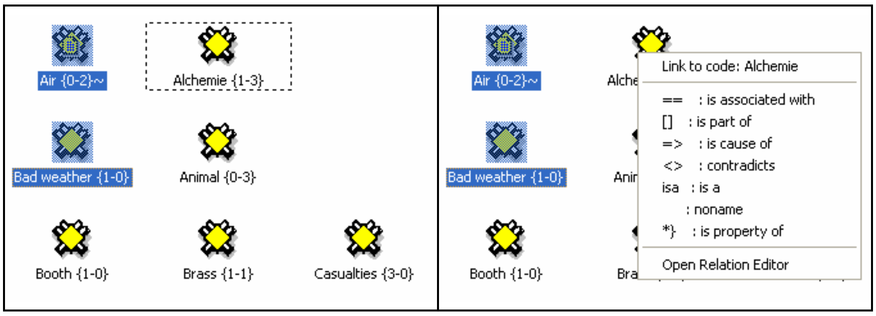


Figure 92 - Creating a Code-Code link in the Code Manager

This is only available for the Code and Quotation Managers.

Cutting Links

Several approaches to disconnecting previously linked nodes are available.

The first method works for all types of links and is useful when many nodes linked to one other node are to be disconnected:

1. Select one or more nodes whose connections to another node are to be removed.
2. Choose **LINKS/CUT LINKS** from the Network Editor's menu.
3. Move the mouse pointer with the "rubber bands" to the target node.
4. Click the left mouse button

Alternatively:

1. Click on one or more link labels.
2. Choose **LINKS/CUT LINKS** from the Network Editor's menu.

Or:

1. Move the mouse pointer over a link label.
2. Right click and choose **CUT LINK** from the context menu.

Note: The latter two methods work on "first class" links only: code-code or quote-quote ("hyper") links.

Modifying Links

The type of a link (e.g., its Relation) can be changed in the Network Editor.

1. Open a network view on a code.
2. Right click on a link label and select **CHANGE RELATION** from the context menu.
3. The relation menu pops up. Select a different relation.

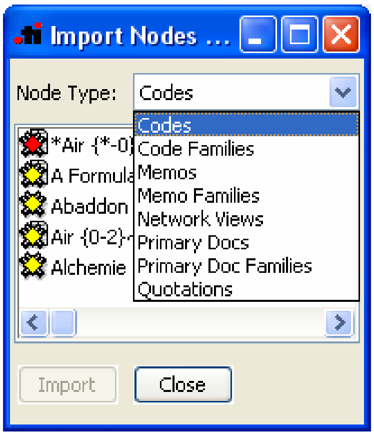
A very efficient way to manipulate first class links is offered by the Link Managers (see “Link Management” on page 234).

Importing Nodes

There are several options available for including objects in a Network View.

The Import Nodes window offers access to all available node types. The list pane offers a context menu to select or deselect all displayed objects.

To import nodes via the Import Nodes dialog



1. Choose NODES/IMPORT NODES from the Network Editor's menu. A window opens, offering objects to be imported. Only objects that are not already members of the present view are listed.
2. First, select the type of node you want listed in the list pane from the node-type drop-down list.
3. Select the objects to be imported into the Network View.
4. Click **IMPORT**

The imported objects are placed along the upper left corner of the Network Editor. You can either distribute them manually by moving each node with the mouse, or you can place them automatically by (mis-)using the option LAYOUT/SEMANTIC LAYOUT.

To import nodes from Object Managers using drag & drop

As another option, you can import nodes by dragging objects from Object Managers, the Network View Manager, the Family Manager, the margin, or the Object Explorer into the Network Editor. Drag & drop gives you better control of the initial position of the imported nodes.

1. Open the Network View to which you want new objects imported.
2. Open the manager(s) for objects (code list, memo list, etc.) that you want to import into a Network View.
3. Select the node(s) you want to import into the Network View.
4. Drag the selected objects into the Network Editor.

To drag selections of a primary text into a Network Editor

This method creates nodes from textual quotations or new selections of text.

1. Open the PD that contains the text that you want to import into a Network View.
2. Make a selection within the PD or select an existing quotation.
3. Drag the selected text into the Network Editor.
4. Release the mouse button at the position you want the new node to be placed. A new node is created and displayed. If a quotation did not yet exist for the selection of text, it will now be created.

Drag text from other applications into a Network Editor

This method allows you to drag text from drag & drop-compliant applications like Word™ into a Network Editor. Text dragged from Word™ is converted into a new memo and displayed as a node.

Text dragged from other applications becomes a memo.

Text dragged from the PD pane becomes a quotation.

1. Open the application from which you want to drag selections of text in to a Network Editor.
2. Mark the piece of text within the (other) application.
3. Move the mouse pointer over the selected text. The pointer changes its appearance
4. Hold down the left mouse button and drag the selected text into the Network Editor.
5. Release the mouse button at the position you want the new node to be placed with its upper left corner. A new node is created and displayed.

Import Node Neighbors

This method imports all direct neighbors of the selected nodes into the Network View. This option is also available from the node's context menu. Importing direct neighbors allows you to construct a *connected* Network View step-by-step. (In a connected graph, there is always a direct or indirect path between any two nodes.)

To import neighbors of selected nodes:

1. Select the node(s) whose neighbors are to be included in the Network View.
2. Choose **NODES/IMPORT NEIGHBORS** from the menu.

*Hold down the **Ctrl** key to suppress the import of quotations.*

Note: This procedure imports neighbors of all types. If a code with many quotations is selected, this operation might fill the Network Editor with unwanted quotation nodes. To suppress the import of quotations, hold down the ***CTRL*** key when issuing this command.

***Import neighbors** can be undone. Shortcut: Ctrl-Shift-Z.*

Note: If you have mistakenly imported the wrong or too many node neighbors, select Nodes/***UNDO IMPORT NEIGHBORS*** from the menu, or press the key combination Ctrl-Shift-Z.

Import Co-occurring Codes

For code nodes, there is a special import feature that exploits the spatial relations of different codings. A code co-occurs with another if it has been used to code quotations that are in close proximity: embedded, overlapping, or directly following each other. The proximity of coding applied to a text can also be exploited via the Query Tool's "co-occurence" proximity operator. However, while the Query Tool yields quotations for explicitly specified codes, the import function brings in only the codes.

To import co-occurring codes:

1. Select one or more codes in the Network Editor.

2. Choose **NODES/IMPORT COOCCURRING CODES** from the Network Editor's menu.

Removing Nodes from Network View

'Removing Nodes' does not delete the objects they represent! 'Delete Entities,' however, does!!

Removing nodes from the view simply removes the nodes from the Network View. The nodes remain in the HU. Removed nodes can be "re-imported" at any time using the node import functions described previously. However, deleting nodes results in the deletion of the objects they represent from the entire HU—erasing codes, quotations, etc.! Be cautious when deleting nodes!

To remove nodes from a Network View

1. Open the Network View.
2. Select the nodes to be excluded from the view.
3. From the Network Editor's main menu, choose **NODES/REMOVE NODES FROM VIEW** or press Ctrl-Del on the keyboard. If you only want to exclude a single node, you may also choose this option from the node's context menu.

Note: If you only want to exclude nodes from a Network View, do not select option **DELETE NODE** from the node's context menu or **DELETE ENTITIES** from the main menu. This option deletes the object represented by this node from the HU.

Therefore, if you delete a code node, the code itself and all coding involving this code is deleted from the HU. For this operation, no undo option is available. The only way to undo a false deletion is to close the HU without saving it and to open the most recent backup.

Node and Link Actions

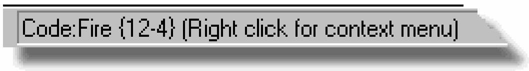
Commands affecting selected codes or links are available via their respective context menus. In addition, as described below, type-specific procedures are activated when double-clicking a node.

Actions via Context Menus

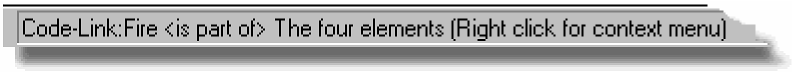
All nodes and links have context menus.

Context menus can be activated on nodes and links. Dependent on the type of the node or link selected, these menus will offer specialized options from which to choose.

When the mouse pointer is over a node or a link, related information is displayed in the status window of the Network Editor.

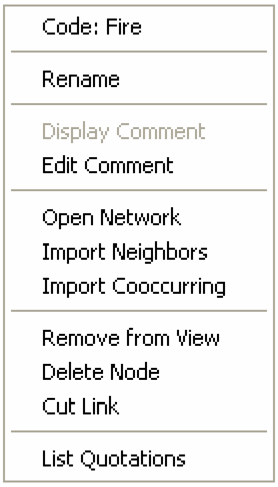
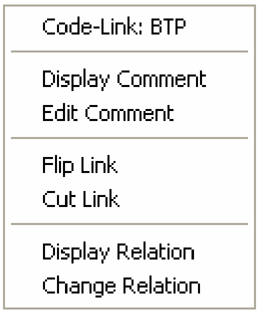


Code:Fire {12-4} (Right click for context menu)



Code-Link:Fire <is part of> The four elements (Right click for context menu)

To open a context menu, move the mouse-pointer onto a node or link and click the right mouse button.

Context menu for a code node	Context menu for a link
	

To execute node actions per double-click

1. Position the mouse pointer over a node.
2. Double-click the left mouse button

The table below describes the specific actions launched for the different node types.

Note: If a comment or a memo's text pops up, you can click inside the pop-up window to open a text editor.

Node Type	Double-Click Action
Codes	Displays the code comment (definition).
Memos	Displays the content of the memo.
Quotations	Displays the full text of the quotation.
Primary Documents	Displays the comment for the PD.
Families	Displays the description/comment for the family.
Network Views	Displays the description/comment for the Network View. Hold down the Ctrl key to open this Network View in another Network Editor

Layout Procedures

Two methods are available for the automatic placement of nodes.

Semantic Layout

Shortcut: ***CTRL-L***

Places the nodes within the window using the *semantic layout algorithm*. This algorithm tries to place the nodes into optimal positions using an invisible matrix of default positions. It tries to place the nodes with the highest connectivity into center positions.

By recursively applying the same method to the rest of the nodes using neighboring positions of the first node placed, the algorithm tries to avoid overlapping nodes and too many crossing links. However, calculating an optimal solution is not possible in a reasonable amount of time.

The user can exert some control on this algorithm via the preferred layout direction of the relations used for the links, e.g., links using the “is-a” relation go from bottom to top, if possible. You can change the layout direction manually using the Relation Editor (see “The Relation Editor” on page 235 for details)

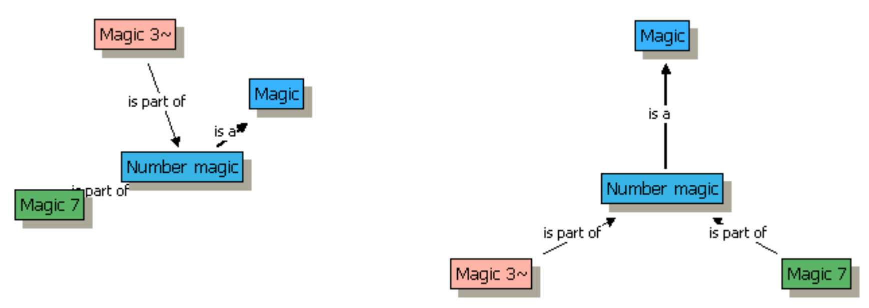


Figure 93- Before and after applying Semantic Layout to a Network View

The results of the automatic layout procedure are typically quite usable and provide at least a good starting point for subsequent manual refinement of nodes' placement. If you are not happy with the layout produced, you can revert to the previous placement by using **UNDO POSITIONING** (Ctrl-Z).

Topological Layout

This special layout procedure tries to create a linear list of nodes positioned from the upper left to the lower right. This sequence is the result of a **depth first traversal** of the graph. The algorithm tries to resolve as many constraints between any two nodes so that a node with the least dependencies is made the first node positioned in the upper left corner, and the node with the most dependencies on other nodes is positioned in the lower right corner of the Network Editor.

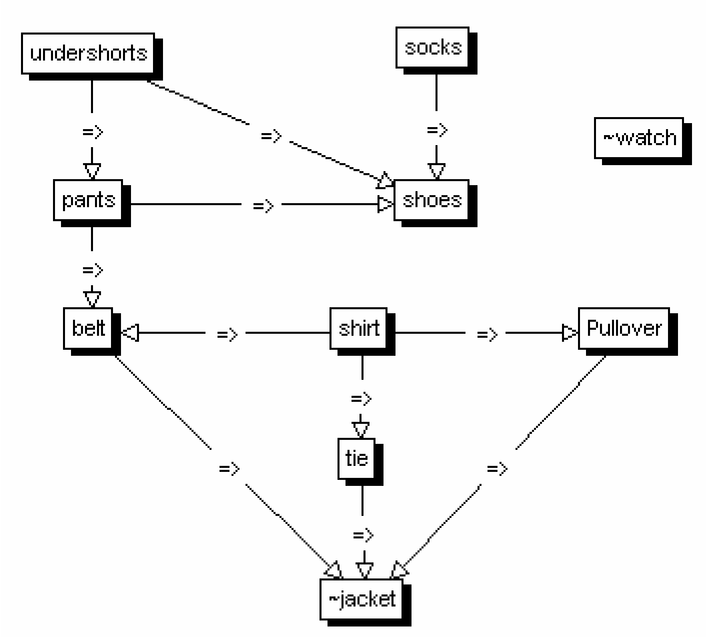


Figure 94 - A set of activities with local constraints

In the example above, the dependencies between several activities necessary to get dressed are described by local constraints between the nodes. From these local constraints, a global solution is generated: One correct way to get dressed. The "is-cause-of " relation was used to describe constraints. The only condition a relation must meet is that it has the "transitive" attribute.

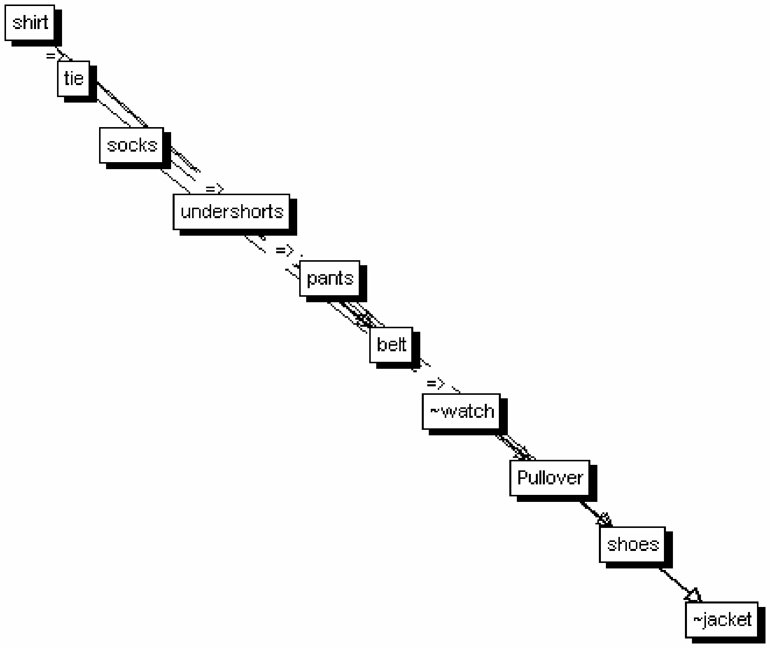


Figure 95 - Topological sort always results in a linear, diagonal placement of the nodes

Such algorithms are typically in use in project management software. You can use a directed relation like "before" to represent time dependencies between events ("socks before shoes," "shirt before tie," "marriage before divorce") and then compute a possible sequence of events.

Creating Output

Several output options are available for Network Views. The range is from printing the layout (via copying to the clipboard in a variety of formats both textual and graphical) and by saving a Network View to a file.

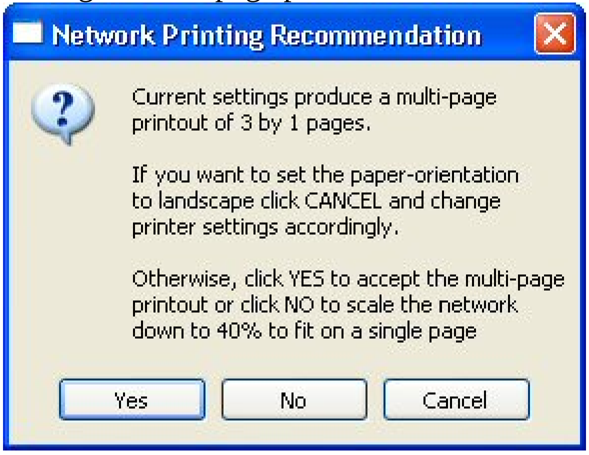
Printing Networks

Before printing a Network View the first time, you may prefer to setting some general options (include title, print border, etc.) (**SPECIALS/PREFERENCES/ PRINTING** see “Printing” on page 390 for detail).

You can either print the entirety or part of a Network View. To print only parts of a Network View, highlight the nodes you wish to print.

To Print a Network View

1. Open the Network View and arrange all nodes to be printed.
2. If you want to print a selection of nodes only, select these nodes (for multiple selection, hold down the Ctrl key).
3. Choose **NETWORK/PRINT NETWORK VIEW** from the Network Editor's menu.
4. Check "Selection" to print the selected nodes only.
5. If the size of the network view determined by the node layout exceeds a single page, depending on current printer settings, scaling or multi-page print will be offered as a choice:



Current settings produce a multi-page printout of 3 by 1 pages.

If you want to set the paper-orientation to landscape click CANCEL and change printer settings accordingly.

Otherwise, click YES to accept the multi-page printout or click NO to scale the network down to 40% to fit on a single page

6. Make your choice and the network view will be printed.

Network Views for other Applications

Copy to Clipboard

Menu option **NETWORK/COPY TO CLIPBOARD** copies the network view to the Windows clipboard. From the clipboard it can be included in Word or other “foreign” documents. The Network

View (all nodes or selected nodes only) is copied to the clipboard in a variety of formats:

- A textual description of the contained nodes (a node synopsis)
- An Windows Enhanced Metafile for high quality graphics to be used in reports. Depending on the processing capabilities of the target application, results may sometimes be less than optimal.
- A bitmap file that has more accurate layout and fonts, but less quality when printed.

In other applications (Word, PowerPoint, etc) a selection or all of these formats are offered via **PASTE SPECIAL.**

Save Network View as Graphic File

You can save your Network View as a graphic file, either as a bitmap (BMP) or as a Windows Enhanced Meta file (EMF). You can insert this file into reports, Word, PowerPoint, etc. Choose **SAVE AS GRAPHICS FILE** .

Note: This function does not save the network as a reusable structure for import to other HUs. In order to accomplish this, visit chapter “To export the code network” on page 242.

Link Management

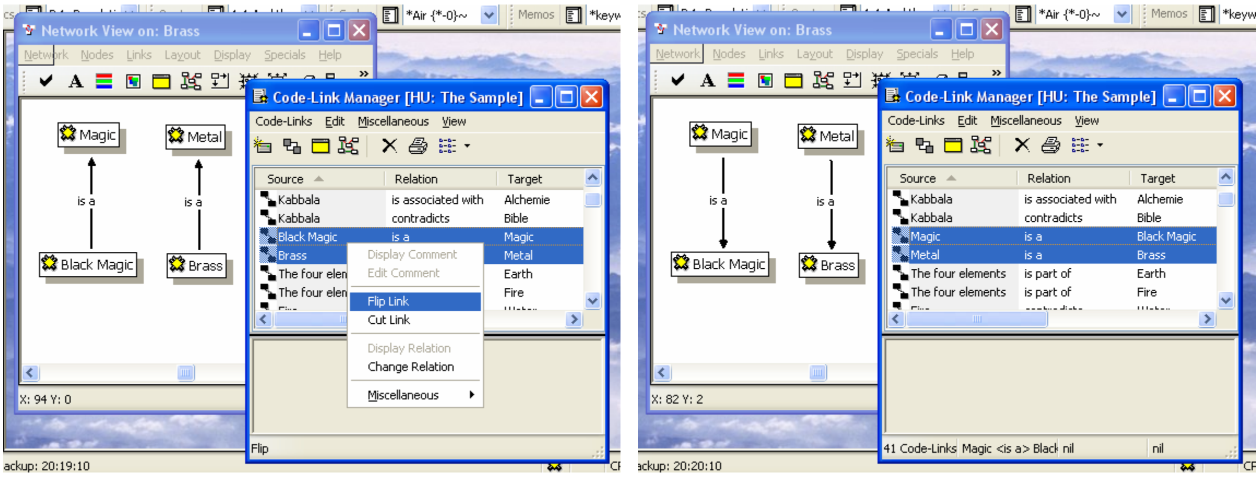
For a very efficient way to review and edit first class links (code-code links and hyperlinks), two new tools are introduced with ATLAS.ti 5, the Code-Link and the Hyper-Link Managers.

Links can be edited, flipped, and removed, and a Network Editor can be opened on selected links, e.g., all nodes affected. A comment can be viewed and edited for the selected link. Last but not least, and typical for all Object Managers, links can be sorted by criteria such as the target or source object, the relation used, etc.

Changes made to the links are immediately displayed in any Network Editor that currently display the links.

The Code- Link Manager

The two figures below show a Code Link Manager and a Network View opened on two selected links. In the left figure the two links are selected and Flip Link from the context menu is selected. The right figure displays the effect. The Code-Link Manager and the Network View show the changed links.



Source	Relation	Target
Kabbala	is associated with	Alchemie
Kabbala	contradicts	Bible
Black Magic	is a	Magic
Brass		Metal
The four elen		Earth
The four elen		Fire

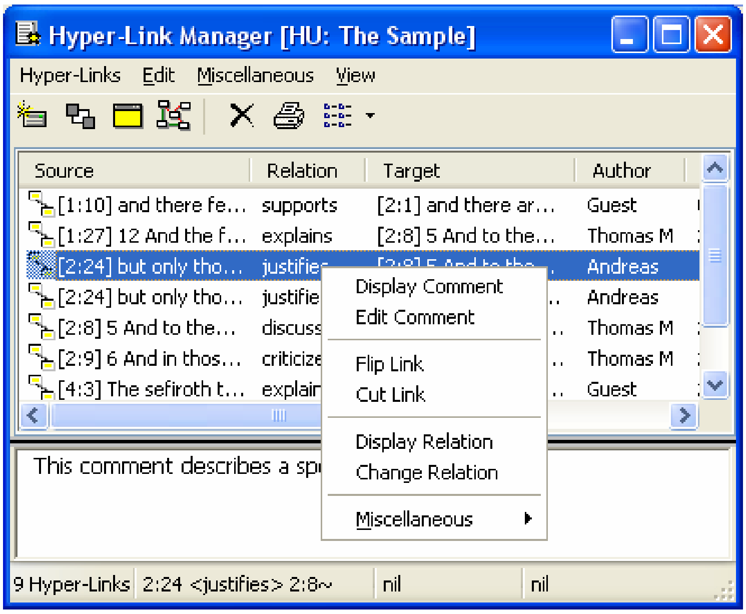
Source	Relation	Target
Kabbala	is associated with	Alchemie
Kabbala	contradicts	Bible
Magic	is a	Black Magic
Metal	is a	Brass
The four elements	is part of	Earth
The four elements	is part of	Fire

41 Code-Links Magic <is a> Black nil nil

Figure 96 -Flipping two links in the Code-Link Manager

The Hyper-Link Manager

The Hyper-Link Manager works exactly like the Code-Link Manager, only that it is populated by hyperlinks.



Source	Relation	Target	Author
[1:10] and there fe…	supports	[2:1] and there ar…	Guest
[1:27] 12 And the f…	explains	[2:8] 5 And to the…	Thomas M
[2:24] but only tho…	justifies	[2:8] 5 And to the…	Andreas
[2:24] but only tho…	justifie	..	Andreas
[2:8] 5 And to the…	discuss	..	Thomas M
[2:9] 6 And in thos…	criticize	..	Thomas M
[4:3] The sefiroth t…	explair	..	Guest

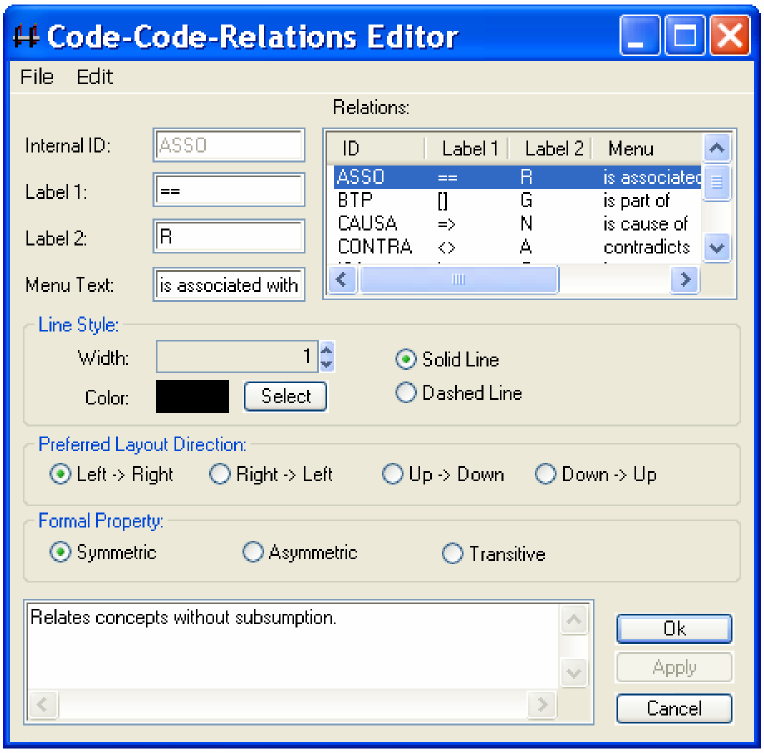
This comment describes a spi

9 Hyper-Links 2:24 <justifies> 2:8~ nil nil

Figure 97 - The Hyper-Link Manager

The Relation Editor

The Relation Editor allows the creation, display, and editing of relations that are used for linking codes to codes, or quotations to quotations. Explicit relations can only be used when connecting codes to codes or quotations to quotations. Connections between codes and quotations, memos and quotations, memos and codes, and families and their members cannot be named and specified by the user.



Internal ID: ASSO

Label 1: ==

Label 2: R

Menu Text: is associated with

Relations:

ID	Label 1	Label 2	Menu
ASSO	==	R	is associated
BTP	[]	G	is part of
CAUSA	=>	N	is cause of
CONTRA	<>	A	contradicts

Line Style:

Width: 1

Color: ■ Select

● Solid Line ○ Dashed Line

Preferred Layout Direction:

● Left -> Right ○ Right -> Left ○ Up -> Down ○ Down -> Up

Formal Property:

● Symmetric ○ Asymmetric ○ Transitive

Relates concepts without subsumption.

Figure 98 - The Relation Editor

What Can be Edited?

Cosmetic and descriptive as well as structural aspects of relations can be edited with the Relation Editor.

Cosmetics

Cosmetic aspects include the label used when displaying links in a Network Editor; the menu text displayed when creating a connection; and the width, solidity, and color of the line connecting the nodes linked with this relation.

Preferred Layout Direction

A more sophisticated "cosmetic" property is the preferred layout direction. By using this relation characteristic, the user can assert some control on the automatic layout algorithm. Indeed, this option justifies the name "semantic layout".

Formal Property

The formal property associated with a relation has a cosmetic effect and it controls the "procedural semantics" of the semantic operators in the Query Tool. When you want to utilize the semantic operators (SUB, UP, SIB), transitive relations need to be used.

Comment

As with all entities in ATLAS.ti, a comment can be attached to a relation. The text entered as a relation comment is displayed within a Network Editor after opening a context menu on a link, or when selecting **DISPLAY RELATION**.

Bear in mind that a comment written for a relation is different from a comment written for a *link*. The comment for a relation is of a global nature and defines the relation type: e.g., what is meant by the relation "is associated with." A *link* using this relation connects two specific codes. When writing a comment for this link, the meaning is local and explains why two codes were connected using this relation.

Editing Relations

The Relation Editor is available from the HU's main menu: **NETWORKS/RELATION EDITOR**, or can be launched from the Network Editor's **LINKS** menu. A submenu offers the choice between editing Code-Code relations or Hyper-Links (quote-quote relations).

To edit a relation

You can change the properties of relations. If these relations are already in use by the currently loaded HU, changes will be stored along with the HU when saving it.

1. Open the Relation Editor: **NETWORKS/RELATION EDITOR**.
2. In the list of relations, click on the relation to be edited
3. Change any of the values
4. Click on APPLY

If you open the Relation Editor from within a Network Editor, all changes are "broadcast" to the editor and you see the changes in the display of the affected links.

Note: When opening the Relation Editor from the main menu, all but the preferred layout direction settings are realized immediately in all currently open Network Editors.

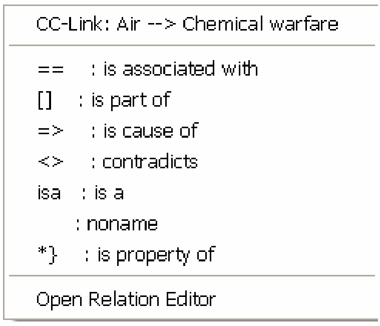
Creating New Relations

Note: User-defined relations are only available for code-code or quotation-quotation links. All other links use "hard-wired" relations (like the ones between quotations and codes).

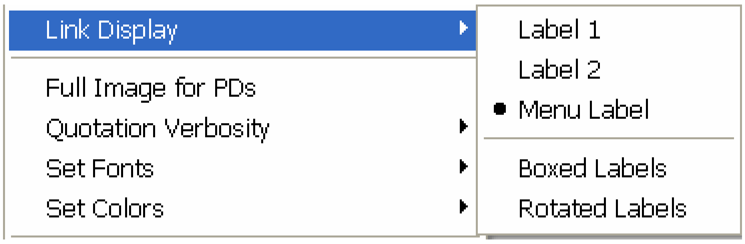
New relations are stored together with the HU in which they are used. When starting ATLAS.ti 5, the default relations as defined in the file *default.rel* are loaded. This file is located in the user system folder that can conveniently be accessed via **EXTRAS/EXPLORER/USER SYSTEM FOLDER.** When creating new relations, it is suggested that you save these relations to the *default.rel* file. If desired, different REL files can be created and loaded.

To create a new relation

New relations can be created when linking codes or quotations, or independently of any linking activity. In both cases, entries are created with the Relation Editor.



1. When linking codes or quotations, select the option **OPEN RELATION EDITOR** instead of one of the offered relations. Or, select **NETWORKS/RELATION EDITOR** from the main menu.
2. In the Relation Editor, select the menu option **EDIT/NEW RELATION**.
3. Enter a short unique ID for the relation you want to create. The internal ID is displayed in the list of relations in column ID.
4. Next, enter a label 1, a label 2, and the menu text. In the Network Editor, you have three options to display the name of the relation (see figure below). As a view option, you can either display label 1, label 2, or the menu label. If there is sufficient space in the network, you can select to display the menu label, which is usually longer. Choose an abbreviation for labels 1 and 2 as a display option when space is limited. Suggestion: Choose a symbol for label 1, a short word for label 2.



   The menu label equals the menu text. The text entered in the field ‘Menu Text’ is used in the relation menu and as a label. In addition, the menu text is also used when outputting networked codes in the form of quasi sentences (**CODES/OUTPUT/CODE HIERARCHY** or **CODE NEIGHBORS**).
5. Next select the line style (width, color, solid or dashed).
6. If you wish, you can specify the preferred layout direction that is used to automatically draw the picture when opening a Network View on an object.
7. The final attribute to enter is the "formal property" of the relation: "transitive," "symmetric," or "asymmetric."
8. Optionally, you can describe the newly created relation in the text pane at the bottom of the Relation Editor.
9. In order to save the new relation, select **FILE/SAVE** from the Relation Editor menu. A file dialog window opens. The suggested file name is *default.rel*. It is recommended to use this file as your standard repository for relations. It is possible to create different sets of relations by entering a new file name (see Managing Relations below). If you do so, you need

to load the desired set every time you start ATLAS.ti. (In the Relation Editor, select **FILE/LOAD RELATIONS**.) By default, the standard file *default.rel* is loaded.

You can modify the entries at any time. In the Relation Editor, click on the relation and overwrite the existing entries. Save the relations. You can also modify the standard relations that came with ATLAS.ti, translate them to your language, change the labels or the menu text, modify the line color, etc.

Managing Relations

Create sets of relations that reflect your methodology.

Using the Relation Editor, different sets of relations can be created and stored in separate files (using ***FILE/SAVE RELATIONS***). For instance, you could have a set of relations related to argumentation theory, or a set based on Grounded Theory relations. When starting ATLAS.ti, the default relation set is loaded (i.e., the file default.rel).

If you have created a new set and stored it in a new REL file, you need to load it after starting ATLAS.ti 5. To do so, open the Relation Editor and choose **FILE/LOAD RELATIONS**. This adds the new relation set to the already loaded default set.

If you want to delete relations from the default set, or from any newly created set, select a relation in the Relation Editor and choose the menu option **FILE/DELETE RELATION**. When you have removed all unwanted relations and want to make the changes permanent, you need to save the set (select **FILE/SAVE RELATIONS)**.

Cosmetics - Network Display Properties

There are numerous options available to alter the appearance of nodes, links, and even the background.

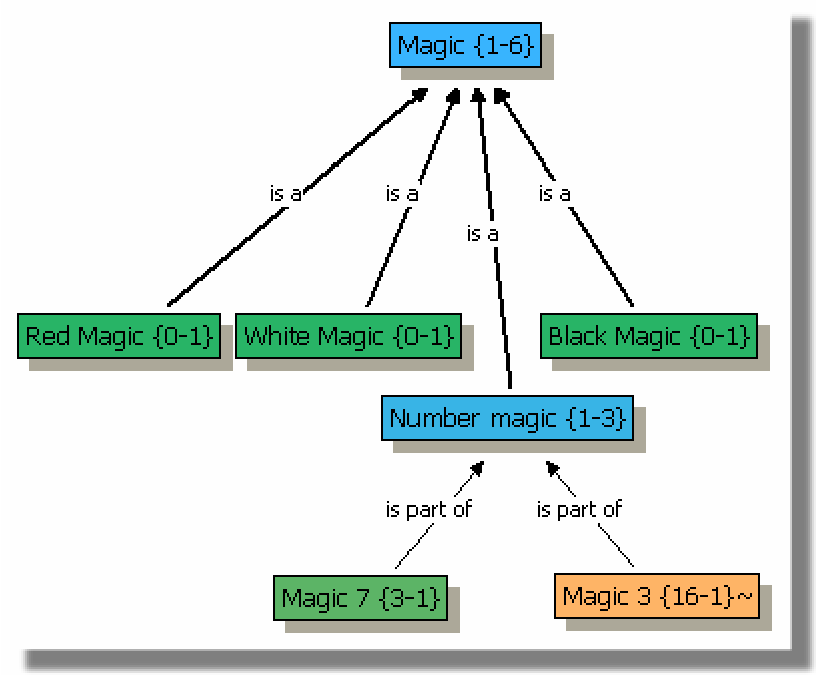
However, all settings created using the Display menu of Network Editor are lost after closing the editor. If you want to change colors and fonts globally for all Network Views, you need to change these settings under **NETWORKS/PREFERENCES** (see “Network Editor Preferences” on page 387).

Colors

The color of the Network Editor's background and the color of nodes can be set independently. Choose **DISPLAY/SET COLORS** and then one of the options from the submenu. You are offered a standard color chooser dialog from which to pick a color.

Auto-Color Mode

Auto-Color mode visualizes the coding and modeling state of the codes. This mode affects code nodes only. Code nodes are automatically assigned a color according to their groundedness and density. Groundedness of a code (i.e., the number of associated quotations) increases the red part of the node color (note “Magic 3” in the figure below). Density (i.e., the number of links to other codes) increases the blue part (“Magic” is the winner in the figure below).



This makes codes that are heavily or seldom used for coding or model building easily identifiable.

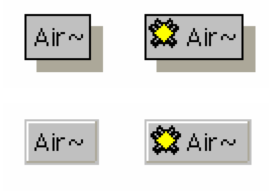
Fonts

The font used for nodes and links can be set independently choosing **DISPLAY/SET FONTS** from the Network Editor’s main menu.

Node and Link Appearance

Under the Display menu of the Network Editor you find a large variety of options to alter the display characteristics of nodes and links. Some of these options affect all nodes regardless of their type. Other options change the display of certain node types only.

Node Icon



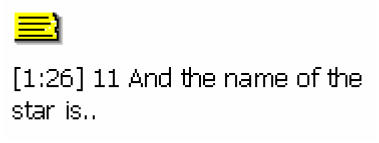
The node type icon can be switched on and off for all nodes by selecting the menu option **DISPLAY/USE NODE BITMAPS**, or by pressing the key combination **CTRL-ALT-B**. The small image used as a node icon increases the distinctiveness of the nodes, especially when a mixture of node types exists in a Network View. Nonetheless, when space runs low, you may prefer to switch off the icons.

A node can be displayed with a "3D" border, or with a drop shadow. To switch between the 3D and the shadowed view, select the menu option **DISPLAY/DISPLAY NODES 3D** or press the key combination **CTRL-3**.

Node Verbosity

Id only:

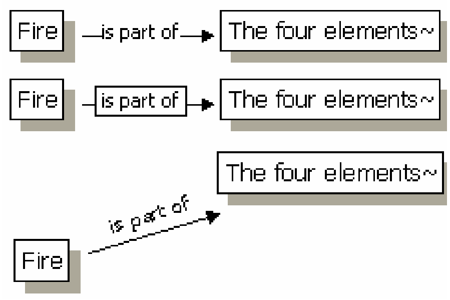
Id & comment:



[1:26] 11 And the name of the star is..

You have several options to control the amount of information displayed in a node. Quotes can be displayed with just their ID or with the complete selection of text they represent. Of course, to decide which level of verbosity makes sense, you need to examine how many nodes populate the Network View and the overall size of the text. To change the verbosity of quotes, select the menu option **DISPLAY/QUOTATION VERBOSITY.**

Link Display



There are numerous ways to display links via menu item **DISPLAY/LINK DISPLAY**.

First, choose from three different ways of displaying the label: choose to display label 1, label 2, or the menu text as defined in the Relation Editor. See "The Relation Editor" on page 235 for further detail.

The second option is to display labels with a box around them (or not), or to display them rotated alongside the line connecting two codes or quotes.

Further display options are explained in the preferences section "Display Menu" on page 384.

Miscellaneous Network Procedures

This section describes useful procedures not covered by the explanations found in "The Conceptual Level: Networks" on page 211.

Theory Transfer

Theory transfer supports a deductive approach to analyzing qualitative data and the application of "proven" theories to other domains.

By "Theory Transfer" we mean the re-use of codes, relations, and code networks produced in one project in subsequent projects.

Two different strategies are supported:

- The re-use of a "flat" (unstructured) list of codes including names, code definitions, author, date of creation and modification in other HUs.
- The transfer of rich representations of codes (including the connections between codes).

"Flat" Code Migration

The first strategy--using unstructured code lists--includes the output of all or a selection of codes from one HU into a file and the later import of this code file into another HU. Step-by-step instruction is provided elsewhere (see “Transferring Codes from Other Projects” on page 122).

The method of flat code migration is useful when working in teams and when a code list is first developed on one computer. This way, other team members can easily import the agreed upon list of codes into their HUs. Other potential applications for this function include testing reliability, or starting deductive structural theory work from scratch. When testing for reliability, a given code base can be used on the same material by different authors.

Semantic Network Migration

This method transfers a relatively complete "theory" into a new project. Like the flat code migration method described above, two steps are necessary. First, the network of codes needs to be exported and saved as an external file. Second, this file is imported into a new HU (or an existing HU).

To export the code network

1. Load the HU that contains the "theory" you want to migrate.
2. If needed set the code filter to contain only those codes to be processed in the next step.
3. Choose **NETWORKS/EXPORT CODE NETWORK** from the HU Editor's main menu.
4. Enter a name for the network file. By default, the name of the HU with the extension NET is offered.

The file contains a textual description, which can be processed by the import step described in the following directions.

To import a code network

1. Load the HU into which the network of codes shall be imported.

2. Choose **NETWORKS/IMPORT CODE NETWORK** from the HU Editor's main menu.
3. Select a network file (extension .NET).

Conflict Resolution

When importing networks into an HU that already contains networked codes, the following internal strategy is applied to avoid conflicts: Existing codes and links are not modified, inconsistent links are not created (e.g. direct cycles).

Cleaning Up

While the situation of importing homonyms is controlled by the conflict resolution strategy, the system cannot automatically handle unwanted synonyms. Especially when importing codes and networks created by others into a non-empty HU, such synonyms (e.g., "man" and "mankind") might clutter the name space of codes. You can clean up by merging the synonyms (see “Merging Codes” on page 125).

Scaled Theory Transfer

Besides the two strategies described above, you can use the HU merge procedure to gain more control over what components are to be transferred. Code lists with "rich" representations of codes can be extracted from a given "theory template" HU; Network Views, memos, and/or PDs may be included. This method also has the advantage that it is a "one-pass" procedure and there is no need to create extra files containing the codes or networks to be transferred. Unlike the Semantic Network Migration method described above, it also allows you to assert more control over how conflicts with existing codes and links are to be resolved.

For details please refer to “Merging Hermeneutic Units” on page 289.

Merging Codes using the Network Editor

Clean up synonymous codes using the Code Merge procedure.

The essentials of merging codes have already been described elsewhere (see “Merging Codes” on page 125).

Below we describe how merging codes can be accomplished in a Network Editor.

The figures below illustrate that the merging of two or more codes is not a trivial task, because all of their references, links, and comments need to be transferred to the target code in a consistent manner.

Note: Using the network method is the "inverse" procedure of the list method described earlier (see “Merging Codes Using the List Method” on page 126). Using the list method, you select the target code first. Then you choose the codes to be merged. Merging codes in a network editor is the inverse. You select the codes to be merged first and then you select the target code.

Two codes, "Magic 7" and "Magic 3," have been selected. Using "Merge Codes," the two codes will be merged into "Number Magic."

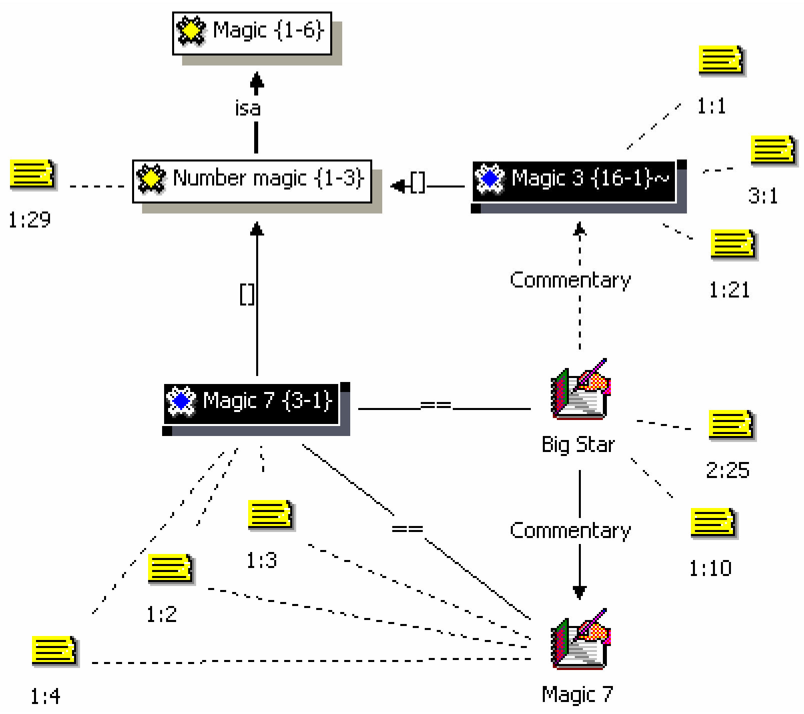


Figure 99 - Code Merge: Before the merge

After the merge: The two former sub codes of "Number Magic" - "Magic 3" and "Magic 7" - have been merged into "Number Magic". All references to quotations, other codes, and memos have been "inherited" by "Number Magic".

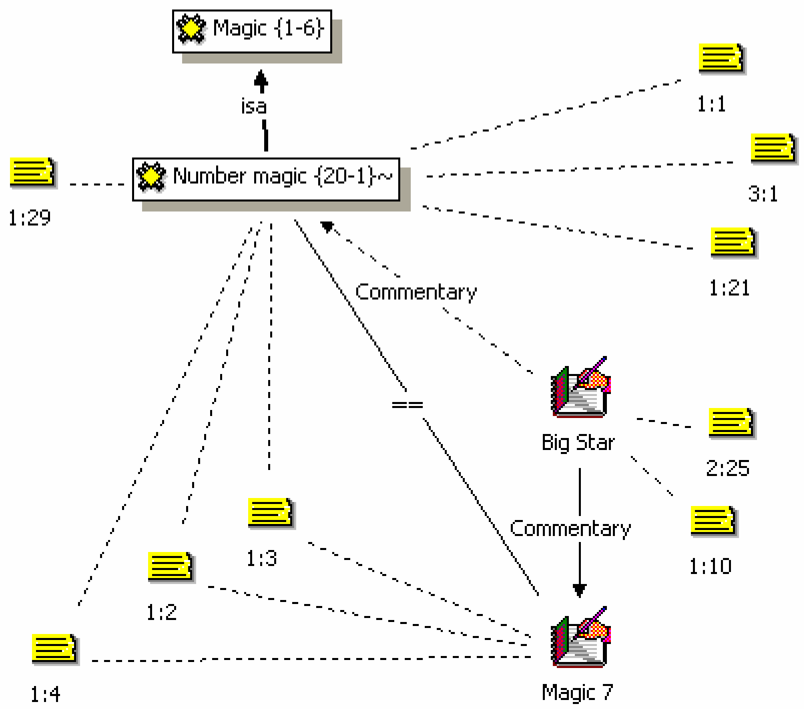


Figure 100 - Code Merge: After the merge

To merge codes using the Network Editor

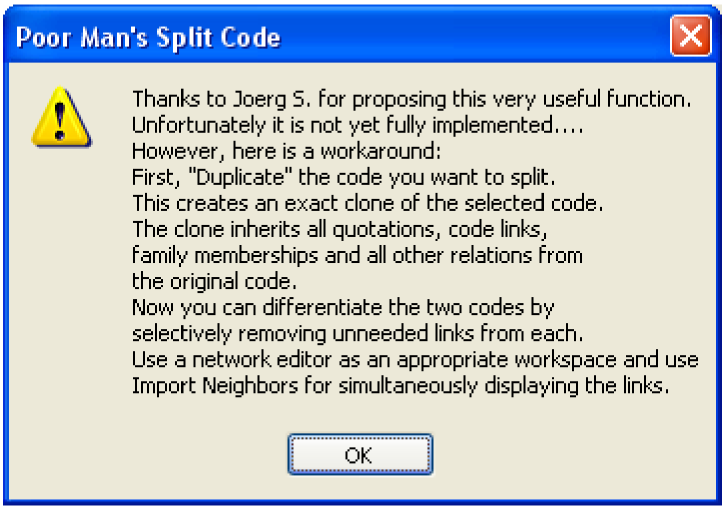
1. Open or create the Network View that contains the codes to be merged.
2. Select all "source" codes to be merged into one target code. Make sure that the target node is already visible in the Network Editor.
3. Choose **NODES/MERGE CODES** from the Network Editor's main menu.
4. Move the mouse to the target node and click the left mouse button.

The target node "inherits" all the references, i.e., quotations, links to other codes and memos, and comments, into the incorporated node(s).

Splitting Codes

At last, ATLAS.ti 5 offers a rudimentary split code function. There is still some work involved in splitting a code, and therefore it is called the 'Poor Man's Split Code' function. When clicking on **CODES/ MISCELLANEOUS/SPLIT CODE**, the following window opens, providing a summary instruction on what to do in order to split a code:

Splitting codes the hard way …



Thanks to Joerg S. for proposing this very useful function.
Unfortunately it is not yet fully implemented....
However, here is a workaround:
First, "Duplicate" the code you want to split.
This creates an exact clone of the selected code.
The clone inherits all quotations, code links,
family memberships and all other relations from
the original code.
Now you can differentiate the two codes by
selectively removing unneeded links from each.
Use a network editor as an appropriate workspace and use
Import Neighbors for simultaneously displaying the links.

Below, step-by-step instruction is offered. As an example, the code "Number magic" is split. Above, in the section on merging codes, we merged the two codes "Magic 3" and "Magic 7" into the "Number magic" code (see "Merging Codes using the Network Editor" on page 243). Before the merge, sixteen quotations were attached to the code "Magic 3", three quotations to the code "Magic 7, and one quotation to the code "Number magic". Now we show how to revert this action.

To split the previously merged code “Number magic”

1. Select “Number Magic” in the Code Manager.
2. Open a Network Editor on this code. The network editor will display “Number Magic” and all its direct neighbors, except quotations.
3. Select code “Number Magic” in the network editor and select **NODES/IMPORT NEIGHBORS** from the network editor’s main menu to import its quotations..
4. Select **NODES/DUPLICATE CODES** to create an exact clone of “Number Magic” which is immediately displayed in the network editor as well. The clone inherits all quotations, code links, family memberships and other relations from the original code. You will see that all links originating from “Number Magic” also appear with the newly created clone “Number Magic [Clone: 1]”. You will very likely end up with lots of nodes and links cluttering the screen.
5. Rename clone “Number magic [Clone:1]” via **NODES/REMNAME** into “Magic 3+7”. This is not mandatory, but “Magic 3+6” reflects much better what it stands for (“Magic 3” and “Magic 7”).
6. Enlarge the network window to fill the entire screen.
7. To de-clutter the display, select menu option **LAYOUT/SEMANTIC LAYOUT**. This distributes all nodes in a more ordered fashion. It might be necessary to move some nodes individually for a cleaner layout.
   The network editor might now look as in the figure below:

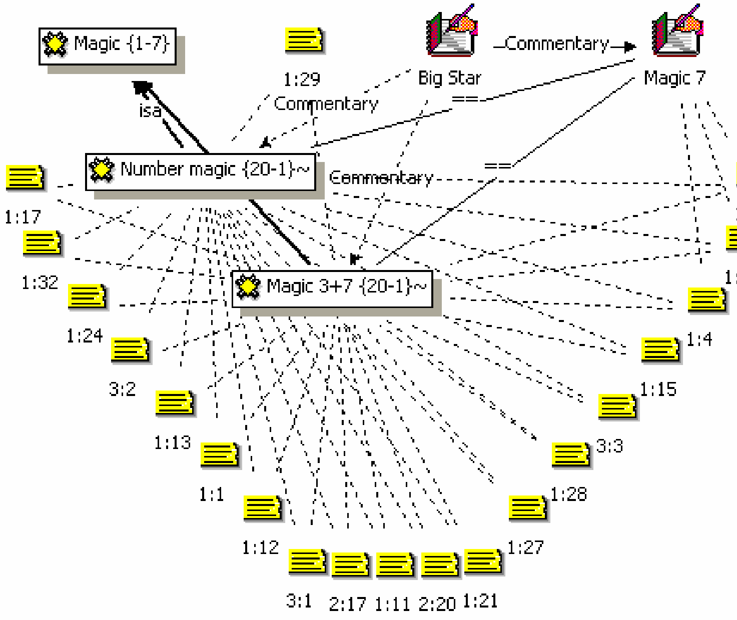


Figure 101 – Step 2: After import of all neighbors for “Number magic”

In order to revert back to the original state, two splitting actions are necessary. First, we revert the code "Number magic" back to its original state. Then we split code "Magic 3+7".

8. Select all nodes that should no longer be referenced by the original node. In the above example, these are all but one quotation node (1:29) and one code node ("Magic"). A convenient way to select these nodes is to select code "Number magic". Then select all its neighbors by issuing **NODES/SELECT NEIGHBORS** from the menu. Hold drown the Ctrl-key and deselect "Magic", "Number magic", "Magic 3+7", and "1:29".

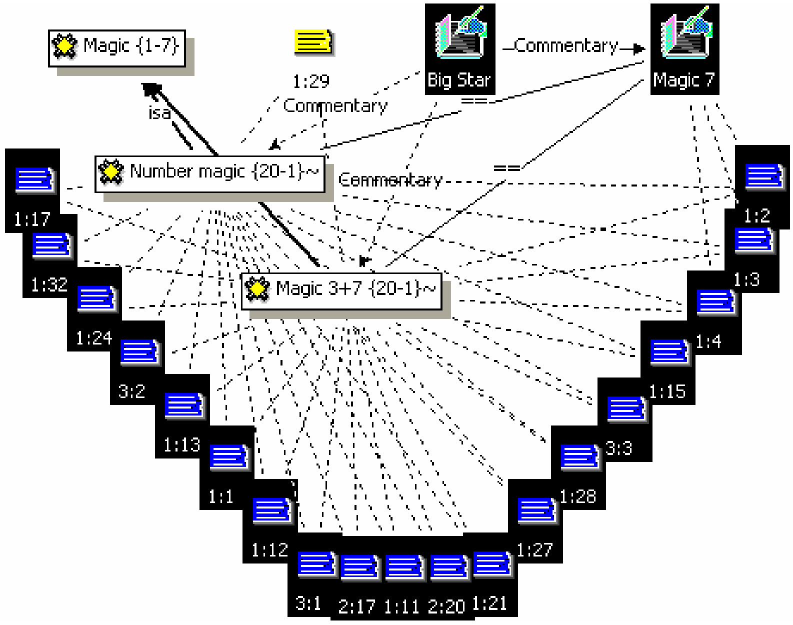


Figure 102 All nodes to be unlinked from "Number magic" are selected

9. Select **LINKS/CUT LINKS** from the menu. Red "rubber bands" appear, connecting the selected nodes with the mouse cursor.

10. Move the mouse pointer over node "Number magic" and click the left mouse button. This unlinks all selected nodes from the original code.

11. Then select the node(s) that should be referenced by the original "Number magic" only: quotation 1:29, and code "Magic."

12. Unlink the two nodes, which should now be the only nodes selected in the network view, from clone "Magic 3+7."

The original code "Number magic" references one quotation and code "Magic" and is (almost) reverted to its original state.

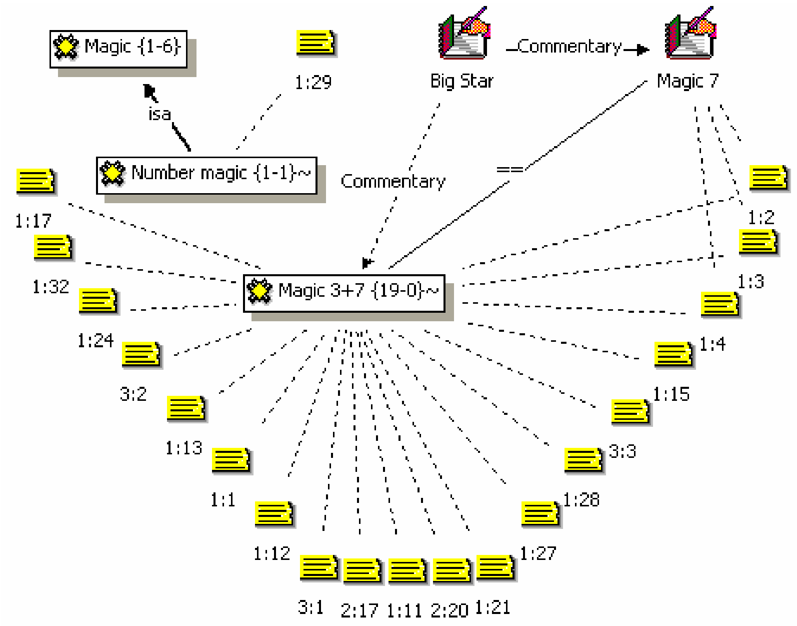


Figure 103 – Number Magic - almost - in its original state.

Now we have to split “Magic 3+7” into “Magic 3” and “Magic 7”.

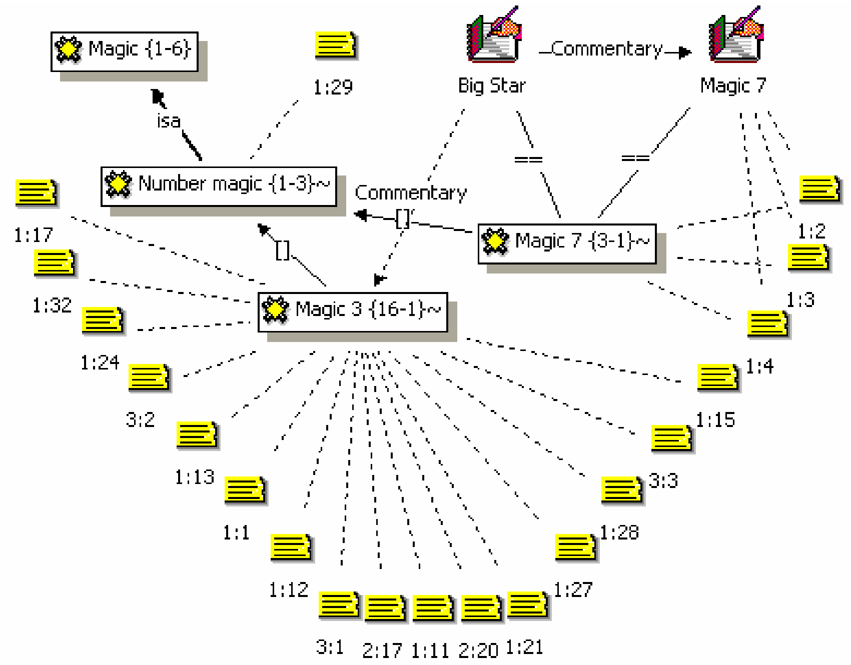
13. Select code “Magic 3+7” and choose **NODES/DUPLICATE CODES** from the menu. The new clone “Magic 3+7 [Clone:1]” is displayed in the network editor.

14. Now rename “Magic 3+7” to “Magic 3” and its clone “Magic 3+7 [Clone:1]” to “Magic 7”. We are almost there!

15. All you need to do now is to remove the irrelevant links from each of the codes using the procedures described above.

16. Select nodes “Magic 3” and “Magic 7” and choose **NODES/LINK NODES** from the menu.

17. Click on code node “Number magic” and select relation “is part of”. We are now back at the original state!



F

igure 104: After splitting the code magic 3+7

Network Views as Graphical Tables of Contents

If you use graphical PDs, you can use Network Views to display "thumbnails" (small-sized copies) of these PDs.

To create a graphical content table

1. Create a new Network View by choosing **NETWORKS/NEW NETWORK VIEW** from the HU Editor's main menu.
2. Import some graphical PDs (see “Importing Nodes” on page 226).
3. From the Network Editor menu, choose **DISPLAY/FULL IMAGE FOR PDS**.
4. Rearrange the nodes in the Network View.
5. Save the Network View.

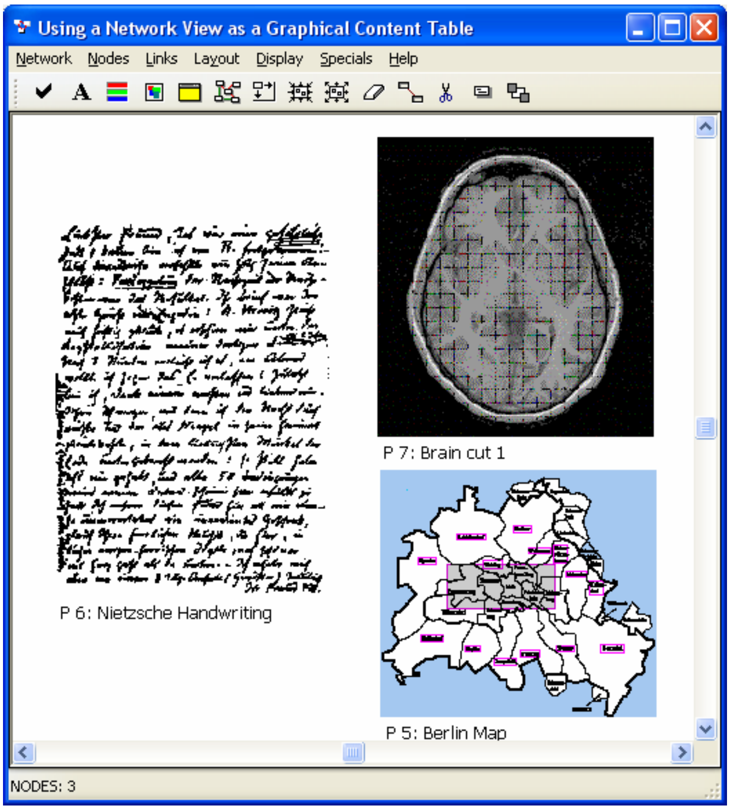

Using a Network View as a Graphical Content Table
Network Nodes Links Layout Display Specials Help
P 7: Brain cut 1
P 6: Nietzsche Handwriting
P 5: Berlin Map
NODES: 3

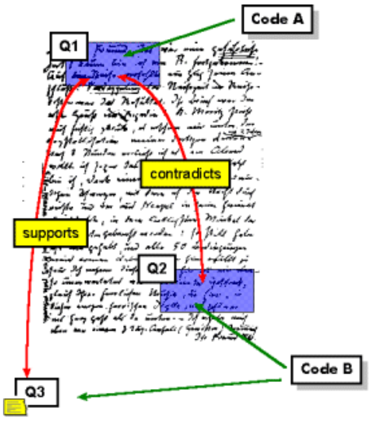
Figure 105 - Network View as graphical content table. Its name reflects this usage.

Change the size of the thumbnail images

You can change the size of the thumbnail images by setting the width in the Network Preference window.

1. From within the Network Editor, select **SPECIAL/PREFERENCES**, or from the main menu select **NETWORKS/PREFERENCES**.
2. Click on the Nodes tab. Next to the option 'Full image for PDs' on the right, you see a small entry field entitled: Width. The standard width is set to 200.
3. Change the width and click Apply. Close the Network Preferences window.
4. Close and reopen the Network View in order for the changes to take effect.

Hypertext



A network with text (or other media) as nodes is often referred to as a *hypertext*. The original sequential text is de-linearized, broken down into pieces that are then reconnected, making it possible to traverse from one piece of data to another piece of data regardless of their original positions.

Note: The term “hyperspace” is a science fiction term describing a method of high-speed travel using higher dimensional "space holes" as shortcuts. When using the "hypertext" function in ATLAS.ti, you travel through a *hyperspace* of data overcoming distances between lines of text (or data segments) instantaneously using ATLAS.ti hyperlinks as shortcuts through space.

The procedures described so far have focused on the creation of *code* networks. Direct linking of data-segments (quotations) to other data-segments offers similar flexibility in choosing and defining relations. Almost all of the editing functions described for code networks can also be used when connecting two or more quotations.

Note: Code-code and quote-quote links are the only types of network connections that allow you to assign a name to the connection that appears on the line or arrow that runs between the objects.

Representing the "Rhetoric of Text"

While a code offers fast access to sets of data segments, it defines only a simple relation between them, namely ***equivalence****.*

Hyperlinks, which directly relate data segments, express more differentiated relationships between quotations: contradiction, support, illustration, etc.

No code is needed to connect quotation Q1 with one that it contradicts (Q2).

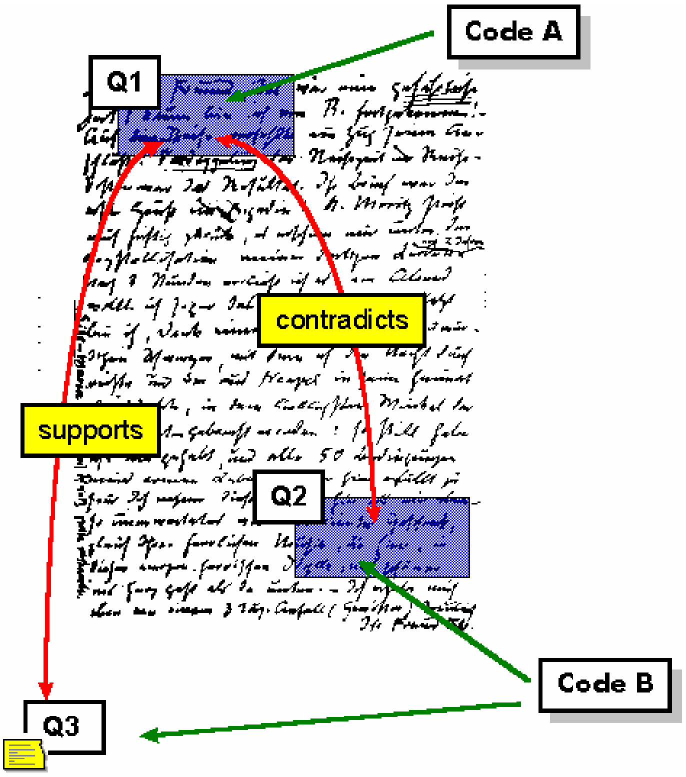


Figure 106 - Hypertext captures the macrostructure of a text

Cross-references between text passages are very common even in conventional media like books - just think of religious and juridical texts, literature, journals etc. Footnotes and endnotes are another common deviation from the pure linearity of sequential text. However, in conventional media, not much navigational support is provided for "traversing" between the pieces of data that reference each other.

Today's largest hypertext system: the World Wide Web

Computer-related hypertext applications include, for example, online help systems that display operational information in suitable small chunks (compared to lengthy printed information), but with a considerable amount of linkage to other pieces of information. A well-known hypermedia structure is the **World Wide Web** with its textual, graphical and other multimedia information distributed world-wide.

Benefits of Hypertext

What are the advantages of direct connections between text segments, compared to the traditional procedures of qualitative text analysis?

What Codes Cannot Do

Maybe we should ask a different question first: How can you express that statement X in text A *contradicts* statement Y in text

B, or how can you retrieve all contradictory statements of a specific utterance if all you have is codes and their associations with the data?

Pure classification is not always adequate

The "code & retrieve" paradigm, which is so prevalent for many systems supporting the qualitative researcher, is not adequate for certain types of analysis. In formal terms, attaching codes to chunks of data creates named sets of segments with almost no internal structure. This is not to say that partitioning lots of text segments into sets is not useful. On the contrary, classification leads to manageable amounts of segments that later can be retrieved with the help of the attached code words. But this may not be the only way you want to look at your data.

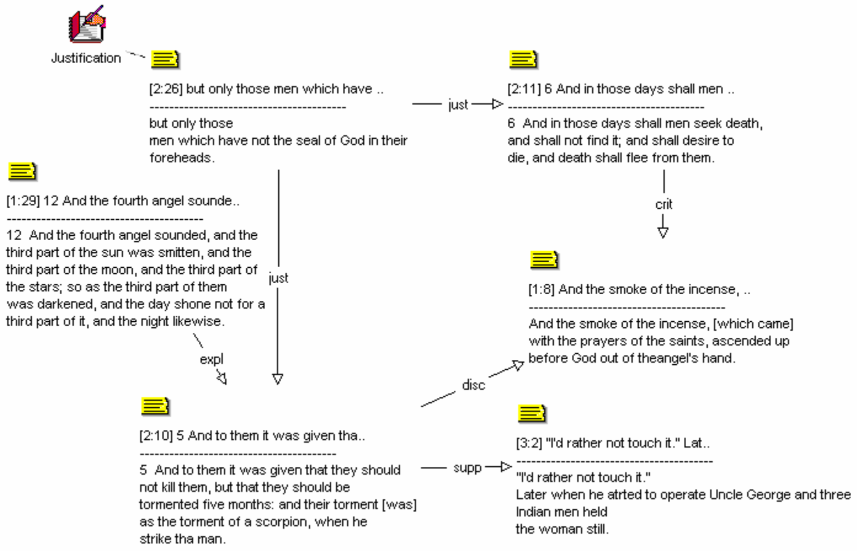
Hypertext makes text-text relations explicit

The concept of hypertext introduces explicit relations between passages. These links have to be built manually and result from an intellectual effort. The system cannot decide for you that segment x is in contradiction to segment y. But after the work of establishing the links, you can make semantically richer retrievals: "Show statements contrary to statement x." Hypertext allows you to create different paths through the data you are analyzing. For example, you may create a timeline different from the strict sequence of the original text.

Graphical Hyperlink Maps

ATLAS.ti incorporates procedures for creating and browsing hypertext structures. It allows for two or more quotations being connected using *named* relations. Further, you can create graphical maps (using Network Views) to make parts of your hyperspace accessible in a comfortable way. Hyperlinks may connect quotations (textual, graphical, multimedia) across documents (inter-textual links) or may link segments within the same primary document (intra-textual links). The natural boundary for hyperlinks, like all structures in ATLAS.ti, is the Hermeneutic Unit.

The hypertext Network View to the right displays quotations in maximum "verbosity" set to "full text." Other node types can also be included in the Network View, like the memo in the upper left corner.



[2:26] but only those men which have ..
----
but only those
men which have not the seal of God in their
foreheads.

[2:11] 6 And in those days shall men ..
----
6 And in those days shall men seek death,
and shall not find it; and shall desire to
die, and death shall flee from them.

[1:29] 12 And the fourth angel sounde..
----
12 And the fourth angel sounded, and the
third part of the sun was smitten, and the
third part of the moon, and the third part of
the stars; so as the third part of them
was darkened, and the day shone not for a
third part of it, and the night likewise.

[1:8] And the smoke of the incense, ..

And the smoke of the incense, [which came]
with the prayers of the saints, ascended up
before God out of theangel's hand.

[2:10] 5 And to them it was given tha..
----
5 And to them it was given that they should
not kill them, but that they should be
tormented five months: and their torment [was]
as the torment of a scorpion, when he
strike tha man.

[3:2] "I'd rather not touch it." Lat..

"I'd rather not touch it."
Later when he atrted to operate Uncle George and three
Indian men held
the woman still.

Figure 107 - A network of quotations

General Procedures

Star or Chain connections

When linking quotations, you have the option to create a “chain”, a “star” or a combination of both. Below, a chain and star connection are illustrated.

A hyperlink chain connects quotations sequentially

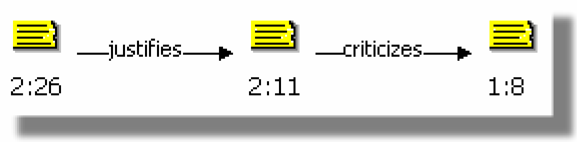


Figure 108 - A hyperlink chain

When creating this chain, the quotation 2:26 served as a source quotation and was linked to the target quotation 2:11. In order to continue the chain, the target quotation 2:11 became the source quotation and was linked to the new target quotation 1:8.

A hyperlink star connects many quotations from one source quotation.

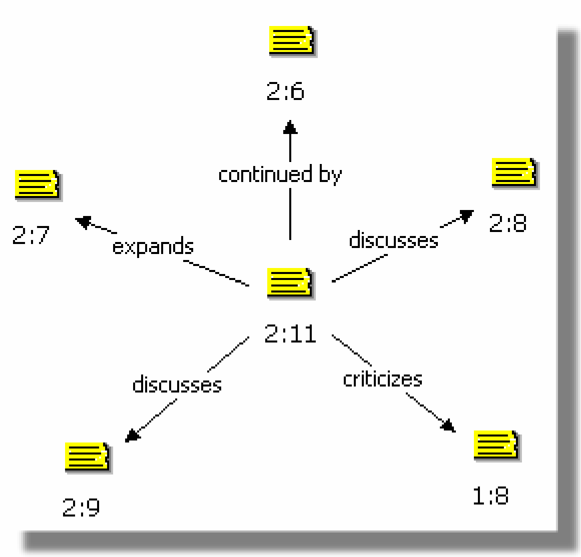


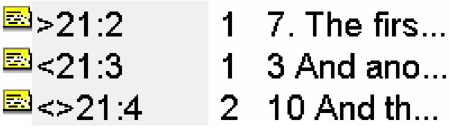
Figure 109 – A hyperlink star

When creating a star, there is one source quotation and multiple target quotations. In the above example, the source quotation is 2:11, which is linked to five target quotations via a number of different relations.

Hyperlinks in the Quotation Manager

In list views, linked quotations are prefixed with angle brackets.

All hyperlinked quotations can easily be recognized in the Quotation Manager. All source quotations are marked with an opening angle bracket <, all target quotations with a closing bracket >. If a quotation is both, source and target (as the case when creating chains), then both brackets are used as prefix <>.



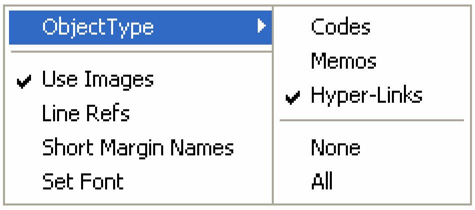
>21:2	1	7. The firs...
<21:3	1	3 And ano...
<>21:4	2	10 And th...

Figure 110 – Hyperlinked quotation in the Quotation Manager

Hyperlinks in the Margin Area

The margin is an optimal work space for navigating hyperlinks

When working with hyperlinks, it is advisable to set the margin display options as follows:



To open this context menu, right click on a blank space in the margin area.

Creating Hyperlinks

ATLAS.ti offers a variety of options for creating and traversing hypertext links. Similar to the linking of codes, you may create hyperlinks using a list method or the network-editor. In addition, hypertext links can be created "in context", or via Drag & Drag in the Quotation Manager and in the margin area.

Creating Hyperlinks using the List Method

Quotations can be linked with a method already described for connecting codes using the Hyperlink menu option (cf. “To link code nodes using the list method” on page 225). When using this method, the quotations to be connected must already exist. It is possible to create a *chain* and a *star* connection using this method, but the procedures are slightly different than those described in the “star and chain connections” section.

To create a chain:

1. Select a source quotation (either in the Quotation Manager or by clicking on a quotation bracket in the margin area).
2. Select **HYPERLINK/CREATE LINK SOURCE** from the main menu.
3. Select the target quotation.
4. Select **HYPERLINK/CREATE LINK TARGET** from the main menu. The relation menu pops up.
5. Select a relation to link the two selected quotations (or create a new relation by selecting **OPEN RELATION EDITOR**).

To create a star:

1. Select a source quotation (either in the Quotation Manager or by clicking on a quotation bracket in the margin area).
2. Select **HYPERLINK/CREATE LINK SOURCE** from the main menu.
3. Select **HYPERLINK/CREATE HYPERLINKS PER LIST** from the main menu. The relation menu pops up.
4. Select multiple target quotations from the list and click on the OK Button.
5. The Relation menu pops up. Select one relation. If not all target quotations should be connected to the source quotation using the same relation, you need to change the relations in a second step (see "Modifying Hyperlinks" on page 257).

Creating Hyperlinks in Context

Other than the list method described above, linking quotations in context not only allows you to connect previously generated quotations, but you can also mark new data passages to become part of the star or chain in the process. These passages then also become registered as quotations.

To create a hyperlink in context:

1. Mark a passage or select an existing quotation.
2. Right click on the selected passage/quotation, and select **CREATE LINK SOURCE** from the context menu. Alternatively, you can click on the Source Anchor button in the primary document toolbar.
3. Mark another passage or select an already existing quotation to which the "source" is to be connected.
4. Right click on the target quotation and select **CREATE LINK TARGET** from the context menu. Alternatively, click on the Target Anchor button in the primary document toolbar.
5. The Relation menu pops up. Select the type of relation to be used to connect the two quotations.
6. Next, select whether you want to create a *chain* or a *star*. If you do not want to connect more than these two quotations, select the option **FINI**.
7. If you select the option **CHAIN** or **STAR**, you can proceed to connect further quotations. To do so, continue with step three.

To validate the established structure, you can open a Network Editor on the source or target quotation by right-clicking on the quotation and selecting **OPEN NETWORK VIEW**.

Creating Hyperlinks in the Quotation Manager

This method can be applied to connect one or more existing quotations to one target quotation.

1. Select one or more source quotations in the Quotation Manager (multiple selections can be done in the standard way).
2. Hold down the left mouse button and drag the quotation(s) to a target quotation in the Quotation Manager.
3. Release the left mouse button. The Relation menu opens and you can specify the relation to be used for the hyperlinks.
4. The new hyperlinks are created.

Creating Hyperlinks in Margin Area

Like the method described above, creating hyperlinks in the margin area is best suitable for connecting two quotations that are in close proximity to each other.

1. Select a quotation bracket in the margin area.
2. Hold down the left mouse button and drag the bracket onto another quotation bracket.
3. Release the left mouse button. The Relation menu opens. Select a relation. The linking procedure ends here.

Note: dropping a bracket onto another quotation displayed alongside a bracket, replaces the existing hyperlink.

Modifying Hyperlinks

There are two place to modify existing hyperlinks, the Network Editor and the Hyperlink Manager (see “Link Management” on page 234).

To modify links in the Network Editor

1. Open a network view on a hyperlinked quotation (e.g., by right clicking on a quotation and then selecting the option **OPEN NETWORK VIEW** from the context menu).
2. In the Network Editor, right click on a link label and select **CHANGE RELATION** from the context menu.
3. The relation menu pops up. Select a different relation.

Building Text Webs with the Network Editor

The Network Editor can be used to link quotations much in the same way it is used to link codes to form semantic networks.

To create hyperlinks using a Network Editor:

1. Click on a quotation in the quotation list
2. Open a network editor by either
3. choosing **OPEN NETWORK** from the **QUOTATIONS** menu or the marked quotations context menu (move the mouse cursor into the marked region) or clicking the Open Network button of the Quotation Manager.
4. A Network Editor opens and shows the selected quotation as a node. If the quotation already has neighbors (codes, memos, quotations), their nodes are displayed as well
5. Choose **NODES/IMPORT NODES** from the Network Editor's main menu to open the Import dialog box.
6. Select node type "Quotation."
7. In the multiple choice dialog box select all quotations that you want to link to the selected quotation. You may use the standard Windows techniques for multiple selections using the Shift and Ctrl keys. For multiple selection techniques consult "Multiple Selection*" on page 397*
8. Click the Import button. All selected quotations are arranged from the upper left to the lower right corner in the Network Editor. You may close the Import dialog box now.
9. Choose **LAYOUT/SEMANTIC LAYOUT** from the Network Editor's main menu for better access to the nodes (if you imported many).
10. Select the imported quotations.
11. Select **LINKS/LINK NODES** from the main menu.
12. Move the "rubberbands" to the target node, the quotation you opened the network on, and click on it.
13. Choose an appropriate relation for each pair of linked quotations from the relation menu that has popped up.
14. The only difference to linking codes is a different set of hypertext relations (e.g., "continued at", "supports").
15. After your "map" of text nodes is being built, save it as a Network View. You might want to use it later to traverse your hypertext paths.

Defining New Hyperlink Relations

The procedure for defining or editing hypertext relations is equivalent to the methods described for editing code-code relations. You may either define a new relation by choosing the bottom option from the list of relations when actually creating a link, or you may use a hyper-links relation editor, that is identical to the code-code relations editor. Newly defined or edited relations must also be saved to disk.

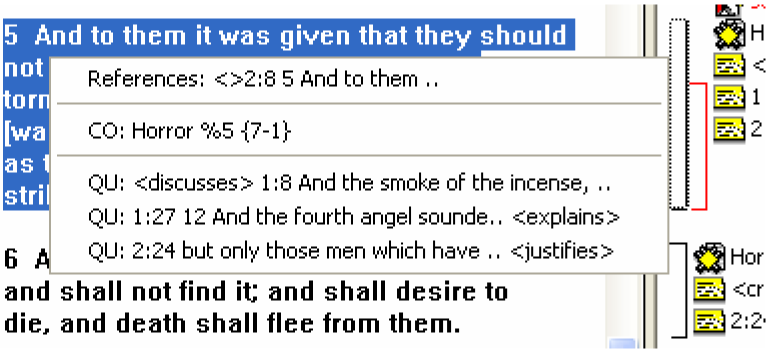
Traversing Hyperlinks

The "In-Place" Method

You may "travel" directly from a highlighted "Hyper"-quotation to its neighbors.

To display hyperlinked neighbors "in-place"

1. Activate a quotation with a double-click in the Quotation Manager.
2. Move the mouse cursor into the highlighted area of the document and click the right mouse button.
3. From the context menu choose **SHOW LINKS**.
4. From the list of links, choose the quotation, which you want to inspect.



5 And to them it was given that they should not torn [wa as t stril

References: <>2:8 5 And to them ..

CO: Horror %5 {7-1}

QU: <discusses> 1:8 And the smoke of the incense, ..
QU: 1:27 12 And the fourth angel sounde.. <explains>
QU: 2:24 but only those men which have .. <justifies>

6 A and shall not find it; and shall desire to die, and death shall flee from them.

Figure 111 - List of links for the selected quotation

Note: Steps one and two can be combined by pressing the Ctrl key while clicking the right mouse button.

The quotation "on the other end" of the hyperlink is displayed in a pop-up window.

To directly move to this quotation in context, click into the pop-up display, or click outside the pop-up to cancel.

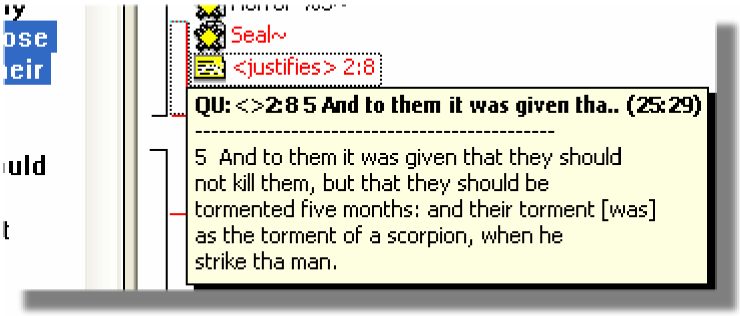
The margin area makes the movement between text passages easy. Whereas you have to make two mouse clicks in the last example, you can simply read the names of hyperlinked quotes in the margin area.

To traverse hypertext links using the margin area

1. Switch on the margin area.
2. If needed, open up the properties context menu in the margin area and select **OBJECT TYPES/HYPERLINKS**.
3. Double-click a hyperlink displayed in the margin. The quotation to the left of the margin area is highlighted and a pop-up window displays the hyperlink's contents.

4. To display the hyperlink in context (highlighted inside the primary document pane) click into the pop-up window. Clicking outside the pop-up window cancels the process.

The margin area permits a very intuitive traversal of hyper links.



QU: <>2:8 5 And to them it was given tha.. (25:29)

5 And to them it was given that they should not kill them, but that they should be tormented five months: and their torment [was] as the torment of a scorpion, when he strike tha man.

Figure 112 - Direct hyperlink traversal using margin area

The Network Editor Method

To move to the text of a quotation that appears in a network, right click over the quotation node and choose **DISPLAY IN CONTEXT**. You are moved to the section of the Primary Document where the quotation resides.

To import the neighbors of a quotation

*Remove all recently imported objects with **CTRL+SHIFT+Z***

The Network Editor lets you import the neighbors of selected nodes by choosing **IMPORT NEIGHBORS** from the Network Editor's **NODE** menu (see description in section “Import Node Neighbors” on page 228). Importing the neighbors of a quotation, that is part of a hypertext, not only retrieves linked objects of type "quotations" but also yields all codes, memos and other quotations directly connected to it.

Note: To reduce clutter by only importing neighbors that are quotations, and not codes, memos or documents, hold down the **CTRL** key when selecting the option from the Network Editor's menu. If you want the neighbors of only one quotation imported, open the context menu of this quotation and choose **IMPORT NEIGHBORS**.

Editing Hyperlink Comments

Use the margin area to display and edit link comments.

The links between quotations use fully qualified relations, like the links between codes and unlike the simple association between a code and a quotation. As “first-class” objects, these links can be assigned a dedicated comment.

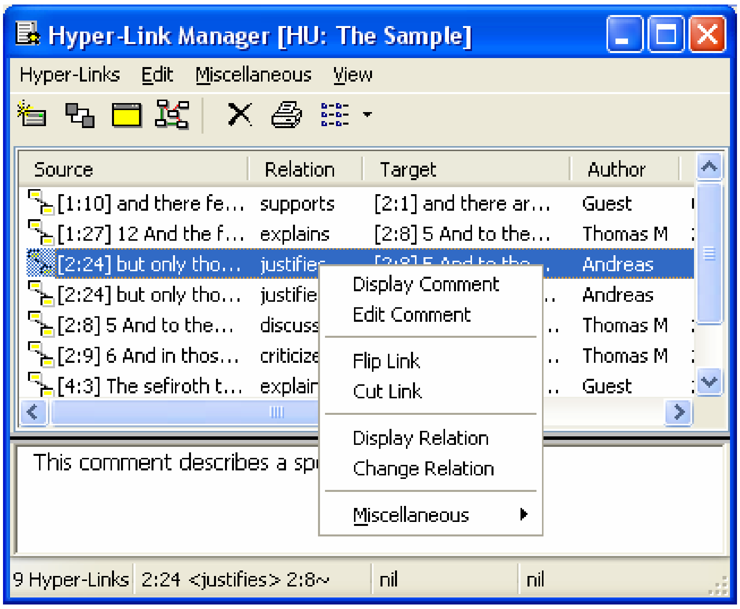
Such a comment could explain why quotation A has been linked to quotation B. Link comments can be accessed, displayed and edited from three locations: the margin area, the Hyperlink Manager and the Network Editor.

The margin area has the advantage that it is readily available during scrolling through the primary documents. The Network Editor method offers a visual approach to accomplishing this goal.

Create a network view of the hypertext nodes to facilitate this process.

To edit a hypertext link comment using the margin area

1. Switch the margin area on.
2. Open up the properties context menu in the margin area and select **OBJECT TYPES/HYPERLINKS**.
3. Pop-up the context menu for a hyper link displayed in the margin. The quotation inside the primary document pane is highlighted at the same time.
4. Choose **EDIT LINK COMMENT**.



Source	Relation	Target	Author
[1:10] and there fe…	supports	[2:1] and there ar…	Guest
[1:27] 12 And the f…	explains	[2:8] 5 And to the…	Thomas M
[2:24] but only tho…	justifies	[2:8] 5 And to the…	Andreas
[2:24] but only tho…	justifie	..	Andreas
[2:8] 5 And to the…	discuss	..	Thomas M
[2:9] 6 And in thos…	criticize	..	Thomas M
[4:3] The sefiroth t…	explair	..	Guest

This comment describes a sp

9 Hyper-Links 2:24 <justifies> 2:8~ nil nil

To edit a hypertext link comment using the Hyperlink Manager

1. Open the Hyperlink Manager via **NETWORKS/HYPER-LINK MANAGER** from the HU Editor's main menu.
2. Select a hyperlink.
3. Edit the comment in text pane below the link list or
4. Open a dedicated text editor by clicking the Editor button .

To edit a hypertext link comment using the Network Editor

1. Open a Network Editor on a quotation establishing one end of the hypertext link.
2. Move the mouse pointer onto the link between two quotations and open the context menu with a right mouse button click.
3. Choose **EDIT COMMENT**.

Collaboration

Collaboration or multi-authoring means that more than one author may work on a Hermeneutic Unit at different times. ATLAS.ti supports this teamwork by systematically keeping track of each author's productions.

Objectives

Every object created, including the Hermeneutic Unit itself, is automatically stamped with a date, time, and author. This identification of the author is what makes the login process upon system start necessary (which by default proceeds automatically). Simultaneous collaboration is not supported, so only one person can work on a specific Hermeneutic Unit at a time. By default, only the author who created the Hermeneutic Unit (the *owner* or original author), is *author*ized to load, read, and edit the Hermeneutic Unit.

Letting others participate in creating a Hermeneutic Unit requires a few bureaucratic adjustments; one of which is the definition of *users* (cf. “User Management” on page 264).

The simple concept of the ATLAS.ti user management allows all data that will be shared by different users to be placed in publicly accessible directories. But even with the Hermeneutic Units stored in a public directory, access is restricted to the author. No one but the author may load the HU into ATLAS.ti, unless it is defined as public, or another user is defined as a co-author for this Hermeneutic Unit. The author may make his/her Hermeneutic Unit public so that all other users can use it or even make modifications to it.

Alternatively, public access can be restricted to a specific group of users, the *co-authors.* ATLAS.ti allows the author to define other users who can access and modify a Hermeneutic Unit.

Access Rights

Access to a Hermeneutic Unit is restricted to the author unless he/she makes it publicly available to other users or defines a group of co-authors. To change the rights, choose option **EXTRAS/CHANGE ACCESS RIGHTS** from the HU Editor's main menu. Four options are offered. Choose between

PUBLIC - READ ONLY: this choice lets all other users load and view the Hermeneutic Unit, it may even be edited, e.g. for training purposes, but it cannot be saved to disk.

PUBLIC - READ & WRITE: permits other users to have the same rights as the author, but not the ability to change the access rights.

PRIVATE: By choosing this option you can revoke previously granted rights again.

"SET PASSWORD" lets you protect the Hermeneutic Unit against loading unless a correct password is provided. Make sure you remember the password or you will not be able to load your own Hermeneutic Unit again!

As with all other access-related options you need to save the Hermeneutic Unit before any changes are in effect.

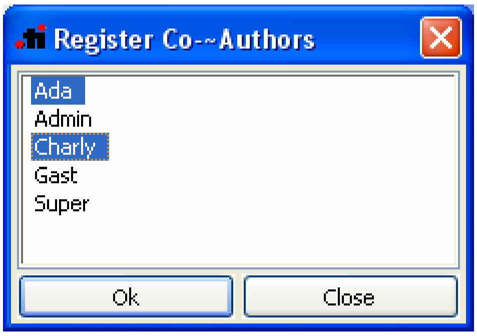
Co-Authors

To restrict access to a group of co-authors (i.e., more than one author), the sub-menu **EXTRAS/CO-AUTHORS** offers three options for authors: add, remove, and view the list of co-authors currently defined for this Hermeneutic Unit. This feature only makes sense if public access to the HU has not been granted.

Register co-authors

Co-authors have the same rights as the original author, except for the right to define or remove co-authors, unless having administrative rights themselves.

To include co-authors, you are presented the list of all users known to the system (which have previously been defined by the administrator or the original author).



Ada
Admin
Charly
Gast
Super

Remove co-authors

You are presented the list of current co-authors. Choose the ones to be removed from the Hermeneutic Unit.

Display co-authors

Displays the list of co-authors currently assigned to the Hermeneutic Unit.

Filtering by co-authors

To display only those parts of a Hermeneutic Unit created by a subset of the co-authors involved, choose the filter-option **CO-AUTHORS** in any of the Object Managers.

User Management

If you do not intend to use ATLAS.ti in a workgroup environment, the only procedure you might want to know is how to modify the default account called "Super."

ATLAS.ti's user database is independent of the account database in a local area network or your Windows login name.

ATLAS.ti knows two classes of users: *administrators,* and all others. Administrators have more rights than "normal" users. The key rights of administrators are the ability to define new users, to install service packs or use the more advanced data source management features.

Note that users defined in ATLAS.ti are not necessarily the same as Windows users. Furthermore, administrative rights assigned to an ATLAS.ti user have nothing to do with Windows user rights

Recommendations for Instructional Use

If ATLAS.ti is to be used in a project or a classroom situation and there is a need to have groups of users collaborate, it is recommended that every user be registered in the users database. This is done by the administrator defining an *account* for every user. Accounts include the login-name, a password, the real name and the access level.

Although user management increases bureaucracy, its purpose is to support a cooperative working style. All Hermeneutic Units and the objects they contain are marked with the currently logged-in author's account name. The technical prerequisite for team work is either a single PC running ATLAS.ti or, more appropriately, a local area network (LAN) with ATLAS.ti installed on a server in LAN-aware mode (only for multi-unit licenses).

All Hermeneutic Units and primary documents that the group works with should be stored in a publicly accessible shared directory on the network. These Hermeneutic Units would still have optional access restrictions. Access to individual Hermeneutic Units is always controlled by their *authors.*

The procedures outlined below are for use by the administrator only. They include the definition and modification of user accounts and passwords.

The User Database

All ATLAS.ti users are cataloged in a special "database"-file *HERMENCR.HDB*, located in the ATLAS.ti system directory. This file is loaded on program startup. Never modify this file from outside ATLAS.ti, as this will corrupt it and lock you out of the system!

After the initial installation of ATLAS.ti, there is already one "dummy" user with administrator privileges set up: Account = SUPER, password = USER. Because automatic login is the default mode, it is quite likely that you usually work under this default account. Because of its administrative privileges, this mode lets you gain access to the following user-management functions.

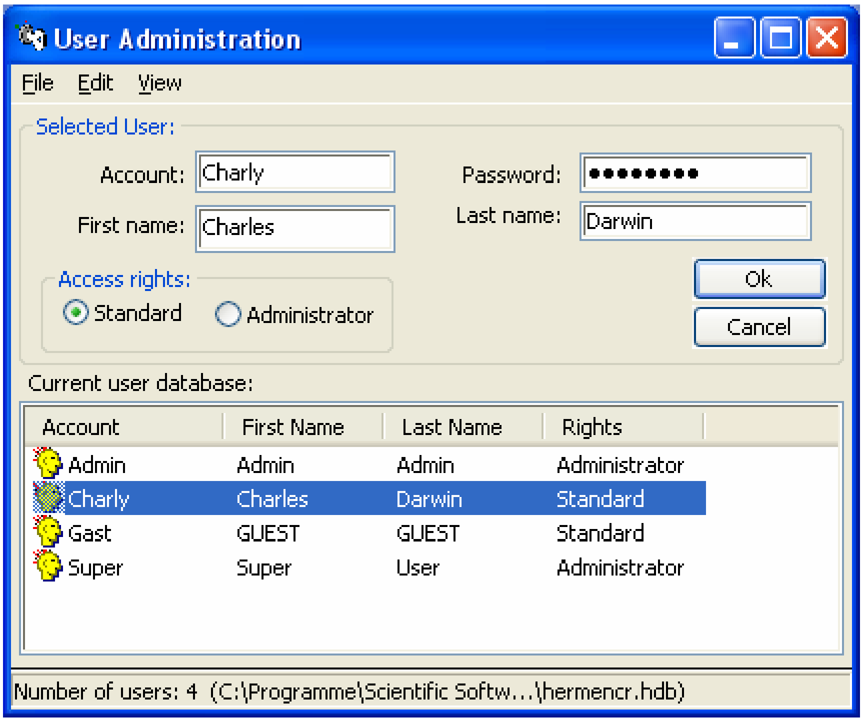
The User Administration Window

A special tool for maintaining the user database is activated by choosing **EXTRAS/USER EDITOR** from the main menu. To anyone logged in without administrator privileges, this option will not even be included in the menu. In this case, please choose **EXTRAS/LOGIN** and enter SUPER and USER.

Before making any changes to the user database, it is a good idea to make a backup copy of file *HERMENCR.HDB* located in the program's directory.

Note: in addition to being an administrative user in the ATLAS.ti context, you also need to have administrative rights as a Windows user in order to write-access the user database which is located in ATLAS.ti’s PROGRAM folder below the Program Files folder. This folder is usually write protected for non-administrative users on “secure” (well, in principle ..) operating systems like Windows XP, Windows 2000 or better.

The user administration tool allows you to create, modify and remove users.



Selected User:

Account: Charly

Password: •••••••••

First name: Charles

Last name: Darwin

Access rights: ● Standard ○ Administrator

Current user database:

Account	First Name	Last Name	Rights
Admin	Admin	Admin	Administrator
Charly	Charles	Darwin	Standard
Gast	GUEST	GUEST	Standard
Super	Super	User	Administrator

Number of users: 4 (C:\Programme\Scientific Softw...\hermencr.hdb)

Figure 113 - User Administration Editor

Maintaining the User Database

The options to add, delete and change users are located in the User Administration Tool's **EDIT** menu. You not only need administrative rights to modify the data base. You also need to assure that you are currently the only person accessing the user data base. This is especially mandatory when working in LAN settings.

Note: none of the menu options except **NEW USER** will be available if you select yourself in the list of users. If you need to change or even delete your own account, login under a different administrative account, edit your normal account and login again. Logging in can be accomplished without the need to restart ATLAS.ti.

Add a New User

A user is characterized by five attributes, four of which you are prompted for in sequence: *Account name, password, rights, name, first name*.

Account name: When working with ATLAS.ti, the account name has to be entered at login time. Every object created, including the Hermeneutic Unit, is stamped with the account name.

Password: A password should be at least 4 characters (letters, digits, symbols) long, but should not exceed 10 letters (higher risk of typos). A password can be changed later by the administrator.

Note: A password is only required from the user during login, when the option “Relaxed User Management” is set appropriately (see “Relaxed User Management” on page 269).

Last and first name: Both names really have no important function other then giving the user a correct welcome. However, both a last and a first name must be provided when defining a user.

To add a new user:

1. From the User Administration tool’s EDIT menu choose New User.
2. Enter Account, Password, Last Name and First Name into the sequence of “prompters”.
3. After completion of the signup procedure, the new entry appears in the list of users. The remaining “Access rights” attribute is set to “Standard” by default..
4. In the “Access rights” radio button group select Administrator to change this attribute if needed.

Remove a User

To assure that there is at least one user with administrative privileges in the database, any attempts to remove all administrators is rejected. You cannot, for instance, remove the user who is logged in.

To remove a user:

1. Select the user to be removed
2. Select the option "Remove user" from the menu.

Change Access Rights

Two general access levels can be defined: *Administrator* and *Standard*. The Administrator has all privileges described in this chapter. All "normal" users should be assigned the *Standard*-privilege.

To change access rights

1. Select the user who’s access rights need to be changed
2. Select the option CHANGE ACCESS RIGHTS from the EDIT menu or select the appropriate option in the “Access rights” group.

Change the Password

You are asked to enter the new password twice for confirmation.

Change Name

Useful in case of mistyping or other special circumstances (such as getting married...).

To change a user's name

1. Select a user in the list window.
2. Edit the first and last name entry fields or select the corresponding menu items from the **EDIT** menu.
3. Select another user to consolidate the changes or click OK, which also closes the window.

Maintaining the User Database

Saving the user database

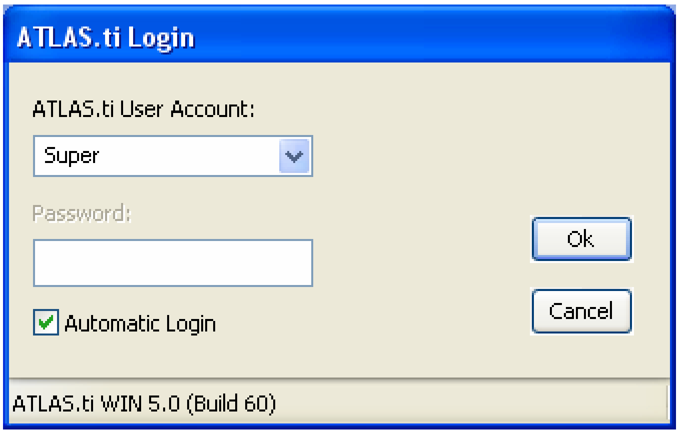
After new definitions and modifications, the user database must be explicitly saved or all changes will be discarded. As ATLAS.ti processes a file named *HERMENCR.HDB* in ATLAS.ti's Program folder upon start-up, this name and folder should be used, unless you are about to create a copy of the database. .

Loading a user database

The standard user database is loaded upon start-up. You may load a different database to make modifications to different set of users or to reload the standard database that has just been modified by another administrator.

Automatic Logon

If you are the only person working with ATLAS.ti, you probably never have a reason to disable the automatic logon. It is active by default after the installation of the program. You can set the option Automatic Login after opening the login dialog box via **EXTRAS/LOGIN** from the main menu.



ATLAS.ti User Account: Super

☑ Automatic Login

ATLAS.ti WIN 5.0 (Build 60)

Figure 114 - The Login Dialog Box

Relaxed User Management

This feature removes the password requirement, and accounts are not checked against the user database.

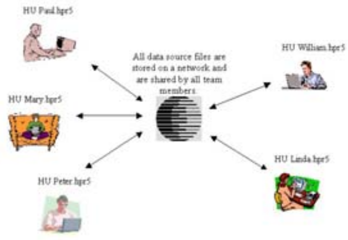
If neither data security and protection nor teamwork is an important issue to you, part of the bureaucratic burden is removed when you enable the "relaxed user management."

☝ *Changes to ATLAS.INI affect all computers in a networked environment.*

This feature can only be changed by editing the central configuretion file for ALL users, *ATLAS.INI*. This file resides in the PROGRAM directory of the ATLAS.ti directory structure and you need Windows administrator rights to be able to modify this file. After making a backup copy of *ATLAS.INI* open it with a plain text editor (such as Windows Notepad). Under the [lan] section, set the variable "relaxedUserManagement" to either "enabled" or "disabled."

Note: Settings in *ATLAS.INI* affect **all** clients in a networked environment. For any changes in *ATLAS.INI* to take affect, ATLAS.ti has to be restarted.

Project Management


HU Paul.hpr5
HU William.hpr5
All data source files are stored on a network and are shared by all team members.
HU Mary.hpr5
HU Linda.hpr5
HU Peter.hpr5

This section provides assistance in setting up your ATLAS.ti project in the most efficient manner and for maximum work productivity. Furthermore, it gives advice on how to maintain your projects effectively throughout their entire lifetime. Backing up and migrating projects across systems and merging the combined work efforts of distributed teams are also discussed in this chapter.

Objectives

Working with ATLAS.ti involves users, files, and computers. An ATLAS.ti project can be as simple as a single person working with a single Hermeneutic Unit (HU) and a few primary documents (PDs) on a single stand-alone computer. It can be as complex as large teams working on different computers in a network or even at different geographic locations; working on several projects at once; moving files between users, computers, and networks; merging partial projects into compiled projects, and many other conceivable constellations.

With a single project and no need to work in teams you can almost forget about sophisticated project management issues.

If you have a single project, work on a single computer, and have no plans to share your work with others, you do not need to concern yourself too much with elaborate project management issues. Keeping in mind a few simple rules is sufficient to make your work with ATLAS.ti smooth and hassle-free. Please see Scenario 1 for a simple project approach.

Project management, however, becomes an issue if your projects and your work environment are more complex than this most basic scenario.

What’s in a project? In short, an ATLAS.ti project consists of an HU and its associated document files.

ATLAS.ti project management involves an understanding of how ATLAS.ti handles and accesses documents (see “How ATLAS.ti Handles Documents” on page 93). It concerns itself with ways to fine-tune data-source access for a maximum of robustness and flexibility, but first and foremost, proper project management involves decisions regarding where HUs and documents are to be stored. Most, problems can be avoided by a little informed planning about issues such as file locations and paths and the need to copy, move, and distribute your HUs across disks, networks, and computers.

HU management is the least problematic if you can store all project-related documents in the same folder along with the HU itself or in a sub-folder. However, ATLAS.ti also easily facilitates the distribution of files across the file system and across different computers and networks. These procedures are also discussed in this section.

Various project scenarios are presented.

There are various types of ATLAS.ti users: there are those who have stronger or weaker computer skills, those who work alone or in teams, those who work only at one location or at two or more locations, etc. Accordingly, we have created various project scenarios to illustrate "best practices" in some of the most typical situations.

Each scenario illustrates a specific use case and describes strategies for setting up new projects. This includes issues such as selecting the ideal location for data files and how to best move or backup entire projects.

The scenarios are presented in order of increasing complexity. All scenarios include specific characteristics and easy-to-follow instructions for setting up the project. For most projects, however, Scenario 1 will likely reflect the project management procedures that will be used.

In order to better understand our recommendations for certain project setups, it is useful to gain a solid understanding of how ATLAS.ti handles documents. See “How ATLAS.ti Handles Documents” on page 93 for details.

Project Planning and Setup

The scenarios below aim to provide concrete examples of how to create and maintain consistent projects. In real-life situations, you may find that it sometimes makes sense to combine scenarios to achieve the best result.

Before starting a new project, give some thought to the location of the documents and the HU. Choosing a proper location can make your work significantly easier, especially when it comes to teamwork. Maximum flexibility can be achieved by storing all associated documents in a common folder hierarchy.

For simple projects, one would typically choose to store the HU and the documents into the same folder.

If a common location for the documents is not possible, (e.g., your documents are scattered across the file system or the local area network), certain rules should be followed (see scenario 3).

Basics

Creating a New Hermeneutic Unit

It is recommended that you decide on a location for the HU and a name for your project as a first step. This eases the subsequent assignment of PDs.

Creating an HU in a specific folder can be accomplished in a variety of ways:

a) Via Windows Explorer:

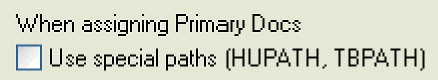
1. Open Windows Explorer in the desired folder.
2. Right-click in this folder and select **NEW/HERMENEUTIC UNIT** from the Context Menu. This will store the HU in the proper location.
3. Rename the HU to reflect the project's title.
4. Start ATLAS.ti by double-clicking the new HU.

b) From within ATLAS.ti:

1. Start ATLAS.ti.
2. Choose **FILE/NEW HERMENEUTIC UNIT** from the main menu.
3. Save the new HU via **FILE/SAVE AS…** .

Option "Use Special Paths"

In most scenarios you will be reminded to have the "Use Special Paths" option switched on. This is the default setting and does not need to be modified. However, you should make sure that it is set as recommended via **EXTRAS/GENERAL PREFERENCES**.



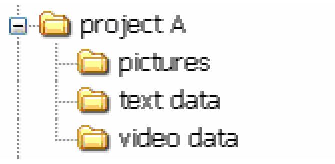
When assigning Primary Docs

□ Use special paths (HUPATH, TBPATH)

Document Folder Structure

Whenever feasible, data source documents should be stored in a common location (i.e., folder).

Of course, instead of piling all documents into a single folder, you may create appropriate subfolders. This allows for convenient separation of a potentially large number of files into different media types or sub topics. However, after a project has been set up this way, subfolders should **never** be moved independently of the base folder.



The following variations are not essential at this stage, and you may study them later. You may now jump directly to the scenarios below.

Variation: Distributed Project (Team)

Splitting a project and merging the split projects later can be accomplished in all of the scenarios presented. Such a Split & Merge approach makes sense not only for teamwork, but is also feasible for a “solitary” researcher working on individual aspects of a problem.

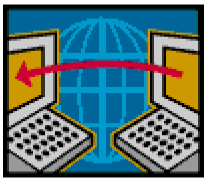
Before splitting a project, a "base" version is usually created, which already either contains or references all commonly used resources (documents, codes, memos, comments, network views). For details, see the scenarios below. From the base project version, a number of copies can be created to distribute to team members in a teamwork setting. You should make a backup of this basic version.

Certain project scenarios may have restrictions regarding the location at which the project and all its associated documents are fully functional. A safe place will always be the location at which the base version was created. For details see the related scenarios.

Merging HUs later requires a certain discipline with respect to the base version. For instance, PDs must not be rearranged, or they won’t be matched in the process of merging.

For teamwork, using ATLAS.ti internal user management (described in “User Management” on page 264) also supports an effective merge of projects. See “Merging Hermeneutic Units” on page 289 for details.

Variation: Mobile Project



Using this approach enables migrating projects (HUs and referenced documents) between different environments (e.g., different stand-alone computers or different networks). Depending on the scenario, certain adjustments must be made, usually only once. This variation is a feasible approach for taking your work home. It can also be used for backup purposes.

For migration, a package is bundled by ATLAS.ti (see “Copy Bundle - Migrate and Backup Projects” on page 282). In the destination environment, this package is reintegrated (installed, unpacked) using **Tools/Copy Bundle/Install Bundle**.

Moving a project back to the original computer reverses the roles above accordingly.

Don’t pack all your documents each time unless they were modified.

Documents should be packed the first time the project is migrated. With subsequent migrations, this is only necessary for those documents edited since the first migration.

With teams, it is the team members' responsibility to determine who is eligible to edit a particular document that now might--

through the above-mentioned migration procedures--exist in two or more places at the same time.

Project Setup for Teams

The following sequence allows project administrators to setup an ATLAS.ti project that will enable your team members to work within your project.

1. Create each user in the user editor (see steps in “Add a New User” on page 266).
2. Be sure that the project administrator has administrative rights. All other users should have standard rights. As a reminder, administrative rights allow a user to add and delete users from the user database.
3. Register each user as a project co-author. This action will allow them to open and work with your project (see details in “Co-Authors” on page 263).
4. Set the access rights for this HU. If this action is not taken each user will only have read rights and will not be able to save. From the HU Editors main menu **CHOOSE EXTRAS/CHANGE ACCESS RIGHTS/PUBLIC - READ ONLY** or **PRIVATE** if you want users to save their project work. (See “Access Rights” on page 263 for details).

Scenario 1: All in One

This is the simplest of all scenarios: All data files related to your project and your HU will be stored in the same folder hierarchy.

Examples:

1. You work on your own on a single project (for example, a thesis, dissertation, or research project) at one computer (desktop or laptop).
2. A user works on different aspects of a problem using several HUs.
3. Simple team: Several users are working on different aspects of a problem in separate HUs. All HUs are located on a central server.

Project Setup

Note: If you have already stored the documents you can proceed with Step 3.

1. Create a new folder for your project.
2. Copy all documents to be used by your project into this folder, and use subfolders if you desire an added degree of structure.
3. Create the HU **inside** the folder hierarchy. Make sure that all documents really are in the same folder as the HU or subfolders thereof.
4. Make sure that the option "Use Special Paths" is checked.
5. Make sure that the TBPATH variable is not set to a folder within this folder hierarchy (check **GENERAL PREFERENCES/PATHS**). TBPATH is not used for this approach!
6. Assign documents from the selected folder (it is OK to use drag & drop).

This results in a project located in ONE folder. All documents are automatically assigned using the special <HUPATH> variable.

Benefits of this approach

- The folder can be completely moved to another location and all documents remain accessible.

- Migrating or backing up your project using the Copy Bundle function is easy and allows the use of arbitrary folders on the target computer.

Drawbacks

- Sharing documents is restricted to HUs that reside in the same folder. HUs created under this paradigm will not work when detached from their original folder, which leads us to the next scenario.

Variation: Distributed Project

See “Variation: Distributed Project (Team)” on page 273 for an introduction.
Once they have been created, HUs are fully functional only in their original location! If team members are to be granted access to distributed local copies, Scenario 2 should be used instead.

Variation: Mobile Project

See “Variation: Mobile Project” on page 273 for an introduction.
Installation of a bundle on the target computer is done without any additional adjustments. All documents are unpacked in the folder (hierarchy) selected as the target for the HU. Make sure that the same path is always used for the same project on the target computer unless you want to make a stand-alone working copy (but be aware of version confusion!).

Scenario 2: Single Document Path, Different HU Path

In this scenario, all of your project-related data files are stored in the same folder hierarchy. However, HUs are stored in a folder AWAY from the document folder hierarchy. This folder can also be located on another computer in the same local area network. This way, HUs are independent from the location of their documents and can more easily be “moved.” This is a scenario typical for teamwork.

Examples:

1. A team working on a single topic. All team members work on computers on the same LAN. Every team member works on his or her separate portion of the project. The HU representing the partial project is stored on the user’s computer. The documents are stored in a central server location.

2. Documents are stored on a central server with shared access. Users work on several independent projects using data relevant for their respective projects, but use shared documents as well.
3. Documents are stored in a location that does not allow the user full write access, e.g., on a CD-ROM, or on a server with restricted access permissions. Therefore, the user cannot create a HU in the document folder.

Project Setup

Note: If you have already stored the documents, continue with Step 3.

1. Create a new folder for your project.
2. Copy all documents to be used by your project into this folder and in subfolder if you desire an added degree of structure.
3. Create the HU **outside** the document folder hierarchy
4. Make sure that the “Use Special Paths” option is checked.
5. Set the textbank folder (TBPATH variable) so that the document folder hierarchy is completely included.
6. Assign documents from this folder. Documents *c:\myprojects\project1\interview1.rtf* and *c:\myprojects\project2\image1.bmp* would use the TBPATH variable when assigned if the latter was set to *c:\myprojects\*.

The resulting project has all documents assigned through the special <TBPATH> (displayed by the PD Manager, column “Origin”).

If by looking at the PD Manager you find that documents were assigned differently in the earlier steps, check the following:

If you find documents using the HUPATH special path, you have stored the HU somewhere in the textbank folder.

Documents with an absolute path origin indicate that these documents are outside the HU and the textbank path, or these documents were assigned differently, although the physical location of the folder is indeed the textbank folder. How could this happen? You can browse the same location either starting from My Workplaces or from My Network Places (especially when working on a network). The former results in absolute paths including drive letters (e.g., *h:\ Project Documents*) and the latter results in UNC paths including the computer name (*\\server1\c\Project Documents* with drive *c:* on the server mapped to *h:* on the local computer).

Although your HU will be able to access such ambiguously referenced files, flexibility of the project has been greatly reduced. In such a situation it is much better to start the project afresh and browse folders consistently when assigning documents.

Benefits of this approach

- The HU is not tied to the location of its documents and may be copied and moved anywhere without losing functionality – as long as the texbank folder refers to the location of the documents.
- Migrating or backing up your project using the Copy Bundle function is easy.

Drawbacks

- This scenario relies on the user-configured textbank folder. If the user wishes to work on different projects with documents stored in different folder hierarchies, the textbank folder must be set appropriately, e.g., to the path that was valid when the HU was created. For such constellations, Scenario 3 is the recommended solution, even if portability restrictions arise.

Variation: Distributed Project

See "Variation: Distributed Project (Team)" on page 273 for an introduction. HUs are--unlike to scenario 1--fully movable and can be copied. However, all team members need to set their textbank path variable to the same folder that was set during creation of the HU.

Variation: Mobile Project

See "Variation: Mobile Project" on page 273 for an introduction. Installation of the bundle can be accomplished without any further adjustments. However, it is mandatory that, for each project, the textbank folder on the target system is set accordingly. Always use the same TBPATH, which makes life easier.

Scenario 3: Multiple Document Paths

Not all documents can be accessed from a single folder hierarchy. Some documents are located in distinct, separate folders that cannot be incorporated under a common root.

Examples:

1. Legacy data archives that cannot easily be moved to more appropriate locations because of size or access restrictions.
2. Documents that are located on a variety of media, such as CDs, DVDs, hard disks, possibly on different computers.

Project Setup

Note: If you have already stored the documents you can continue with Step 2.

1. Store the documents in the desired folders.
2. Create the HU in an appropriate location. (See “Creating a Hermeneutic Unit” on page 61.)
3. Make sure that the “Use Special Paths” option is **unchecked**.
4. Assign documents from their respective folders. Drag & Drop is an efficient technique here.

This procedure results in a project where all documents are assigned with their absolute paths.

Benefits of this approach

- The HU is not tied to the location of its documents and may be copied and moved anywhere without losing functionality, as long as references point to the correct locations of the documents.
- Archive-friendly: documents can stay where they are and do not need to be placed in a common folder.

Drawbacks

- Copying or moving an HU to other environments is not as smooth. For instance, if a server that hosts PDs is changed (e.g., new or changed disk drives), these documents can no longer be reached. When you migrate such a project using Copy Bundle, the situation on the target computer can differ considerably from the computer on which the project was created.

Variation: Distributed Project

See “Variation: Distributed Project (Team)” on page 273 for an introduction. Unlike Scenario 1, HUs are, fully movable and can be copied as long as the HUs refer to the same documents on every team member's computer. If all work is on the same local area network, this can be accomplished by assigning documents as network resources (browse My Networks, resulting in fully qualified UNC paths), or by using identically mapped drives on the client computers.

Variation: Mobile Project

See “Variation: Mobile Project” on page 273 for an introduction. Installation of a bundle may require adjustments--usually only once. If paths containing drives or network shares (e.g., *\\server1\c\*) were used to assign documents, and these drives or network shares are not available on the target system, all such references need to be “bent” (redirected) by respective entries in the PD path map (see “Path Mapping” on page 102).

When the drives and the network are available on the target system, the Install Bundle procedure will use them. If they do not exist, the Install Bundle procedure will create all folders required to store the documents.

So you may find a folder *C:\Dokumente und Einstellungen*... next to *C:\documents and settings*... after installing a bundle you received from a German colleague. This may lead to a proliferation of parallel folders when working in multi-national teams across borders. This problem is specific to document references using absolute paths and increases the overhead of managing documents and their current versions. To avoid such problems, the previous scenarios using special paths may prove to be better approaches.

Scenario 4: All Inclusive

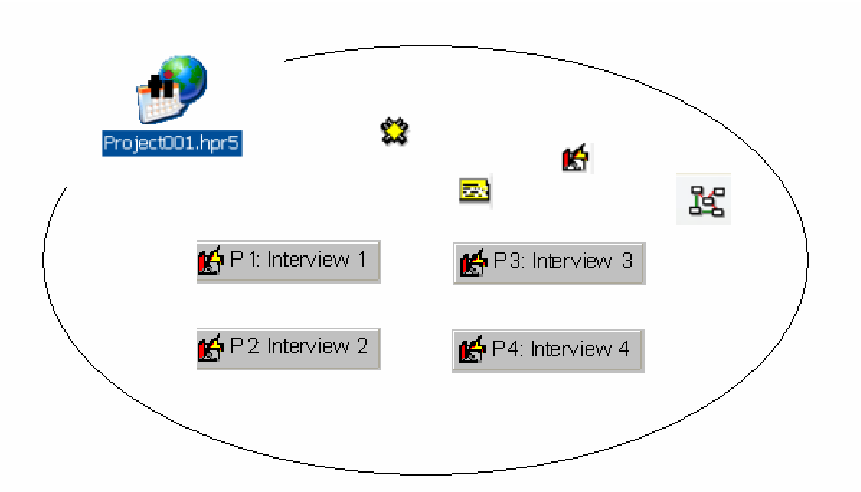
If you plan to use only a few smaller textual documents, an approach that does not use any references at all may be a solution. No files other than the HU itself are involved in this scenario. The trick is to use memos as PDs (see “Using Memos as PDs” on page 133). Unlike document files, memos are HU internal objects and are stored along with the HU.

This approach is also recommended for work with sensitive data material. When saving the HU, the data material is highly compressed and therefore unreadable outside ATLAS.ti ("pseudo-encryption"). In addition, the HU can be password-protected. This should make unauthorized access reasonably difficult.

Using memos as PDs entirely eliminates the dependencies from external references.

However, such embedded data sources are exclusive to the HU and cannot be shared.

Furthermore, the size and number of PDs also increases the size of and access times for the HU.



Project Setup

1. Create an HU.
2. Create a new memo (see ”Working with Memos” on page 128). A text editor opens.
3. From the memo editor menu, select the option **INSERT/INSERT FILE.** A file dialog window opens.
4. Select a file that you want to use as a PD and click **OPEN**. (Of course, you can also write the memos on the fly instead of filling their content from a file.)
5. Save the memo by clicking the Accept button, or select the menu option **MEMO/SAVE**.
6. Repeat steps 2 to 5 for every document to be assigned as PD.
7. Assign the memos as PDs either by selecting and dragging them from the Memo Manager to the Document Manager, or by selecting the menu option **MISCELLANEOUS/USE AS PRIMARY DOCUMENT**.

Project Backup

Create a copy of the HU file.

Benefits

- The project is a single file as no external documents are used.
- It is easy to backup, copy, migrate, or delete the project using Windows file functions.
- Since the PDs are actually memos, you can open two views of a PD; one in the HU editor, and one in the memo editor (read-only).
- Data protection: If sensitive documents are part of the HU, they are stored securely within the HU file. Since this file is highly compressed, the documents become fairly unreadable outside ATLAS.ti. Unauthorized access within ATLAS.ti can be prevented by a password protecting the HU.

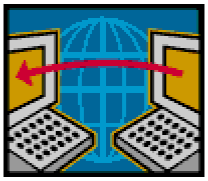
Drawbacks

- Increased loading and storage times and an increased demand for computer memory, as the HU can get quite large.
- No data sharing at all.
- Only (rich) textual documents can be used.
- When merging HUs that contain memos as PDs, these PDs cannot be unified.

- For every PD, there is a corresponding entry in the memo list.

Project Maintenance

Copy Bundle - Migrate and Backup Projects

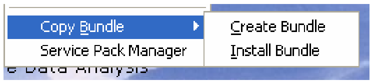


"Copy Bundle" takes care of the HU and all associated files.

The Copy Bundle function serves a dual purpose: portability (to migrate a project to another location), and data security (a powerful backup & restore device).

You should ONLY use Copy Bundle to port your projects to another computer. To preserve the consistency of a project in regard to referenced files, refrain from copying projects manually using Windows file procedures. ALWAYS use Copy Bundle instead!

COPY BUNDLE is a powerful tool. By inspecting the HU, it finds and collects all files that make up the project: the data files used as PDs, and all associated auxiliary files. It checks the accessibility of the data sources and provides feedback in problematic situations. From all the project files it compiles a single compressed file. On a target computer, “installing” a bundle distributes the HU, the data source files, and all associated files to appropriate location(s).



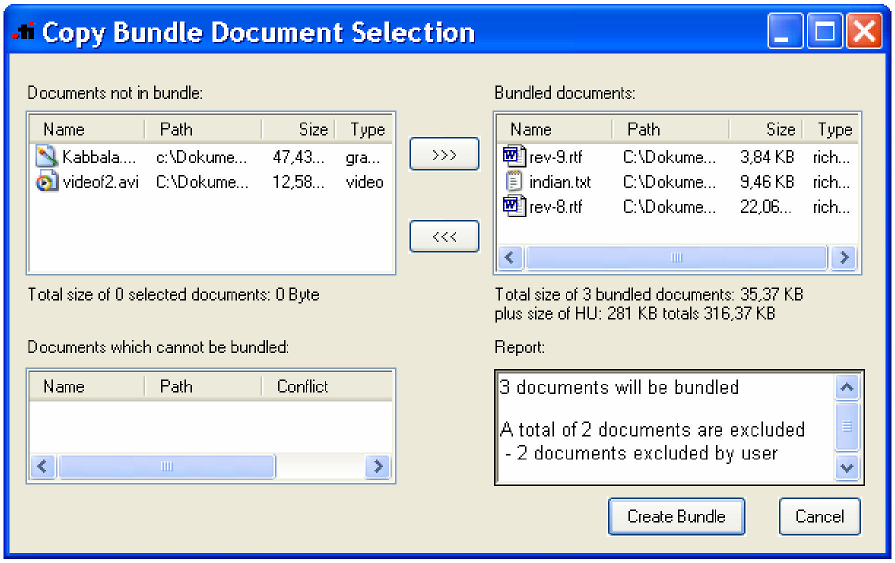
Under **TOOLS/COPY BUNDLE**, you find two functions: one to create a bundle and the other to unpack or “install” a bundle. The two procedures are explained below.

Create Bundle

"Create Bundle" creates a single compressed archive containing the project. In order to create a well-behaving bundle, e.g., one that can be unpacked without effort on a target system, the project should have been set up with flexible use of references in the first place. See “Project Management” on page 270 for details.

The Copy Bundle tool

The bundle tool is separated into three list panes and one report pane (see Figure 115 below).



Documents not in bundle:

Name	Path	Size	Type
Kabbala....	c:\Dokume...	47,43...	gra...
videof2.avi	C:\Dokume...	12,58...	video

Total size of 0 selected documents: 0 Byte

Bundled documents:

Name	Path	Size	Type
rev-9.rtf	C:\Dokume...	3,84 KB	rich...
indian.txt	C:\Dokume...	9,46 KB	rich...
rev-8.rtf	C:\Dokume...	22,06...	rich...

Total size of 3 bundled documents: 35,37 KB
plus size of HU: 281 KB totals 316,37 KB

Documents which cannot be bundled:

Name	Path	Conflict

Report:

3 documents will be bundled

A total of 2 documents are excluded
- 2 documents excluded by user

Figure 115 – Copy Bundle: Pack & Go

Documents not included in the bundle: The user can specifically exclude documents that should not be in the bundle, e.g., unchanged (or even non-editable) large documents (e.g., video, audio files) that have already been carried to the target system with a previous Copy Bundle.

Bundled documents: This list displays documents that will be included in the bundle.

Documents that cannot be bundled: This list displays documents that are excluded by the system because of an irresolvable conflict. If all PDs in the HU can be displayed in the HU Editor, there should be no conflict when bundling the HU.

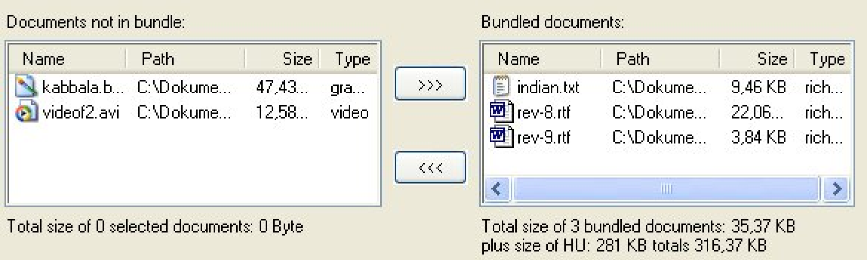
The following conflicts may occur:

- *Source Missing Conflict*. The document does not exist.
- *Source Unusable Conflict.* The document cannot be loaded. Possible cause: It was manually copied from another location without its associated LOG file using Windows copy method.
- *PD Source Conflict.* Mismatch between PD and its source. This implies that the data source is not the one that is expected by the PD. Possible causes: mapping changed, data source was replaced by another file, LOG file was edited manually.
- *Ambiguous Reference Conflict*. A data source is used by more than one PD but was assigned using different paths.

Report: In the report pane, the situation before bundling is summarized. This includes a list of all excluded documents and the reason for their exclusion.

How to Create the Bundle File

1. Save the HU.
2. Select **EXTRAS/COPY BUNDLE/CREATE BUNDLE** from the main menu. The Document Selection window opens. All documents that can be bundled are listed in the top right pane.



Documents not in bundle:

Name	Path	Size	Type
kabbala.b...	C:\Dokume...	47,43...	gra...
videof2.avi	C:\Dokume...	12,58...	video

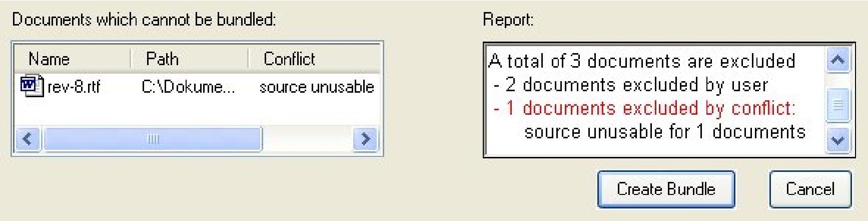
Total size of 0 selected documents: 0 Byte

Bundled documents:

Name	Path	Size	Type
indian.txt	C:\Dokume...	9,46 KB	rich...
rev-8.rtf	C:\Dokume...	22,06...	rich...
rev-9.rtf	C:\Dokume...	3,84 KB	rich...

Total size of 3 bundled documents: 35,37 KB
plus size of HU: 281 KB totals 316,37 KB

3. To exclude documents, double-click on a document, or select all documents you want to exclude and click on the **EXCLUDE** (<<<) button.
4. Check the pane on the bottom left for problematic documents. If some are listed, try to resolve the conflict (see "Create Bundle" on page 282 for possible causes).



Documents which cannot be bundled:

Name	Path	Conflict
rev-8.rtf	C:\Dokume...	source unusable

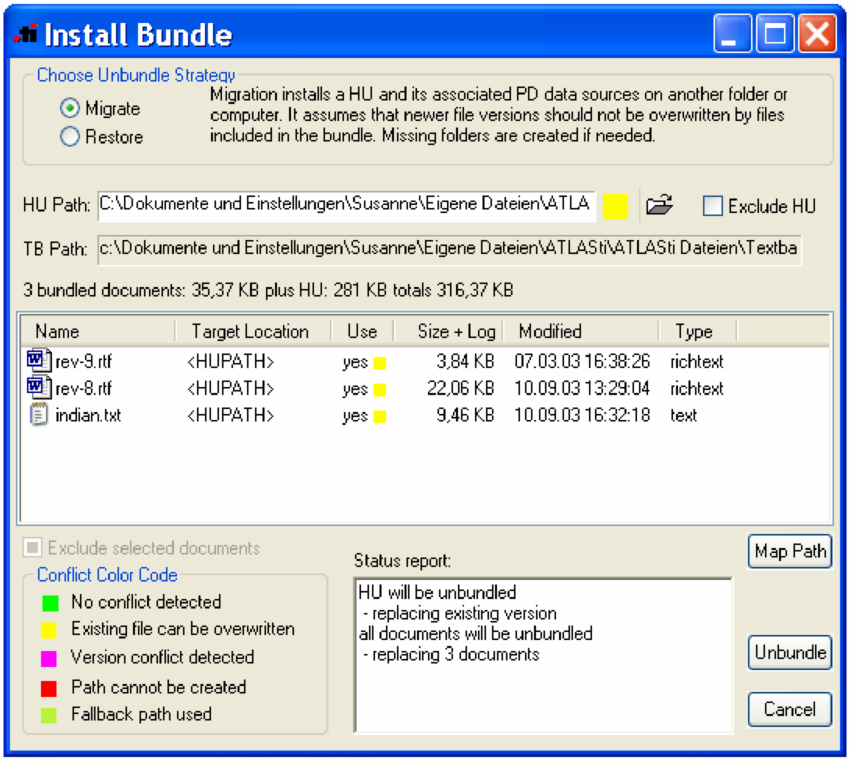
Report:

A total of 3 documents are excluded
- 2 documents excluded by user
- 1 documents excluded by conflict:
  source unusable for 1 documents

5. Check the report pane. If everything is as it should be, click the **CREATE BUNDLE** button.
6. A standard file dialog window opens. Enter a name for the bundle file or accept the suggested file name. The extension ACB (ATLAS.ti Copy Bundle) is automatically appended. Click Save. By default, the file is saved in the HU's folder.

Install Bundle

To unpack the copy bundle file on a target computer, it needs to be 'installed'. The Install Bundle dialog box looks as follows:



Choose Unbundle Strategy

● Migrate
○ Restore

Migration installs a HU and its associated PD data sources on another folder or computer. It assumes that newer file versions should not be overwritten by files included in the bundle. Missing folders are created if needed.

HU Path: C:\Dokumente und Einstellungen\Susanne\Eigene Dateien\ATLA 🟨 □ Exclude HU

TB Path: c:\Dokumente und Einstellungen\Susanne\Eigene Dateien\ATLASti\ATLASti Dateien\Textba

3 bundled documents: 35,37 KB plus HU: 281 KB totals 316,37 KB

Name	Target Location	Use	Size + Log	Modified	Type
rev-9.rtf	<HUPATH>	yes 🟨	3,84 KB	07.03.03 16:38:26	richtext
rev-8.rtf	<HUPATH>	yes 🟨	22,06 KB	10.09.03 13:29:04	richtext
indian.txt	<HUPATH>	yes 🟨	9,46 KB	10.09.03 16:32:18	text

□ Exclude selected documents

Conflict Color Code

- 🟩 No conflict detected
- 🟨 Existing file can be overwritten
- 🟪 Version conflict detected
- 🟥 Path cannot be created
- 🟩 Fallback path used

Status report:

HU will be unbundled
- replacing existing version
all documents will be unbundled
- replacing 3 documents

Figure 116 – Copy Bundle: Install Bundle window

Unbundling Strategies

"Unbundling" is the term we have adopted for unpacking (or extracting) the compressed archive containing the HU and its associated files ("bundle") at its new location.

The installation of a bundle on the same or a different computer can be done using two slightly different strategies: Migrate and Restore.

Migrate

Choose the "Migrate" strategy when moving projects between two work locations.

The "Migrate" strategy assumes that the bundle is to be installed on another computer or another disk in order to resume work at this different location. The target path for the HU can be freely chosen. When checking for conflicts, this strategy accepts that older versions of data source files are replaced by newer versions. If a document in the bundle is older than an existing one at the new location, it will not be unbundled. This prevents a document from replacing a newer version of it.

Restore

Use the "Restore" strategy when installing a bundle that was

The "Restore" strategy is used to restore a bundle created as a backup of a project, i.e., an HU and all the data source files referenced by its PDs. This strategy restores the HU in exactly the same folder as at the original location. It does not reject an attempt *created as backup copy.*

to replace a current file with an older version – which is indeed the very nature of "restore."

Paths

Below the strategy selection section, the original path of the HU is displayed. A color marker next to the path indicates possible conflicts for this HU, if it were to be installed in the target environment. If there is indeed a conflict, a different path or file name for the HU can be entered by clicking on the **BROWSE** button. A check box lets you exclude the HU itself (i.e., the HPR5 file) from the installation.

Below the HU path, the TBPATH textbank path of the target computer is displayed. This pane is not visible in Restore mode.

If a data source is addressed relative to the **TBPATH**, it is copied to the TBPATH named above.

Data sources addressed as **HUPATH** are copied to the target folder chosen for the HU.

List of bundled documents

The list of bundled documents can be sorted with a click on the column header: The following information is provided:

- name of the document
- target location of the document, including special paths (more on "Special Paths" below).
- a field indicating if this document is used when unpacking the bundle. It also contains a small color square indicating a possible conflict (more on the "Conflict color code" below).
- size (the total of the file sizes of the document file and its optional auxiliary files).
- last modification date
- document type

Special Paths

If a document's target location is <TBPATH>, it will be copied to the folder that is currently set as the textbank path on the target system.

If a document's target location is <HUPATH>, the document is unpacked at the location of the HU (HPR5 file).

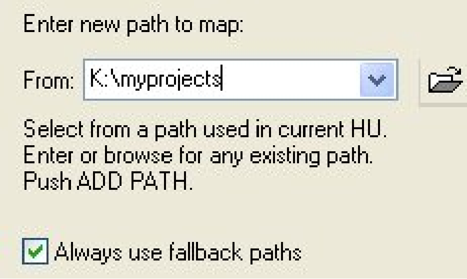
Conflict color code

Possible target conflicts are indicated by the colored square in the 'Use' column.

Color Code	Description
🟩 No conflict detected	The **green** light is on for every document that can be installed without overwriting an existing version
🟨 Existing file can be overwritten	**Yellow**: A compatible file was detected; replacing this file does not harm the integrity of the HU. Other HUs accessing this document will be synchronized when needed.
🟪 Version conflict detected	If you unpack a document with this **magenta** marker, other HUs with references to it may no longer be able to access it. Such documents will not be extracted in Migrate mode. You can, however, include these documents in Restore mode.
🟥 Path cannot be created	**Red**: If a path does not exist on the target computer, it is created during unbundling. However, not every path can be created. If a volume (disk) does not exist on the target computer, or if there are certain Windows access restrictions for the current user, AND no appropriate PD mapping path is defined on the target computer, this conflict arises.
🟩 Fallback path used	A document is marked **light green**, if an otherwise irresolvable path could be resolved via fallback redirection.

Example for "code red": The original path of a file on the originating computer was *K:\myprojects\interview1.rtf*. On the target system a disk K: does not exist. Therefore, a path *K:\myprojects* cannot be created.

Such a conflict can be resolved by mapping the non-existing path. This can be done by clicking on the **MAP PATH** button included in the Install Bundle window. When the PD Mapping tool opens, open the drop-down list of the From: field. You are offered all paths in the bundle that need mapping.



Enter new path to map:

From: K:\myprojects

Select from a path used in current HU.
Enter or browse for any existing path.
Push ADD PATH.

☑ Always use fallback paths

If you do not want to define a mapped path, a second option is to activate 'Always Use Fallback Paths' (see "Redirection: Fallback" on page 104 for a definition). If activated, the following happens: all such irresolvable files are unbundled in the HU's folder, i.e., the folder where the HU (HPR5 file) is stored.

It is best to organize projects in ways that use absolute path references as rarely as possible. This reduces the need to use PD Mapping.

Report

The report pane in the lower right of the Install Bundle window displays a dynamic report of the documents about to be unbundled.

How To Install a Bundle File

1. Select **EXTRAS/COPY BUNDLE/INSTALL BUNDLE** from the main menu.
2. From the file dialog select a bundle file and click **OPEN**. The Install Bundle window opens.
3. Select an unbundling strategy: Migrate or Restore (see "Unbundling Strategies" on page 285).
4. If in Migrate mode, select the target location for the HU via the "HU Path:" entry field. All documents using HUPATH are also copied to this folder. It might be a good idea to select a new empty folder as the target.
5. Check for conflicts and try to resolve them ("Conflict color code" on page 286).
6. Exclude unwanted documents or the HU from the unbundling procedure.
7. Click on the **UNBUNDLE** Button. When all files have been copied to their respective locations, a message pops up informing you that the unbundling process is finished.

Every file that is replaced during the installation of the bundle is backed up. The name of the backup files is "*backup of ...*".

Note: If you unbundle the bundle file twice, all backup files are replaced.

For all files replaced during installation of a bundle, a backup copy is created

A two-level backup strategy is in effect: The files are first backed up, then the back up files are also backed up. So you might experience quite an increase of files. However, given that disk space is not a big problem these days, we have decided to be more generous in regard to being able to revert to a previous state. If you find that everything worked well, you can remove all "*backup of*" files.

Extending Existing Projects

Extending projects by assigning more documents should never be a problem as long as the project setup conditions regarding the use of special paths, etc., are still met.

Optimizing Projects for ATLAS.ti 5.0

Optimizing Paths greatly supports Copy Bundle.

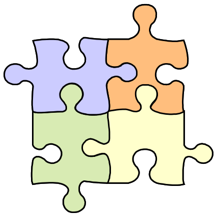
Optimizing projects mainly involves making references to documents more flexible in order to ease project migration and extensibility. Optimizing is especially helpful for projects containing absolute path references. It is quite likely that projects created with ATLAS.ti 4 work with absolute paths. Unless reasons explained in the project setup scenarios above demand otherwise, it might be a good idea to apply the Optimize Paths procedure to these projects. See “Optimize Paths” on page 100.

Surviving System Modifications

Projects making deliberate use of special paths should prevent problems due to future changes in the computer or network environment. Just as using flexible special paths eases the task of migrating a project to another computer, they also prevent problems with changes of the computer affecting the proper localization of referenced documents.

A likely scenario of an environmental change might be moving documents to another disk or another computer in the network because of problems with the space available on the currently used drives or the need to make files available to a larger community by placing them on another server. If needed, the procedure to adapt the project to the new situation may be found in the preceding chapters that deal with project setup.

Merging Hermeneutic Units



The Merge Tool reunites HU's that were originally divided for analytical or economical reasons. Its main purpose is the support of teams. It links together the contributions of different members of a research team. A common scenario is the analysis of different sets of documents by different team members, sharing a common code base. Of course, the single researcher can also benefit from this function using the merge facility to help organize large projects.

Examples of Application

Text Corpus Reuse

With only PDs to add and everything else IGNORED you can transfer all documents from any HU into a freshly created, or already existing HU. The PD comments and any existing quotations are also transferred.

Theory Import

With only codes, networks, and code families selected, a "theory" can also be migrated to another HU. This is similar to the current "Import Networks" feature, but also migrates Network Views and code families.

Team Work

Add codes, unify PDs: This would be the strategy when the same set of PDs is utilized by different team members using different codes.

Unify codes, add PDs: Different PDs were distributed to team members using the same set of codes, or mainly the same set of codes. Codes that are different from the common set are not lost but added.

See “Stock merge strategies” on page 291.

Concepts

Target and Source HUs

The main concepts in Merge are the *Target HU* and the *Source HU*. The Target HU is the HU into which another Source HU is merged. The target HU has to be loaded into the HU Editor before invoking the Merge HUs option. It is advisable to store the target HU under a different name before starting the merge procedure.

To prevent accidental overwrite of an existing HU, you may create a new HU first, and then merge the two HUs consecutively into this HU. However, this approach takes two merge steps.

Merge Strategies

Three "strategies" can be chosen for the processing of every object category. These are "Add," "Unify," and "Ignore." The object categories that can be processed within the HU are PDs, Quotations, Codes, Memos, PD Families, Code Families, Memo Families, and Network Views.

Add: The objects of this category are added to the target HU. If an identical object is found in the target, the added object will get a new name consisting of the original name plus the suffix "_number". A new number is added until the name of the object is unique. For instance, if a code "Alchemy" already exists in the target, the source version of "Alchemy" is renamed to "Alchemy_1".

Unify: Searches for corresponding objects in the target HU. If such an object is found, all attributes of the source object are "inherited" by the target object. A corresponding quotation is one that resides in the corresponding primary document AND that has the same coordinates (start line/row - end line/row).

In this procedure, attention is paid to deviations between two PDs to be merged that may result in a corrupt resultant PD with misaligned quotations.

Two PDs are considered equal for unification when three conditions hold.

While most other objects are unified via their name, PDs are treated differently. A PD from the source HU is unified with a PD from the target HU if the following conditions hold:

- Both PDs have the same ID (e.g., P 1).
- Both PDs refer to the same data source.
- Both PDs have the same revision. If needed and both PDs' data sources are accessible, one or both PDs are synchronized.
- If none of the PDs can access its data source, the test uses ID and revision equality only.

Ignore: Instances from ignored object categories are not transferred during the merge process. For a finer grained exclusion you can use the "ignore" families option.

Use specially named families for fine-grained control over items to be ignored.

"Ignorant" families: To exclude specific objects from the transfer (like private memos or test codes, etc.), you would create a special family with the name "**!MERGEIGNORE**" into which you can move items to be excluded. This can be done for all three family types.

Stock merge strategies

Four broad, predefined "stock" strategies for the different object types can be selected in the merge dialog.

Same PDs and Codes: Choose this strategy when PDs and codes are (mostly) the same in the target and source HU. PDs and codes are then unified. If the source HU contains a few additional PDs or codes, these will be added. When unifying PDs, please observe that PDs are unified by their P numbers (P 1, P 2, P 3, etc.) and not by their names!

Same PDs – Different Codes: Choose this strategy when target and source HU contain the same PDs, but different set of codes have been applied. If identical codes are found during the merge procedure, the duplicate codes from the source HU are automatically renamed by adding the suffix "_number".

Different PDs - Same Codes: Choose this strategy when target and source HU contain different PDs that have been coded with the same code set. This is a common situation when working in teams and different team members have coded different PDs using a common set of codes. If a few additional codes have been added to the common set, these will be added.

Different PDs and Codes: Choose this strategy when both PDs and codes are different. The PDs and codes from the source HU will be added to the ones in the target HU. If identical codes are found during the merge procedure, the duplicate codes from the source HU are automatically renamed by adding the suffix "*_number*".

Conflict Resolution for Links

For certain entities, a default "conflict resolution strategy" is used. If the inclusion of objects could result in the modification of a "link" between objects in the target HU, the target HU link is preferred. Example: If there is a link "is-associated-with" between two codes "Alchemy" and "Gold" in the target HU, and a conflicting link "is-contrary-to" exists between the corresponding source HU codes, then the link in the target HU would "win". However, if *no* link exists between two objects in the target HU, the link existing in the source HU is transferred. This strategy is also pursued for hyperlinks and other connections between objects.

The link between Code A and Code B in the target HU survives the merge process.

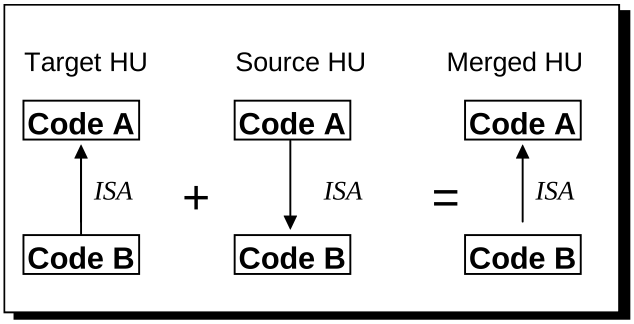


Figure 117 - Merging HUs: Link resolution

Migration of General Features

Co-authors are also merged.

The comment of the source HU is appended to the target, and the list of co-authors in the target is completed with those in the source HU.

Merge Report

A report can optionally be created. The report lists all added and unified objects and their old and new names. Statistics about the source and target HUs and the resulting merged HU are created. (See "Creating and Interpreting Merge Reports" on page 296 for details.)

Special Considerations for Quotations

Quotations play a special role because they cannot be handled independent of the PDs. When PDs are ignored, so are quotations. When PDs are added, quotations are added. The interesting case is when PDs are unified: you can then select either UNIFY or ADD. ADD will then create *additional* quotations in the target PD, even if a matching quotation already exists.

Merging Scaled Codes

When variable codes with their special naming convention (see "Scaled vs. Dichotomous Codes" on page 300) are added during the merge process, their values are invalidated in case of name clash. The reason for this is that imported codes with an identical name are automatically renamed using a number suffix.

Note that before applying the SPSS job generation feature on the resulting HU, such codes would need to be manually renamed.

How to Merge Hermeneutic Units

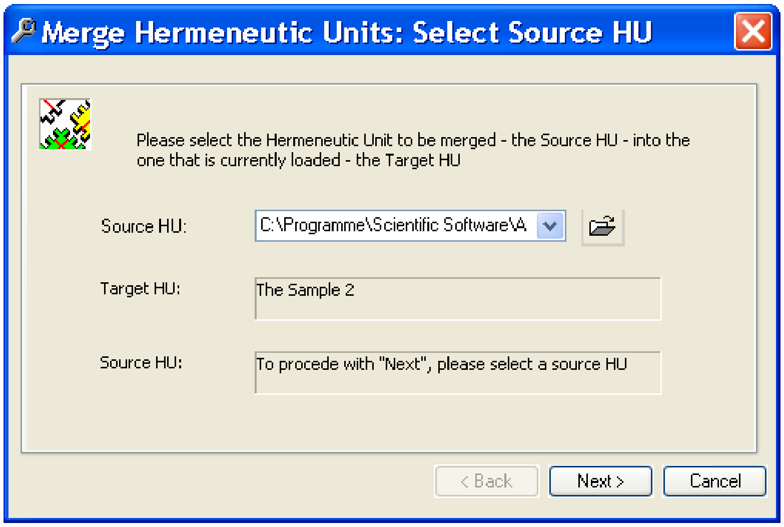
When merging two HUs, the Merge Wizard guides you through the procedure. In the first step, the source HU is selected. Next, a merge strategy is chosen and possibly fine-tuned.

To merge HUs:

1. Load the target HU. It is advisable to save it under a different name, so that you don't corrupt the original file in case something goes wrong.
2. From the HU Editor's main menu, select **TOOLS/MERGE WITH HU**. Alternatively you can drag an HU onto the HU Editor's caption holding down the CTRL key. The Merge Wizard opens, guiding you through the merge procedure (see Figure 118).

Select the source HU

The first page of the Merge Wizard displays the current target HU (i.e., the one that was loaded first), requesting you to enter the source HU's file name.



Please select the Hermeneutic Unit to be merged - the Source HU - into the one that is currently loaded - the Target HU

Source HU: C:\Programme\Scientific Software\A

Target HU: The Sample 2

Source HU: To procede with "Next", please select a source HU

Figure 118 - The Merge Tool: Selecting the source HU

3. Select a source HU from the file dialog opened by clicking the browse button.
4. Clicking the **NEXT** button will load the source HU and will proceed to the next step.

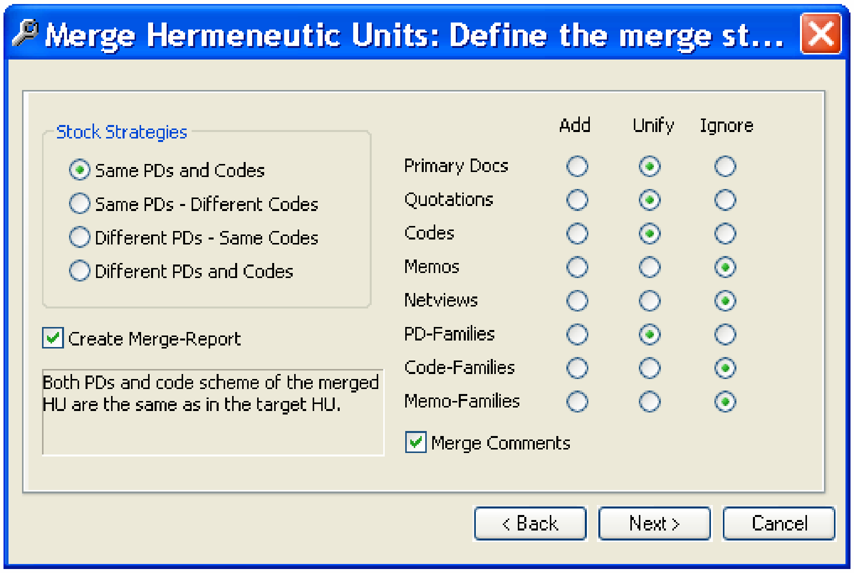
If the merge procedure was initiated by drag & drop, the source HU is already entered into the source entry field. You can immediately proceed by clicking on the **NEXT** button. Next, you need to choose a merge strategy.

Choose a merge strategy

The second step is the selection of *how* the source HU is to be merged into the target HU.

Four broad, predefined strategies are available that can be customized in a second step. Object classes can be selectively added, unified, or ignored. The four stock strategies were explained above in detail (see “Stock merge strategies” on page 291).

The Merge Wizard offers a variety of options to set the merge strategy for every object type.



Stock Strategies

● Same PDs and Codes
○ Same PDs - Different Codes
○ Different PDs - Same Codes
○ Different PDs and Codes

☑ Create Merge-Report

Both PDs and code scheme of the merged HU are the same as in the target HU.

	Add	Unify	Ignore
Primary Docs	○	●	○
Quotations	○	●	○
Codes	○	●	○
Memos	○	○	●
Netviews	○	○	●
PD-Families	○	●	○
Code-Families	○	○	●
Memo-Families	○	○	●

☑ Merge Comments

Figure 119 - The Merge Tool: Defining the merge strategy

5. Select one of the four stock strategies. A short description of the strategy is displayed at the bottom left of the dialog box.
6. Fine-tune the strategy so it best suits your needs. For all major object types, you can divert from the pre-defined stock strategies and manually define how the various object types are to be handled in the merge process.
7. Check the option "Create Merge Report" to generate an overview of what has been done, and to see which objects have been affected in what ways during the merge process.
8. If you repeatedly merge the same HUs, you might want to uncheck option “Merge Comments” as this may unnecessarily blow up the comment for any of the unified objects.
9. Click **FINISH** to start the merge process. This may take a while depending on the size of both the target and source HUs and the strategy chosen. The Unify strategy is generally more consumptive in processing time than Adding.

After the Merge

After a successful merge operation, some "cleaning up" might become necessary. For example, codes with different names but similar meaning (i.e., synonyms) are now treated as distinct codes. They may need to be merged (see “Merging Codes” on page 125). It could also be the case that you end up with a number of quotations that overlap but are coded by the same code(s). Such instances can be found with the help of the Coding Analyzer (see “Redundant Coding Analyzer” on page 188).

Recommendation

Test merge effects by experimenting with sample HUs.

To get acquainted to the effects of either adding or unifying entities, you should experiment with the various strategies using sample HUs. Observe what happens. Before modifying serious projects, you should gain some understanding of how the merging process works.

A few considerations

You can *unify* codes, but *add* Network Views. This results in a new network containing the same nodes as those already contained in the target HU's network.

Adding nodes and unifying networks could result in an existing Network View being crowded with both the nodes from the target and the source HUs.

Unifying Super Codes combines their queries using the OR operator.

Creating and Interpreting Merge Reports

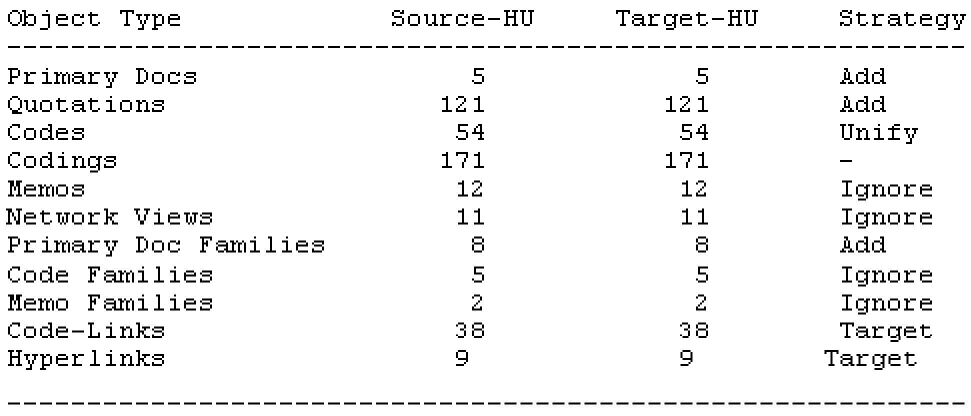
If you have checked the option “Create Merge Report” in the Merge Wizard (default), a report generator keeps track of every object affected during the merge process.

The report displays:

- the name and location of the source and target HUs
- object statistics and merge strategies for source and target HUs
- added objects sorted by object type (prefixed with a "+")
- unified objects sorted by object type (prefixed with a "=")
- statistics for the resulting HU

Below, excerpts from a merge report are shown resulting from merging “The Sample” HU with itself using the strategy “Different PDs Same Codes”. During this merge, PDs, quotations and PD Families are added; and all codes are unified.

The first part of the report provides an overview of the selected merge strategies.



```
Object Type            Source-HU     Target-HU     Strategy
------------------------------------------------------------
Primary Docs                  5             5        Add
Quotations                  121           121        Add
Codes                        54            54        Unify
Codings                     171           171        -
Memos                        12            12        Ignore
Network Views                11            11        Ignore
Primary Doc Families          8             8        Add
Code Families                 5             5        Ignore
Memo Families                 2             2        Ignore
Code-Links                   38            38        Target
Hyperlinks                   9             9       Target

------------------------------------------------------------
```

Added Objects

When objects are added that have identical names in both the source and target HUs, the added object is renamed using an incremental numbering scheme. Note that the PDs are not renamed. This is because the prefix "P x" is a part of the name, making equally named PDs distinct.

```
Adding 5 Primary Documents:
    ------------------------------------------
-----
    + P 6: Revelation 8
    + P 7: Revelation 9
    + P 8: Indian Camp
    + P 9: The sefiroth tree
    + P10: Revelation
```

The imported PD families are renamed using the suffix "_1".

```
Adding 8 Primary Doc Families:
------------------------------------------------
+ Bible texts  +>  Bible texts_1
+ Content::grafic  +>  Content::grafic_1
+ Content::text  +>  Content::text_1
+ Grafical docs  +>  Grafical docs_1
+ Non-bible texts  +>  Non-bible texts_1
+ Textual docs  +>  Textual docs_1
+ *NOT Textual docs  +>  *NOT Textual docs_1
+ *NOT Bible texts & NOT Grafical docs..  +>  *NOT Bible texts & NOT
Grafical docs.._1
```

Unified Objects

Unified codes are displayed along with their new quotation references within the resulting HU:

```
Unifying 54 Codes:
------------------------------------------------
    = A Formula
              6:35
    = Abaddon
              7:32
     ......
     ......
     ......
    = Casualties
              6:7, 6:33, 7:31
     ......
     ......
------------------------------------------------
```

Because both the target and the source HUs are identical and PDs were added rather than unified, the code “A Formula” is not only applied to quotation 1:35 as in the original HU, but also to the quotation 6:35. The same applies to all other codes. In the excerpt above, we see that the code “Abaddon” now also points to quotations 7:32, and the code “Casualties” to quotations 6:7, 6:33, and 7:31.

Statistical Summary

The statistical summary at the end of the report provides an overview of all object types after the merge.

```
--------------------------------------
Object sizes per object type after merge:

Object Type             HU after merge
--------------------------------------
Primary Docs                    10
Quotations                     242
Codes                           54
Codings                        342
Memos                           12
Network Views                   11
Primary Doc Families            16
Code Families                    5
Memo Families                    2
Code-Links                      38
Hyperlinks                      9
--------------------------------------
```

Export & Import

This chapter describes procedures to export/import data and structures between ATLAS.ti and other software. The export procedures introduced in this chapter are not always clearly distinguishable from the chapter “Generating Output” on page 310. While the output options are generally display and print oriented, export of the HU or parts thereof allows for analysis of data and structures created with ATLAS.ti within other software packages.

SPSS Export

ATLAS.ti is intended primarily for supporting qualitative reasoning processes. On the other hand, especially with large amounts of data, it is sometimes useful to analyze the data in a quantitative manner using statistical approaches. ATLAS.ti provides an export function to permit further processing of the *syntax* file by SPSS®, the Statistical Package for the Social Sciences.

Cases & Variables

The case for cases.

The basic components for statistics are cases and variables. The SPSS export function in ATLAS.ti treats codes as variables and data segments (quotations) as "cases."

In contrast to the dichotomous treatment of codes within ATLAS.ti, you can use codes as ordinal or otherwise scaled variables in SPSS jobs by using a specific code-naming convention.

ATLAS.ti exports quotations as cases. You can use SPSS features to use primary documents as cases.

The notion of a "case" here is rather fine-grained and differs from the common understanding of this term. Usually cases in qualitative research refer to persons, interviews, or documents. We chose to treat the smallest unit as a case for the output to SPSS, to ensure that no data is lost during export. Broader information, e.g., which primary document a quotation belongs to, is coded into the variable PD (primary document).

SPSS Syntax File

The output of the SPSS generator is a complete SPSS syntax file containing variable definitions, optionally the data matrix and some default jobs statements:

- VAR LABELS are taken from code and code family names.
- VALUE LABELS for variables created from codes are:
    - **YES (1)** - code is assigned
    - **NO (0)** - code is not assigned
- Every "case" is not only described by the codes, but also by information about position (primary text, start/end line/column), and date of creation.
- Code and primary document families are handled using COMPUTE statements.

The SPSS syntax output created with ATLAS.ti is plain ASCII and can be edited before storing it as a file for further processing with SPSS.

Scaled vs. Dichotomous Codes

Within ATLAS.ti, a code is always *dichotomous*, because it either refers to a given quotation ("1") or it does not ("0"). Each case (= quotation) can, in respect to the codes, be described as a vector of 0's and 1's. The concept of scaled codes/variables requires a special syntax.

The dimension or scale along which an evaluation is to take place is partitioned into the number of different values required. Assuming that five degrees of fear are to be distinguished in a given analysis, five codes must be created:

degree of fear %1

degree of fear %2

degree of fear %3

degree of fear %4

degree of fear %5

A special naming convention is necessary to let ATLAS.ti identify variable codes from dichotomous codes.

Naming Convention for Scaled Codes

Each code name is followed by at least one blank and the %-character (you may choose an alternative lead character for the value part through the SPSS initial screen) followed immediately by a value.

This notation allows the system to construct *one* variable from a group of codes (as in the example given above). The new ordinal variable "degree of fear" has as many distinct values as the number of codes the user defined according to the convention. In SPSS syntax the transformation of the data could be expressed as follows:

if (degree of fear %1 eq 1) degree of fear=1

if (degree of fear %2 eq 1) degree of fear=2

if (degree of fear %3 eq 1) degree of fear=3 etc.

You are not restricted to numerical values; anything that follows the special symbol is interpreted as a value. The width reserved in the Data List statement of the syntax file is the maximum width of the largest of all values collected for a variable code:

Name %Christine

Name %Thomas

Name %Hal

The variable code "Name" will have three values: "Christine," "Thomas" and "Hal." The width reserved in the data list statement will be 9, determined by the maximum width value "Christine."

Use comments for an explanation of scaled code's values

A comment linked to such codes could be used as an explanation of the values to instruct researchers in coding the material.

Keep in mind that ordinal codes only have meaning in the context of being used by SPSS. Within ATLAS.ti, the differently valued codes are treated like every other code: dichotomously.

Check '*The Sample.hpr5*' for an application of an ordinal code. The name of the code is Horror, split into Horror %1 to Horror %5.

Assign only one value

Don't assign mutually exclusive codes to the same quotation

Do not assign more than one scaled variable value (e.g., fear %1 and fear %2) to the same quotation. Although ATLAS.ti permits an arbitrary number of codes to be attached to a quotation, this would not make much sense with mutually exclusive values of scaled variables. If you do so, the SPSS generator will simply ignore additional values after processing the first one it finds for a given quotation. Since it cannot be guaranteed which value will be detected first, this will most likely produce unpredictable results in the SPSS job generated.

How SPSS Export Handles Families

Treatment of Code Families

Code families in SPSS jobs simply count the occurrences of assignments of any of its contained codes for the current case (=quotation) using COMPUTE statements. A code family KF_1, of which 5 codes are assigned to case 77, will have the value 5 for this case.

Note: Variable (scaled) codes are ignored in the computation of the code family variable.

Treatment of Primary Document Families

Each case (= quotation) has its primary document index automatically generated by the SPSS export function. The value of a quotation that is part of a primary document that is a member of a primary document family will be computed as a "1" or "0."

For example, take a look at the two PD families “Bible texts” and “Content::grafic” in the provided sample HU. PD1, 2 and 5 are bible texts, hence members of the PD family “Bible texts,” and PD4 is a graphical document, therefore a member of the PD family “Content::graphic.”

The SPSS syntax file contains information to create the following two variables: PF3 Bible texts, and PF4 Content::grafic, which are computed as follows:

```
* PF3 Bible texts.

COMPUTE PF3 = 0.

IF (PD = 1 or PD = 2 or PD = 5) PF3 = 1.

* PF4 Content::grafic.

COMPUTE PF4 = 0.

IF (PD = 4) PF4 = 1.
```

Missing Values

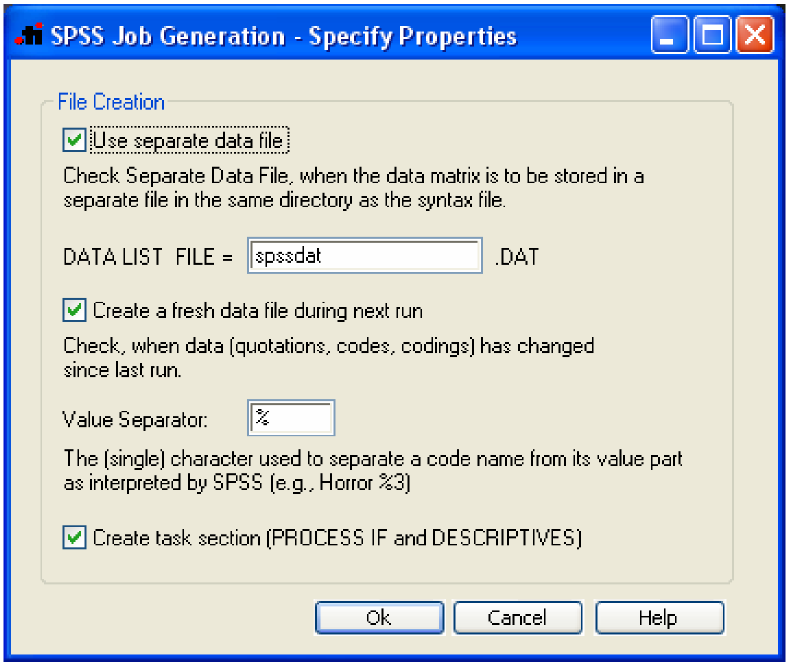
Missing values are only computed for scaled variables. A sequence of blanks (depending on the format width of the variable) is inserted in the data matrix for any missing value.

Creating SPSS Output

To create SPSS output

1. From the HU editor's main menu select **EXTRAS/EXPORT TO/SPSS**.
2. The Send Output to: dialog window opens. Select a target location.
3. Next, the SPSS Job Generation Window opens (see "SPSS Preferences" below on page 303).
4. Specify all desired properties and then click OK.
5. The output is generated and sent to the selected target location. When directed to a text editor, you can edit the job statements and other parts of the syntax file before proceeding. If file separation is selected, two files – the SPSS job file and the data file - are created simultaneously.
6. You can directly RUN the result if SPSS is installed on your computer and the SPS extension has been associated with SPSS.

SPSS Preferences



☑ Use separate data file

Check Separate Data File, when the data matrix is to be stored in a separate file in the same directory as the syntax file.

DATA LIST FILE = spssdat .DAT

☑ Create a fresh data file during next run

Check, when data (quotations, codes, codings) has changed since last run.

Value Separator: %

The (single) character used to separate a code name from its value part as interpreted by SPSS (e.g., Horror %3)

☑ Create task section (PROCESS IF and DESCRIPTIVES)

Figure 120 SPSS Options Dialog

In the SPSS Job Generation window, you can specify a number of properties:

Use separate file: when checked, the data matrix is written to a separate file. This is mandatory if the size of the matrix exceeds a certain size. SPSS cannot handle large data sets within a syntax file.

Specify the name of the data set. This name is used as the file name and as the FILE reference from the DATA LIST section.

"Create a fresh data file during next run" can be unchecked if the data has not changed since it was last created. This may save some processing time.

The value separator is % by default, but can be changed to something else.

Create task section. Enable this option if you want templates for procedures included at the end of the syntax file.

Export & Import using XML

XML, the eXtensible Markup Language is a powerful standard for information exchange between applications and has been used by ATLAS.ti since release 4.2. XML is increasingly used in any information technology related domains: the mobile phone web "language" WAP, transcripts created by open source transcription tool Transcriber, and Microsoft Office all use or are based on XML.

For some basic information and tech talk on XML see "XML – an Introduction" on page 400.

Codes, memos, or entire HUs can be exported into the XML format. Exporting codes and memos as XML files allows you to transfer all or only selected codes or memos between HUs using the import function. (If you are looking to merge complete HUs, check the section on "Merging Hermeneutic Units" on page 289).

Exporting the entire HU in XML opens up numerous possibilities for individual reports and conversion for other applications.

Limitations

For now, ATLAS.ti converts all formatted text (rich text) contained in comments or memos into plain text.

Note: When using XML as an exchange format to transfer memos and codes between HUs, or when creating XML version HUs, you will lose any formatting of the texts contained in the memos and codes.

Exporting and Importing Codes in XML

Exporting Codes

The code's name, author, creation and modification date, as well as the query for super codes and their respective comments are included in the export format. However, no links to quotations or other objects are included.

You can export all codes or selected codes or all codes that pass the current filter.

To export all codes,

1. Choose **CODES/MISCELLANEOUS/EXPORT CODES (XML)** from the main menu.
2. In the output target dialog select File.
3. Confirm the default or enter a new file name and save it to disk.

To export a list of selected codes,

1. Open the Code Manager and select one or more codes.
2. Choose **EXPORT SELECTED CODES (XML)** from the Code Manager's **MISCELLANEOUS** menu.
3. In the output target dialog select File.
4. Confirm the default or enter a new file name and save it to disk.

Importing Codes

When you import codes in XML format, additional information like the date of creation and modification, the author and code comments (in plain text only) are also imported.

This is how you do it:

1. Select **CODES/MISCELLANEOUS/IMPORT CODES (XML)** from the main menu.
2. A file dialog window opens. Select the XML file and click the **OPEN** button.

The code list is immediately imported and displayed in the Code Manager. If conflicts occur, you receive a warning and have the option to only overwrite the code for which a conflict was detected, or all codes.

Exporting and Importing Memos in XML

Exporting Memos

You can export selected memos or all memos.

To export all memos,

1. Choose **CODES/MISCELLANEOUS/EXPORT MEMOS (XML)** from the main menu.
2. In the output target dialog select File.

To export one or more selected memos,

1. Open the Memo Manager and select one or more memo(s).
2. Choose **EXPORT SELECTED MEMOS (XML)** from the Memo Manager's **MISCELLANEOUS** menu.
3. Select File as the output destination.

Importing Memos

1. Select **MEMOS/MISCELLANEOUS/IMPORT MEMOS (XML)** from the main menu.
2. A file dialog window opens. Select the XML file and click the **OPEN** button.

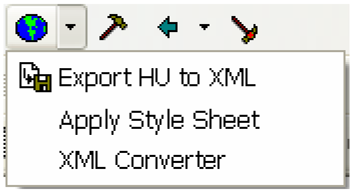
If a naming conflict occurs, you can choose to overwrite all memos, to NOT overwrite the memo for which a conflict was detected, or to never overwrite an existing memo.

Exporting the Hermeneutic Unit in XML

Instead of just exporting a small selected part of your project, you can also export the entire HU as an XML file. You may exclude primary documents and quotations, if not needed.

The benefit of exporting the entire HU lies in applying style sheets to create impressive reports, browsers and formats suited for other applications. By using ATLAS.ti's XML Converter and the supplied style sheets on HUs exported as XML you can create output (usually HTML) displayed in the web browser installed on your system.

The first step, however is, to export the HU to XML format:



1. From the **EXTRAS** menu, choose **EXPORT TO: XML**. Or click on the down arrow next to the globe button in the main toolbar and select the option Export HU to XML.
2. Next, you need to decide whether you want to include the primary documents and quotations (descriptions only, no content).
3. Select File as the output destination. You may also apply a style sheet on the current HU without creating an XML file first (**TOOLS/XML/APPLY STYLE SHEET**).

The default folder for storing XML files also contains the style sheets and several other auxiliary files that are used when working with the ATLAS.ti converter (see “Creating Reports with the XML Converter” on page 318). If you select a different folder to store XML files (customizable via General Preferences), but still want to make use of the ATLAS.ti converter, make sure that you copy the content of the default XML folder to your new XML folder.

Limitations

The content of quotations is ignored. All memo texts and entity comments are transferred to the XML output as **plain text**. Rich Text, Unicode, and embedded objects are ignored or replaced by placeholder characters (sequences of question marks: “??????”).

HTML Export

The new HU to XML export and conversion utility allows an alternative and very powerful and flexible approach to creating web pages for users willing to learn how to “program” stylesheets. Using HTML Export and specifying the layout using the HTML generator on the other hand is simply a matter of clicking options without any need to learn HTML.

Potential reasons for creating HTML versions of Hermeneutic Units include:

Create a web publication. Even intermediary results can be presented to other researchers without much effort. These reports are readable without needing ATLAS.ti on every system that has a web browser available.

Create a report. A convenient way to create a printout of (almost) all objects contained in a Hermeneutic Unit using a web browser.

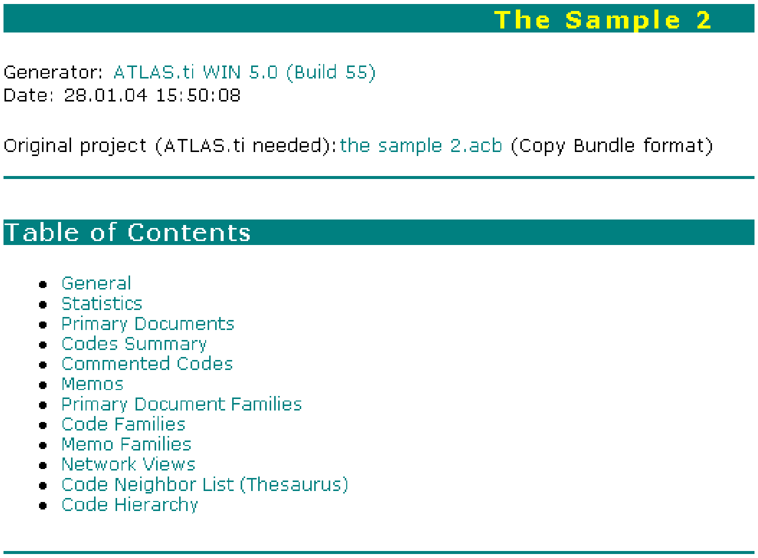
ATLAS.ti’s HTML code generation converts the Hermeneutic Unit currently being worked with into an HTML document. The user can control the HTML creation entirely via the HTML Preferences dialog box. Of course, the generated code can be edited and refined with a plain text editor or specialized HTML tools if you are knowledgeable in HTML.

Creating a HTML Document

Creating an HTML Document can be accomplished as follows.

To create an HTML version of your HU

1. Specify all desired characteristics using the ATLAS.ti HTML setup under **EXTRAS/HTML PREFERENCES** (see “HTML Preferences” on page 391 for details).
2. Select **EXTRAS/EXPORT TO/HTML** from the main menu.
3. Select File & Run as the output destination to immediately open the generated output in a web browser. Select the Editor if you want to modify the source before storing it.



The Sample 2

Generator: ATLAS.ti WIN 5.0 (Build 55)
Date: 28.01.04 15:50:08

Original project (ATLAS.ti needed): the sample 2.acb (Copy Bundle format)

Table of Contents

- General
- Statistics
- Primary Documents
- Codes Summary
- Commented Codes
- Memos
- Primary Document Families
- Code Families
- Memo Families
- Network Views
- Code Neighbor List (Thesaurus)
- Code Hierarchy

Figure 121 – Partial display of a Hermeneutic Unit’s HTML version

Customizing HTML Output

A number of options are available to customize the appearance of the web page created via **EXTRAS/HTML PREFERENCES** from the main menu. See “HTML Preferences” on page 391 for details.

Special Considerations

Size of HTML Documents

The more options you specify in the HTML Preferences dialog, the bigger your HTML file will be. This may not be a concern if you are using the documents in-house. However, when making such documents accessible to others via the Internet, slow transmission rates may demand a reduced set of output options. In-lined (= content included in the web page) primary documents may boost the size considerably (and therefore transmission times) depending upon the size of the documents.

Rich Text

Rich Text formatted documents cannot be included in the resulting HTML code. All contents from rich text primary documents (including Word files), comments or memos are converted to plain text for HTML output.

Embedded file links to such documents can of course be used. When clicking the link, the application registered for this file type (e.g., Word) is opened or displayed using a plug-in inside the browser's window.

Network View Images

Checking the option to include Network Views is not sufficient to display them in an HTML document. The graphic files have to be created manually for every network that you want to include.

To create Network View bitmaps for HTML files

1. Open the Network View in a Network Editor.
2. Set the fonts, colors, and the size of the window. Arrange the nodes as desired.
3. Choose **NETWORK/SAVE AS GRAPHIC FILE** from the network editor's main menu. ATLAS.ti saves network views in Bitmap (BMP) or Windows Enhanced Metafile (EMF) format.
4. The file name offered should resemble the link created by the HTML generator.
5. Choose EMF as format, since this is also the default format used by the HTML generator. If you prefer a different file type, you must use another tool to convert the EMF files into the required format.

Export and Import of Documents & Families

Please refer to "PD-Family Table" on page 197 for details on how to bulk assign a large number of documents and associated families in Excel™ compatible CSV format.

Generating Output

This chapter provides an overview of all output options that are available within ATLAS.ti. In addition, some general procedures common to most output functions are explained.

Overview

ATLAS.ti offers numerous options to create output and reports. Most output is textual, but graphical output is also available where applicable (Network Editor). Typical textual reports include sorted and filtered lists of objects, like code, memos, families and quotations. Comments can often be included when needed.

For textual primary documents a near what-you-see-is-what-you-get (WYSIWYG) output is available, including the annotations populating the margin area.

Output options are available from the menus of the tools, e.g., the HU Editor’s menus, the Object Manager’s and Object Explorer’s menus. Some tools offer an output button, either as the only option (e.g., the Query Tool) or in addition to the menus (Code Manager).

The target of an output is not necessarily restricted to the printer. Many of the text-related report procedures allow output to be directed to a text editor, the printer, or a file.

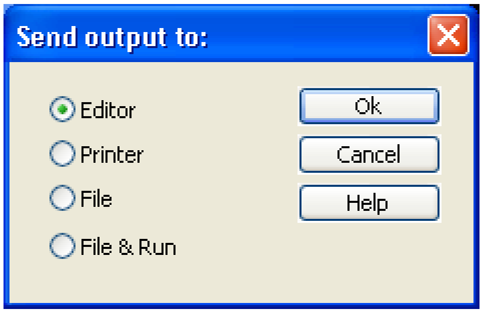
Other kinds of output are not necessarily intended to be printed directly but are to be processed by other applications, like the SPSS generation, several CSV (comma separated values that can be processed by Excel) formatted outputs, and HTML and XML export. XML allows flexible user-defined reports. You can find those procedures in chapter “Export & Import” on page 299.

One powerful output function described below makes use of XML converted HUs, the XML Converter.

General Procedure

Output Destinations

When creating textual output or when creating text-based exports, the following dialog is usually displayed in the course of the process:



You can send output to:

- **Editor**
  The output will be displayed within a text editor. This option is useful if modifications are needed before actually sending it to the printer or if you are unsure about the size of the result.
- **Printer**
  If you select this option, the output will be printed (the printer dialog window opens where you may select the desired print options).
- **File**
  If you select this option, the output will be saved to a file (a save file dialog opens).
- **File & Run**
  If you select the last option the file dialog window opens. After it has been saved, the file will be opened by the application registered for its extension. (e.g., a CSV file will be opened in Excel™).

Report Layout

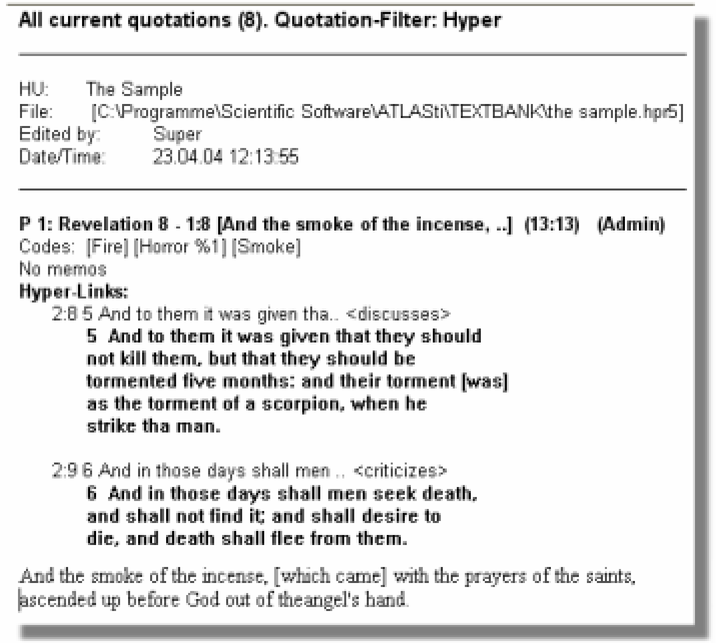
Common Header

When creating textual reports, a common header precedes the list of objects (e.g., all codes or all quotations for a selected code).

The header includes information about the kind of report ("All current quotations"), the HU (name and file path), the current user, the date and time of the creation of the report and the current filter if any.

Sorts & Filters

Many list reports are affected by the currently active filter for the reported objects. For instance, if the primary document’s filter is set to a specific family, creating a report of “All” quotations yields only those quotations for primary documents within that specific family.



```
All current quotations (8). Quotation-Filter: Hyper

HU:       The Sample
File:      [C:\Programme\Scientific Software\ATLASti\TEXTBANK\the sample.hpr5]
Edited by:        Super
Date/Time:        23.04.04 12:13:55

P 1: Revelation 8 - 1:8 [And the smoke of the incense, ..]  (13:13)   (Admin)
Codes:  [Fire] [Horror %1] [Smoke]
No memos
Hyper-Links:
    2:8 5 And to them it was given tha.. <discusses>
        5  And to them it was given that they should
        not kill them, but that they should be
        tormented five months: and their torment [was]
        as the torment of a scorpion, when he
        strike tha man.

    2:9 6 And in those days shall men .. <criticizes>
        6  And in those days shall men seek death,
        and shall not find it; and shall desire to
        die, and death shall flee from them.

And the smoke of the incense, [which came] with the prayers of the saints,
ascended up before God out of theangel's hand.
```

Figure 122 Output of hyperlinked quotations

The figure above shows the report generated after setting the primary document filter to family “content::text” and the quotation filter to “Hyperlinked.” Only the quotation filter is displayed in the header.

Restricting Output to Selected Objects

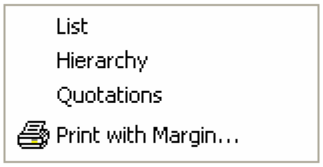
Output options for selected objects available from the HU Editor’s menus are restricted to a single object. For example, you can print one code at a time. Output options within the Object Manager allow you to select multiple objects and output each of them at the same time. For example, you can highlight three codes within the Code Manager and create a report that contains quotations coded to each of the three codes.

Creating Output for the Main Objects

Under the main menu for each of the four main object types (primary documents, quotations, codes and memos) you can find an output submenu. The corresponding object managers contain equivalent output menus. However, output options within object managers allow for the selection of specific items (e.g., a subset of codes rather than all codes) to be included in the output.

The output options for the four main object types are explained in detail below.

The (Primary) Documents Output Submenu



List
Hierarchy
Quotations
Print with Margin...

The output submenu for primary documents

List

Generates a list of all primary documents in the HU. If any of the PDs have a comment you are asked if these are to be printed as well.

Hierarchy

Prints the selected PD's quotation numbers and their codes and memos in a hierarchical manner.

Quotations

Prints all quotations belonging to the selected primary document.

Print with Margin

The Print with Margin option creates a WYSIWYG printout of coded texts (What You See Is What You Get). It also prints texts with their paragraph numbers, which was a dedicated option in ATLAS.ti 4.2.

Note: Print with Margin is only available for textual primary documents.

The appearance of the printed text can be controlled in three places:

1. Via the PD Printing tab in the General Preferences dialog.
2. By the current display **settings** in the **HU Editor**. The printout resembles the screen display at the time of creating the output. The margin or the numbering is only included if currently displayed. Only those margin objects are included that were selected to be displayed in the margin. By moving the splitter bar the ratio between document and margin area can be controlled.
3. The **printing dialog**. Switching to landscape for densely populated margins may improve results. Choose to print the entire text or the selected text only.

Setting PD Printing Preferences

Depending on the size and layout of your document, the number of objects in the margin and the fonts used in the document, adjustments may become necessary. To set PD Printing preferences, select the main menu option **EXTRAS/GENERAL PREFERENCES**. See "Section: PD Printing" on page 345.

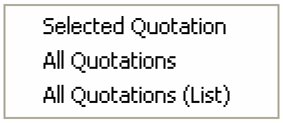
To print a primary document with margin

1. Load the primary document.
2. If you do not want to print the entire PD, highlight the section that you want to print.
3. Switch the wrap mode to Printer via **EDIT/WORD WRAP/FOR PRINTER**. Although printer wrap is enabled anyway when starting the print, it is advisable to select this wrapping mode in the first place to better judge the expected layout and avoid surprises.
4. The printed page is divided into "columns" for the numbering, the actual text and the margin area. Specify the ratio between the space reserved for the text and the margin by moving the splitter bar to an appropriate position. It might take some experimentation to arrive at optimal results for your printer.
5. Select **DOCUMENTS/OUTPUT/PRINT WITH MARGIN** from the main menu.
6. The printer dialog opens. If you have made a selection (e.g., manually or by activating a quotation) and want to restrict the output to this part of the document, check option "Print Selection" before clicking the **Print** button.

Print selected parts of a document.

Our WYSIWYG of annotated documents has its limits. For instance, if you have coded the document quite densely, with lots of overlapping quotations and many memos and hyper-links, color is recommended for best visual discrimination.

The Quotations Output Submenu



Selected Quotation

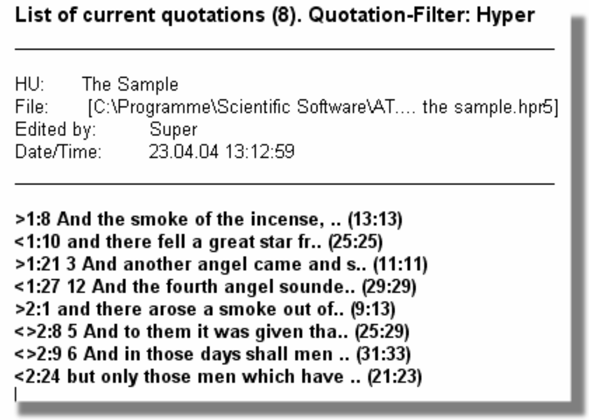
Prints the selected quotation. In the Quotation Manager, all selected quotations are printed.

All Quotations

Prints all current quotations. If any of the quotations have a comment you are asked if these are to be included in the printout.

All Quotations (List)

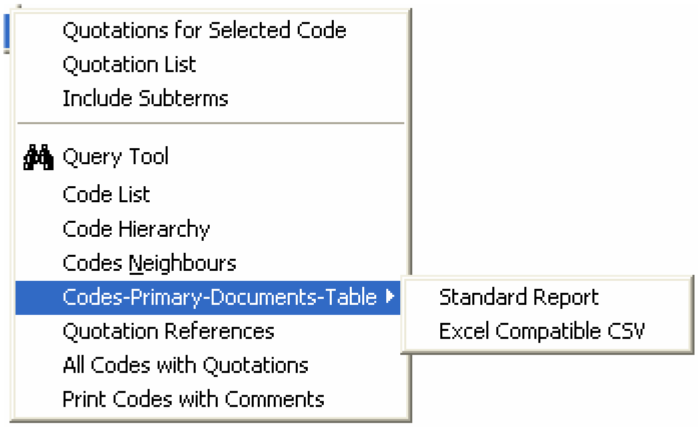
Prints all current quotations in a compact format including only the quotations id and display name.



```
List of current quotations (8). Quotation-Filter: Hyper

HU:        The Sample
File:      [C:\Programme\Scientific Software\AT.... the sample.hpr5]
Edited by:        Super
Date/Time:        23.04.04 13:12:59

>1:8 And the smoke of the incense, .. (13:13)
<1:10 and there fell a great star fr.. (25:25)
>1:21 3 And another angel came and s.. (11:11)
<1:27 12 And the fourth angel sounde.. (29:29)
>2:1 and there arose a smoke out of.. (9:13)
<>2:8 5 And to them it was given tha.. (25:29)
<>2:9 6 And in those days shall men .. (31:33)
<2:24 but only those men which have .. (21:23)
```

Figure 123 Output of All Quotations (List)

The Codes Output Submenu



Quotations for Selected Code

Prints all quotations for the selected code(s). When quotations are outputted, headers for individual quotations include references to other codes (and memos) that are linked to those quotations. This is also true for other output options including quotations.

Quotation List

Prints a compact list of all quotations for the selected code (appearance as in All Quotation (list)).

Include Sub Terms

Prints all quotations for the selected code, including all quotations connected to any of the codes that are transitively linked to this code (sub codes). This resembles a Query Tool created term using the SUB operator.

Query Tool

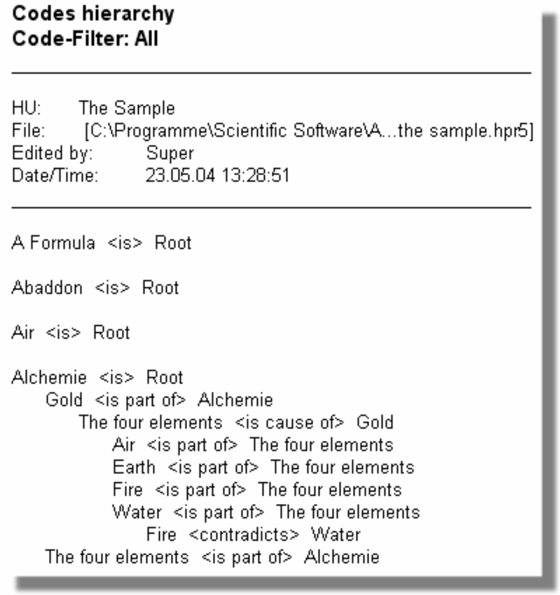
Opens the Query Tool (see “The Query Tool” on page 160 for details).

Code List

Prints a list of codes according to the current sort setting.

Code Hierarchy

Prints the hierarchy of codes as indented text.



```
Codes hierarchy
Code-Filter: All
______________________________________________________

HU:       The Sample
File:      [C:\Programme\Scientific Software\A...the sample.hpr5]
Edited by:         Super
Date/Time:         23.05.04 13:28:51
______________________________________________________

A Formula  <is>  Root

Abaddon  <is>  Root

Air  <is>  Root

Alchemie  <is>  Root
    Gold  <is part of>  Alchemie
        The four elements  <is cause of>  Gold
            Air  <is part of>  The four elements
            Earth  <is part of>  The four elements
            Fire  <is part of>  The four elements
            Water  <is part of>  The four elements
                Fire  <contradicts>  Water
    The four elements  <is part of>  Alchemie
```

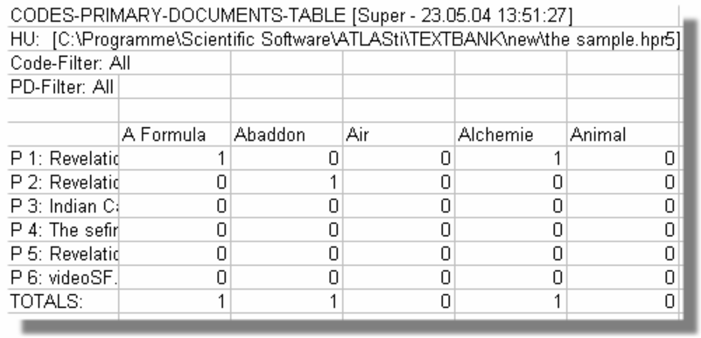
Figure 124 Print codes hierarchy

Codes Neighbors

Similar to codes hierarchy but restricted to one hierarchy level. Prints all current codes with only their immediate code neighbors.

Codes-Primary-Documents-Table Submenu

Prints frequency counts in form of a table: all current codes (x-axis) by primary documents (y-axis). You may also export the table to Excel for further processing or more flexible reporting.



CODES-PRIMARY-DOCUMENTS-TABLE [Super - 23.05.04 13:51:27]

HU: [C:\Programme\Scientific Software\ATLASti\TEXTBANK\new\the sample.hpr5]

Code-Filter: All

PD-Filter: All

	A Formula	Abaddon	Air	Alchemie	Animal
P 1: Revelatic	1	0	0	1	0
P 2: Revelatic	0	1	0	0	0
P 3: Indian C:	0	0	0	0	0
P 4: The sefir	0	0	0	0	0
P 5: Revelatic	0	0	0	0	0
P 6: videoSF.	0	0	0	0	0
TOTALS:	1	1	0	1	0

Figure 125 Codes-PD table displayed in Excel™

Quotation References

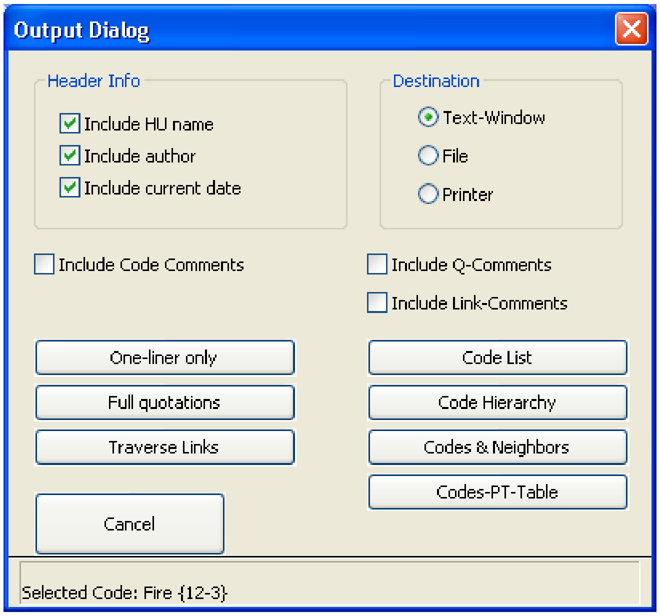
Prints a list of codes including the boundaries of their quotations. Code comments can be included.

All Codes with Quotations

Prints all codes with a full report of their quotations.

The Output Dialog

When clicking the Code Manager output button, a dialog opens to allow you to select the characteristics of your output.



Output Dialog

Header Info

☑ Include HU name

☑ Include author

☑ Include current date

Destination

● Text-Window

○ File

○ Printer

□ Include Code Comments

□ Include Q-Comments

□ Include Link-Comments

Selected Code: Fire {12-3}

Figure 126 – Code Output Dialog Window

Additional choices not available as menu options are the exclusion or inclusion of header information and link comments.

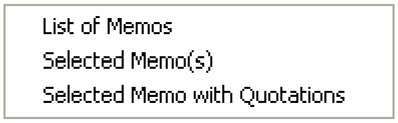
ONE-LINER ONLY corresponds to menu option 'Quotation List'.

TRAVERSE LINKS is the same as menu option 'Include Subterms'.

Reports for Code Combinations via the Query Tool

When clicking on the printer button in the query tool, you can print the list of quotations resulting from your selected combinations of codes and code families, either in full length or in list format. Before creating the output, selected quotations can be excluded (see “Output” on page 173).

The Memos Output Submenu



List of Memos
Selected Memo(s)
Selected Memo with Quotations

List of Memos

Prints a list of the current memos. You are given the option of output with or without the memo text.

Selected Memo(s)

Prints the selected memo(s).

Selected Memo with Quotations

Prints a selected memo including all referenced quotation(s).

Family Output

When clicking the output button in any of the three family managers, a report is created with information associated with the selected family: name, comment, list of members.

When desired, a report of all quotations that are associated with any of the members of the family is included.

Creating Reports with the XML Converter

Introduction

While ATLAS.ti’s HTML generator (see “HTML Export” on page 307) offers a comfortable way to create browsable versions of a Hermeneutic Unit on-the-fly, using XML extends the available options considerably. However, to fully exploit the potentials of XML, you need to learn this new language.

The real power of the XML standard is unleashed by applying so-called "stylesheets." In fact an entire style language, the eXtensible Style Language (XSL, or, more specifically, XSLT) is dedicated to creating useful little programs and even full-blown applications on the basis of XML-structured data.

Note: You do not have to learn the XSLT language to use the XML Converter with the provided stylesheets. However, to create your own reports, browsers and converters, some knowledge of the language is necessary.

A Hermeneutic Unit exported to XML representation via **EXTRAS/EXPORT TO:/XML** (see “Exporting the Hermeneutic Unit in XML” on page 306) can be converted into a wide variety of other representations by using stylesheets. Individual reports, conversions into other programs’ input formats or creating ‘clickable’ viewer versions of your HUs are among the options available.

The default XML folder (browse conveniently via **EXTRAS/EXPLORER/XML FOLDER**) hosts some examples of such stylesheets waiting to be explored, or modified to suit your own needs or tastes. The XML converter can be viewed as a kind of plug-in interface for user written "programs" or macros.

The ATLAS.ti XML Converter is a convenient tool for user-created reports, converters and viewers. It displays all XML and XSL files located in the default XML folder.

Note: If you change the default XML folder under **EXTRAS\GENERAL PREFERENCES\PATHS** and want to continue to use the provided stylesheet samples, you need to copy the content of the default XML folder to the new location.

Requirements

ATLAS.ti’s XML Converter requires Microsoft’s MSXML v.3 XML parser to be installed. In turn, MSXML requires the Internet Explorer 5.5 or later to be installed.

Note: Although Microsoft's Internet Explorer IE 5.5 or 6 must be installed on your system, it is not required to be your default web browser!

If you have Windows XP as your operating system, you should already be well equipped. However, it is recommended that you download the most recent version of the parser from the Microsoft web site (run the Check MSXML option below).

To check for the version of MSXML installed on your computer, run **Tools/XML/XML Converter** from the main menu, or click the globe button in the main toolbar.

Checking MSXML compatibility

If you receive an error message, you need to check if you have a compliant version of MSXML installed:

From the main menu, select **Help/More Resources/Check MSXML**.

A list of installed MSXML modules will be displayed including their compatibility with ATLAS.ti. If none of the modules is compatible, follow the link to the offered download site to get a compliant version of MSXML.

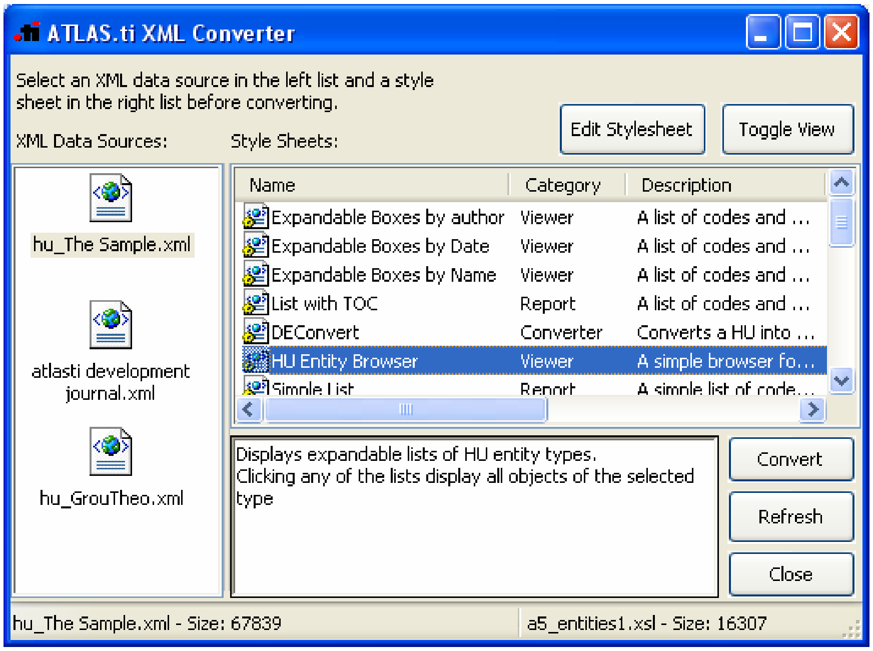
How to Use the XML Converter

The XML Converter offers XML versions of HUs you have already created using the procedure described in "Exporting the Hermeneutic Unit in XML" on page 306.

Note: the XML Converter can only convert XML versions of ATLAS.ti Hermeneutic Units. It is not a generic tool for arbitrary XML conversions.

To open the XML Converter:

1. Select **Extras/XML Converter** to start the conversion or click the globe button in the main toolbar. This opens the ATLAS.ti XML Converter.



Select an XML data source in the left list and a style sheet in the right list before converting.

Name	Category	Description
Expandable Boxes by author	Viewer	A list of codes and …
Expandable Boxes by Date	Viewer	A list of codes and …
Expandable Boxes by Name	Viewer	A list of codes and …
List with TOC	Report	A list of codes and …
DEConvert	Converter	Converts a HU into …
HU Entity Browser	Viewer	A simple browser fo…
Simple List	Report	A simple list of code…

Displays expandable lists of HU entity types.
Clicking any of the lists display all objects of the selected type

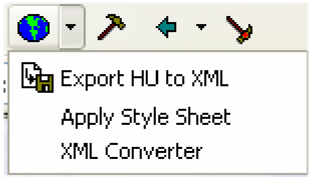
hu_The Sample.xml - Size: 67839 | a5_entities1.xsl - Size: 16307

Figure 127 - ATLAS.ti XML Converter

2. Select an XML file in the left browser pane entitled XML Data Sources.
3. Select a stylesheet from the Style Sheets pane. Style sheets are categorized by name, converter type, and target format (usually HTML).
4. Double-click the stylesheet or click the **CONVERT** button. This starts the conversion process, which usually creates an HTML document. The HTML document is stored in the XML folder and is automatically displayed by the default web browser.

Converting a HU on the fly

It is also possible to use the ATLAS.ti converter directly on the current HU. If you prefer this option, do the following:



1. Click on the globe button's arrow in the main toolbar and select **APPLY STYLESHEET**.
2. Select a stylesheet from the list displayed.
3. Choose whether to include primary documents and quotations. As the latter can be quite numerous, you can speed up the conversion if you omit those objects if you intend to select a style sheet that does not make use of them.
4. An output file is generated (usually HTML). In the file dialog accept or modify the default name for the file. Click the **SAVE** button.
5. The output is displayed in the web browser (i.e., Internet Explorer).

Creating and Modifying Stylesheets

The following assumes some knowledge about XML and XSLT. XSLT Stylesheets are XML conformant text files. As such, they can be edited with a simple text editor like the one built into ATLAS.ti. By pressing the **EDIT STYLESHEET** button, you may start editing a selected Stylesheet. However, the language of Stylesheets, its syntax and semantics, are not trivial. You need at least some basic knowledge about the "guts" of a Stylesheet.

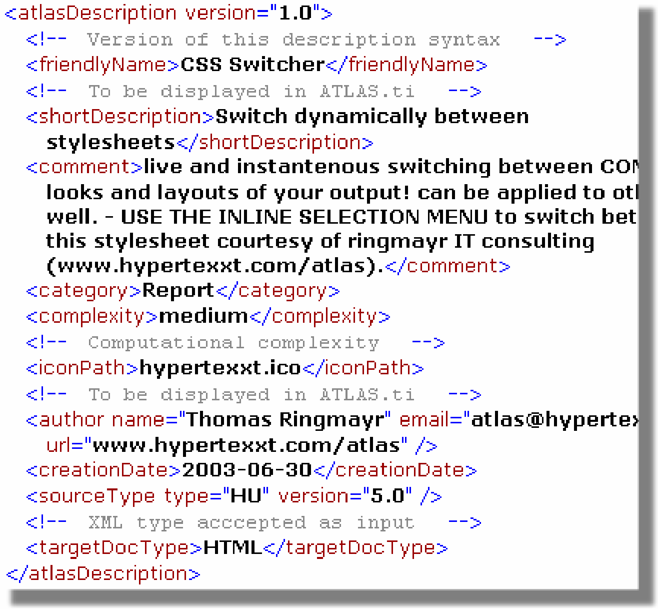
Although not really produced for educational purposes, you can start by analyzing any of the existing Stylesheets and creating modifications of those.

To learn something about the structure of an XML version of the Hermeneutic Unit, double-click on an XML file to study its structure.

Further resources on how to create stylesheets can be found under: http://www.atlasti.com/xml/

Conventions

You will note that the XML Converter displays more than just the file name of the stylesheets it found in the XML folder. This additional information is part of the stylesheets themselves. The atlas description node within the atlas:data namespace contains this self description. **Stylesheets that do not use this header are not displayed in the converter.**



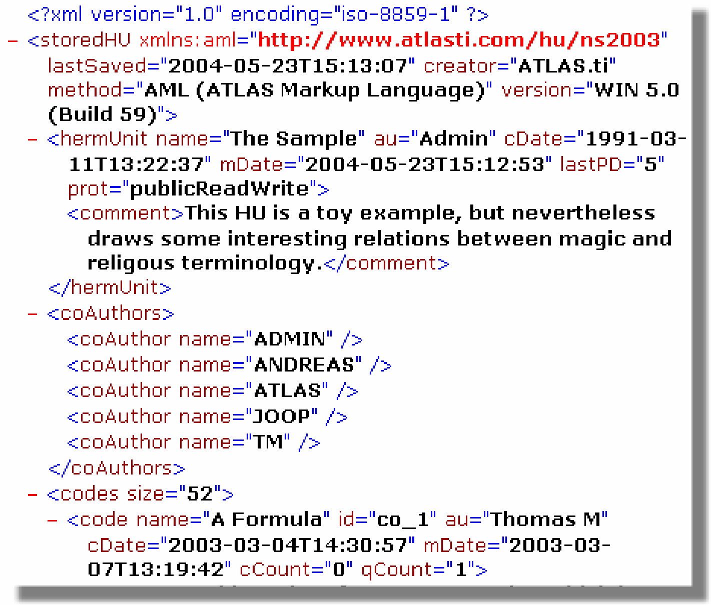
```
<atlasDescription version="1.0">
  <!--  Version of this description syntax   -->
  <friendlyName>CSS Switcher</friendlyName>
  <!--  To be displayed in ATLAS.ti   -->
  <shortDescription>Switch dynamically between
    stylesheets</shortDescription>
  <comment>live and instantenous switching between CO
    looks and layouts of your output! can be applied to ot
    well. - USE THE INLINE SELECTION MENU to switch bet
    this stylesheet courtesy of ringmayr IT consulting
    (www.hypertexxt.com/atlas).</comment>
  <category>Report</category>
  <complexity>medium</complexity>
  <!--  Computational complexity   -->
  <iconPath>hypertexxt.ico</iconPath>
  <!--  To be displayed in ATLAS.ti   -->
  <author name="Thomas Ringmayr" email="atlas@hypertex
    url="www.hypertexxt.com/atlas" />
  <creationDate>2003-06-30</creationDate>
  <sourceType type="HU" version="5.0" />
  <!--  XML type acccepted as input   -->
  <targetDocType>HTML</targetDocType>
</atlasDescription>
```

Figure 128 An atlasDescription XSLT element

Custom Applications with Stylesheets

Let's take a look at some of the examples for manipulating raw XML data that come with the program.

The following sample was created by exporting the HU for ‘The Sample’ to XML. A short snippet of this "raw" output looks like this:



```
  <?xml version="1.0" encoding="iso-8859-1" ?>
- <storedHU xmlns:aml="http://www.atlasti.com/hu/ns2003"
    lastSaved="2004-05-23T15:13:07" creator="ATLAS.ti"
    method="AML (ATLAS Markup Language)" version="WIN 5.0
    (Build 59)">
  - <hermUnit name="The Sample" au="Admin" cDate="1991-03-
      11T13:22:37" mDate="2004-05-23T15:12:53" lastPD="5"
      prot="publicReadWrite">
      <comment>This HU is a toy example, but nevertheless
        draws some interesting relations between magic and
        religous terminology.</comment>
    </hermUnit>
  - <coAuthors>
      <coAuthor name="ADMIN" />
      <coAuthor name="ANDREAS" />
      <coAuthor name="ATLAS" />
      <coAuthor name="JOOP" />
      <coAuthor name="TM" />
    </coAuthors>
  - <codes size="52">
    - <code name="A Formula" id="co_1" au="Thomas M"
        cDate="2003-03-04T14:30:57" mDate="2003-03-
        07T13:19:42" cCount="0" qCount="1">
```

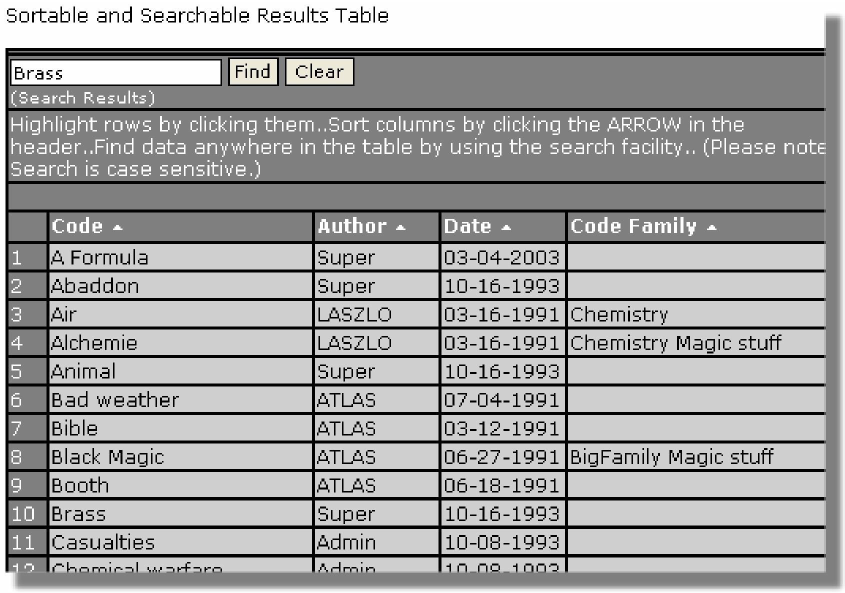
Figure 129 HU displayed as raw XML in Internet Explorer

Three different stylesheets were independently applied to this XML file using the XML converter to generate completely different representations from the same source.

It is important to notice that these representations work independently of ATLAS.ti. That is, they "live" exclusively in your Web browser. This adds a huge new repertoire of applications to your tool chest, since you can modify the supplied stylesheets to your hearts content and even create your own stylesheets to suit your unique and very specific needs. How this is done will be explained through the examples below.

Example: Sortable Table

In order to create the output in the figure below, stylesheet ‘Sortable Table’ was applied. The generated table allows interactive sorting and searching of codes and some of their related information.



Sortable and Searchable Results Table

Brass

(Search Results)

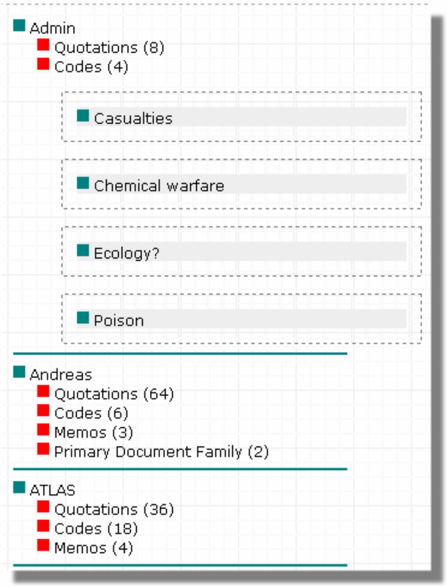
Highlight rows by clicking them..Sort columns by clicking the ARROW in the header..Find data anywhere in the table by using the search facility.. (Please note Search is case sensitive.)

	Code ▲	Author ▲	Date ▲	Code Family ▲
1	A Formula	Super	03-04-2003	
2	Abaddon	Super	10-16-1993	
3	Air	LASZLO	03-16-1991	Chemistry
4	Alchemie	LASZLO	03-16-1991	Chemistry Magic stuff
5	Animal	Super	10-16-1993	
6	Bad weather	ATLAS	07-04-1991	
7	Bible	ATLAS	03-12-1991	
8	Black Magic	ATLAS	06-27-1991	BigFamily Magic stuff
9	Booth	ATLAS	06-18-1991	
10	Brass	Super	10-16-1993	
11	Casualties	Admin	10-08-1993	
12	Chemical warfare	Admin	10-08-1993	

Figure 130 - Code list using stylesheet ’Sortable Table’

Example: Author

The figure below presents an output that might be useful to support teams in the process of analysis.



- Admin
  - Quotations (8)
  - Codes (4)
    - Casualties
    - Chemical warfare
    - Ecology?
    - Poison
- Andreas
  - Quotations (64)
  - Codes (6)
  - Memos (3)
  - Primary Document Family (2)
- ATLAS
  - Quotations (36)
  - Codes (18)
  - Memos (4)

Figure 131 – Applying stylesheet 'Author'

To create the figure above, stylesheet 'Author' was applied. The result shows that: Admin created 8 quotations and 4 codes; Andreas created 64 quotations, 6 codes, 3 memos and 2 primary document families, and so on.

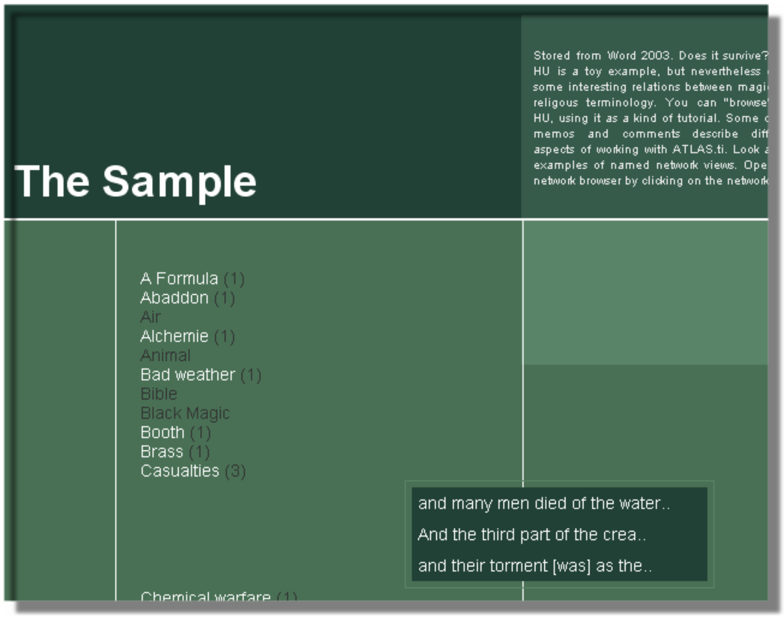
With a click on the colored square at the left of an object type, the corresponding objects are expanded. Under codes, a list of all codes created by the respective author is shown; under each code more detailed information like the creation and modification dates and the definition and frequency of application can be expanded.

Example: CSS Switcher

The output shown in the figure below might be used in presentations because it displays HU information in a more comprehensible way.

This particular stylesheet example makes the point that you can go in wildly differing directions with your design ideas when it comes to displaying your ATLAS.ti data to the "outside world" (solely equipped with a Web browser).

Create presentations using stylesheets



The Sample

Stored from Word 2003. Does it survive?
HU is a toy example, but nevertheless
some interesting relations between magi
religous terminology. You can "browse"
HU, using it as a kind of tutorial. Some
memos and comments describe diff
aspects of working with ATLAS.ti. Look a
examples of named network views. Ope
network browser by clicking on the network

A Formula (1)
Abaddon (1)
Air
Alchemie (1)
Animal
Bad weather (1)
Bible
Black Magic
Booth (1)
Brass (1)
Casualties (3)

and many men died of the water..
And the third part of the crea..
and their torment [was] as the..

Chemical warfare (1)

Figure 132 – Displaying a Hermeneutic Unit using stylesheet 'CSS Switcher'

Many more examples are included that can show you a variety of practical stylesheet applications. If you already know how to write XSLT stylesheets, use the supplied examples as a point of departure for your explorations. If you are motivated to learn XSLT, they can serve as study material for basic and advanced XSLT coding. Many more examples are supplied to give you a hint of the limitless possibilities in designing and individualizing ATLAS.ti XML output.

Check our Web site, www.atlasti.com/ for additional information on ATLAS.ti's XML support, as well as for an emerging repository of useful stylesheets and dedicated service providers who specialize in creating custom applications, interfaces, and conversions on the basis of ATLAS.ti's XML / XSLT capabilities.

Resources

Frequently Asked Questions

An updated list of frequently asked questions (FAQ) and their answers can be found on the ATLAS.ti website. To access the site directly from ATLAS.ti, select **HELP/MORE RESOURCES/VISIT FAQ** from the HU editor's main menu. An active Internet connection is required to access this web page.

The ATLAS.ti Mailing List

During the beta-tests for the predecessor of ATLAS.ti, which began in early 1991, an electronic mailing-list was established for the users of the program. A mailing-list is a special e-mail address that serves to distribute all messages sent to this address to all members assigned to the list.

The main purpose of the list dedicated to ATLAS.ti is peer-to-peer support: to exchange experiences with the tool and discuss technical and methodological issues that arise with the use of the program.

This list also serves as an information channel to publicize news about current developments, and to supply the members with "Tips & Tricks."

Find more information on how to subscribe to the mailing list on the ATLAS.ti website in the *Community* section at http://www.atlasti.com/maillist.shtml.

The mailing list archive can be accessed via the Help menu in ATLAS.ti. From the main menu select **HELP/MORE RESOURCES/VISIT THE MAILINGLIST ARCHIVE.**

The ATLAS.ti Website

The ATLAS.ti website at http://www.atlasti.com should be a regular place to visit, even if you are already a member of the mailing list.

Here you will find important information such as workshop announcements, special service providers, and especially recent service packs and patches for download to keep your ATLAS.ti current.

Additional online resources can also be accessed via the Help menu in ATLAS.ti.

Getting Support

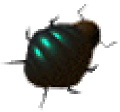
A primary resource for issues concerning the *use* of ATLAS.ti should be our mailing list (see “The ATLAS.ti Mailing List” on page 327 for details).

In case of program failures, please read the instructions in “Reporting Bugs” on page 333.

To contact our support team, visit our website at www.atlasti.com and follow the “Support” link..

Troubleshooting

Of Bugs & Nuisances



A "bug" is a software error. The term originates from an actual bug that once crashed the hardware of a computer system.

Sad but inevitable: no software and no operating system is totally free of errors, or “bugs”.

It's usually not so much inherent programming slip-ups that cause a program to malfunction. Much more frequently, it is simply the digital environment inside your computer with which it doesn't agree. This is because every deployment scenario is ultimately unique--every installation on every single computer differs from the next, as different software packages, drivers, hardware components, and many, many individual user settings all struggle to get along and vie for system resources. Sometimes that precarious balance cannot be easily achieved and clashes occur.

There really is no good way to test complex software other than through empirical tests. Only by practical application in the hands of developers, beta-testers and, yes, the users, can errors and conflicts be found.

The development of ATLAS.ti is and has been an evolutionary process by design and with significant user involvement (providing feedback, proposing new features, reporting "bugs"...). It is for this reason-its long history of practical application in the hands of many dedicated users the world over-that ATLAS.ti 5 has achieved its level of maturity, stability, and robustness.

So, the good news is that the majority of bugs are harmless, and most are never even noticed under normal conditions.

Other errors are only errors in the eye of the user, and not infrequently even turn out to be part of the software by design.

And quite often, errors or unexpected behavior are the result of applying the wrong procedure to a task.

Most errors are "trapped" by the program and reported to the user in such a way that the erroneous behavior can be avoided in a subsequent attempt.

Known Issues

In this section a few problems and – if available - possible workarounds are described. These issues are being monitored and may appear as bug fixes in the future.

Screen Refresh

When scrolling lists in any of the tools you may experience refresh problems under certain system configurations. Such problems may appear as incomplete redraw of items, looking like items are missing.

Use General Preferences and check option **Increase List Refresh**. This will result in more complete redraws but also increases screen flicker.

No Buttons in Main Toolbar

This problem has been reported by some users. As far as we know this problem only appears on some computers when working under Windows XP in Classic Mode (user interface elements look as in previous Windows versions). The workaround: switch to XP mode.

Frequently Asked Questions

A much more complete FAQ is available on our website at: http://www.atlasti.com.

Primary Document Cannot be Loaded

Help! Where are my documents?

The most frequently asked question regarding ATLAS.ti in the past was “where are my primary documents?”

There are now two causes for a document not to be displayed in ATLAS.ti.

Not found: The document cannot be found where ATLAS.ti expects it.

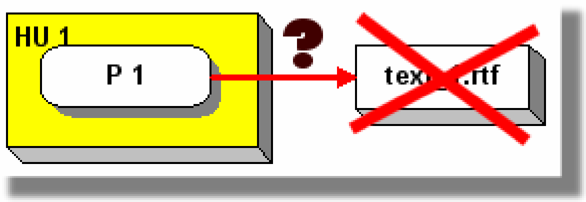


Figure 133 File was deleted, renamed or moved

Not valid: The document was found but it must have been edited with another application and not with ATLAS.ti. Or a companion file to the document was deleted or not copied.

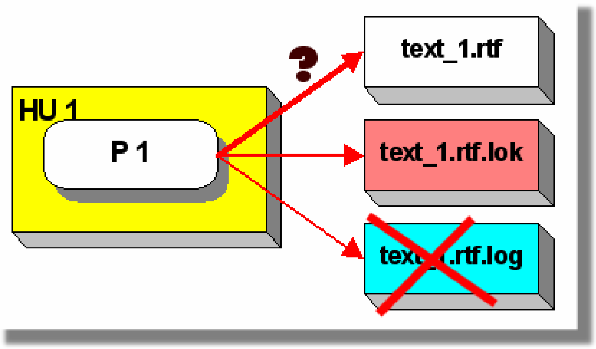


Figure 134 The companion LOG file was deleted

Both problems can be addressed rather efficiently:

- In advance by clever project planning (see "Project Management" on page 270) or
- By using the appropriate procedures and tools (see "How ATLAS.ti Handles Documents" on page 93 and "Editing Primary Documents" on page 78).

Reset Last Access Information

To avoid accessing the wrong document, ATLAS.ti memorizes the certain state (size, date, path) of a document each time it was successfully accessed.

If ATLAS.ti detects a deviation between this access information and the referenced file, it assumes that it has been edited with another software or that it has been replaced with another version.

Because such changes bear the danger of corrupting the alignment of quotations, loading is rejected.

Reset the access information for an externally edited file

However, in some situations everything might be in good order. If you know for sure that the current state of the document would not render any of the work done in the primary document, like quote creation and/or coding, useless, you may force ATLAS.ti to accept the modified document as a legal primary document's data source:

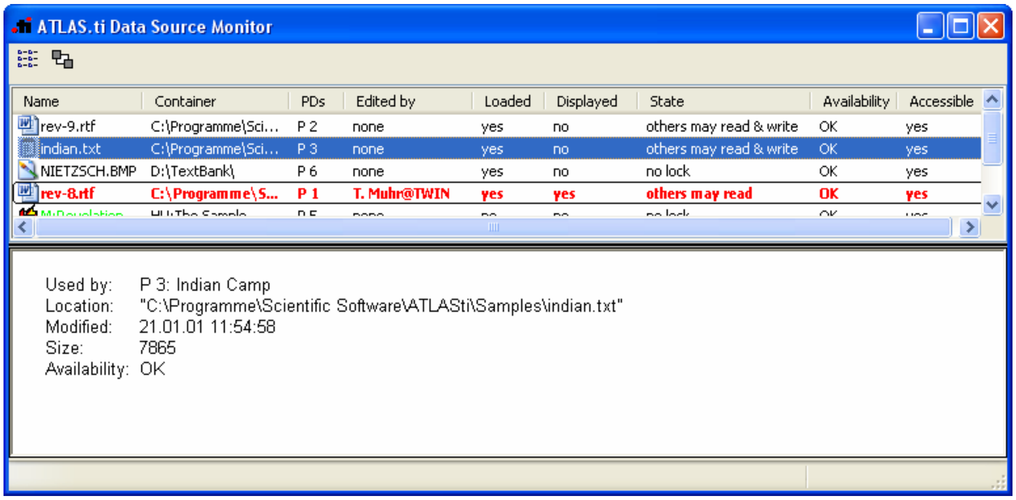
only, if you are absolutely sure, that the modifications do not affect the alignment of existing quotations

choose **DOCUMENTS/DATA SOURCE MANAGEMENT/RESET LAST ACCESS INFORMATION**. This synchronizes the access information stored in the HU with the actual access info of the file. An example of an action that does not negatively affect a PD is adding text at the end of a data document.

Note: With this powerful option you can make files loadable that could detrimentally affect your work. If you detect misaligned quotations after you chose this procedure, you know you did something wrong. If this has happened, you should either leave the HU without saving or correct all misaligned quotations manually.

The Data Source Monitor

The Data Source Monitor can assist in identifying the problem source when a document cannot be loaded. It lists the primary document data sources including additional information like the fully resolved path and its availability. When you select a document in the monitor, access information is shown in the comment pane below.



Name	Container	PDs	Edited by	Loaded	Displayed	State	Availability	Accessible
rev-9.rtf	C:\Programme\Sci…	P 2	none	yes	no	others may read & write	OK	yes
indian.txt	C:\Programme\Sci…	P 3	none	yes	no	others may read & write	OK	yes
NIETZSCH.BMP	D:\TextBank\	P 6	none	yes	no	no lock	OK	yes
rev-8.rtf	**C:\Programme\S…**	**P 1**	**T. Muhr@TWIN**	**yes**	**yes**	**others may read**	**OK**	**yes**
MyRevelation	HU:The Sample	P 5	none	no	no	no lock	OK	yes

Used by: P 3: Indian Camp
Location: "C:\Programme\Scientific Software\ATLASti\Samples\indian.txt"
Modified: 21.01.01 11:54:58
Size: 7865
Availability: OK

Figure 135 The Data Source Monitor- one document is currently being edited (red and bold)

The monitor is an instrument to assist administrators and the support staff in resolving document access-related problems. For more information see the chapter on “Project Management” on page 270.

Embedded Objects Cannot be Activated

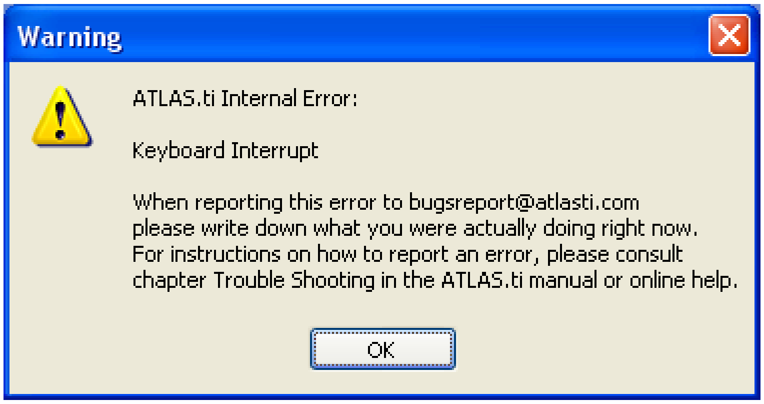
In order to activate objects embedded in primary documents, memos or comments, the object’s application (e.g., Excel) needs to be installed. You might have received an HU created on another computer, which had the application installed. Another cause is that you may have deinstalled the application needed for activation.

Cannot Enter Edit Mode for Primary Documents

Currently, only RTF and plain text documents can be edited under ATLAS.ti's control. An assigned Word document (*.doc) cannot be edited. To be able to edit a document created with Word, you need to save it from Word as a rich text document (*.rtf).

Internal Error Message

Once in a while you might see a message like the following:



ATLAS.ti Internal Error:

Keyboard Interrupt

When reporting this error to bugsreport@atlasti.com
please write down what you were actually doing right now.
For instructions on how to report an error, please consult
chapter Trouble Shooting in the ATLAS.ti manual or online help.

Figure 136 - ATLAS.ti Internal Error

Although this is not always a dramatic issue, you should contact support at bugsreport@atlasti.com if this happens occasionally.

Please be kind and supply information about what you were doing at the time this error occurred (coding a text passage, deleting a memo, etc). User feedback is an integral part of ATLAS.ti's evolution and improvement.

For more information on how to send an error report consult the following chapter.

Reporting Bugs

Most errors that occur during the operation of ATLAS.ti are displayed and written to a special log file named ERROR.LOG. This text file is located in the user system directory.

The contents of this file can only be interpreted by the developers of the program and is of no use for others. If you file a bug report, you might be asked to send a system report including this file to a specified support e-mail address.

Sending an Error Report

The error report contains the following:

- The ERROR.LOG file.
- The System Report (which you can view via **EXTRAS/SYSTEM REPORT/DISPLAY SYSTEM REPORT)**
- The user's configuration file USER.INI.
- The ATLAS.ti configuration file ATLAS.INI.
- The list of files in ATLAS.ti's program folder.
- The list of files in the user's system folder.

The information in the package contains technical information needed for the technical support personnel to analyze and respond to reported problems. Except for the content of the ERROR.LOG, the system report and two INI files, no other file content is transferred.

To send an error report:

1. From the main menu, select **EXTRAS/SYSTEM REPORT/CREATE AND MAIL REPORT**.
2. A message informs you that the report has been created. Click OK.
3. ATLAS.ti launches your default email client and creates a new message addressed to an ATLAS.ti support address. The body of the message displays further instructions.
4. Add a description of your problem in the mail body.
5. Attach the generated error report. It is located in the user system path and can be easily accessed from within ATLAS.ti via menu option **EXTRAS/EXPLORER/USER SYSTEM PATH**.
6. Make sure you have an active Internet connection.
7. Send the mail.

You might be asked to send further information.

Service Packs & Patches

Program updates (patches and service packs) are posted on our website for download from time to time.

Downloading Service Packs

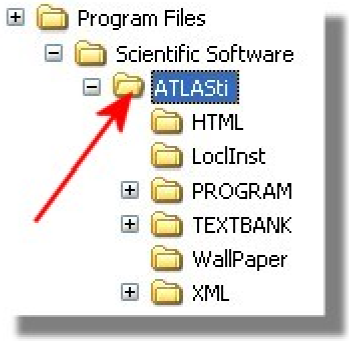
Check our website occasionally to see if new patches or service packs are available. If you are a member of the mailing list you will receive notification whenever new software was uploaded to our server.

The service pack page is directly accessible from our home page http://www.atlasti.com.

To download a service pack or patch

1. The most convenient way to access our service pack page is from within ATLAS.ti. Click on the main menu option **HELP** and select **MORE RESOURCES/SEARCH FOR SERVICE PACKS.** You may also start your web browser, go to our web page at www.atlasti.com, and select the Download Section.
2. Read the information provided on the page as it might well be that some patches are not applicable for your release of ATLAS.ti.
3. Download the instructions for the applicable patch or service pack, and read it carefully.
4. Download the service pack or patch.
5. Copy the downloaded service pack into the service pack folder on your computer. Locate this folder via the menu option **EXTRAS/EXPLORER/SERVICEPACK FOLDER**.

Using the Service Pack Manager



The Service Pack Manager installs the software that you have downloaded in the previous step and updates your system accordingly.

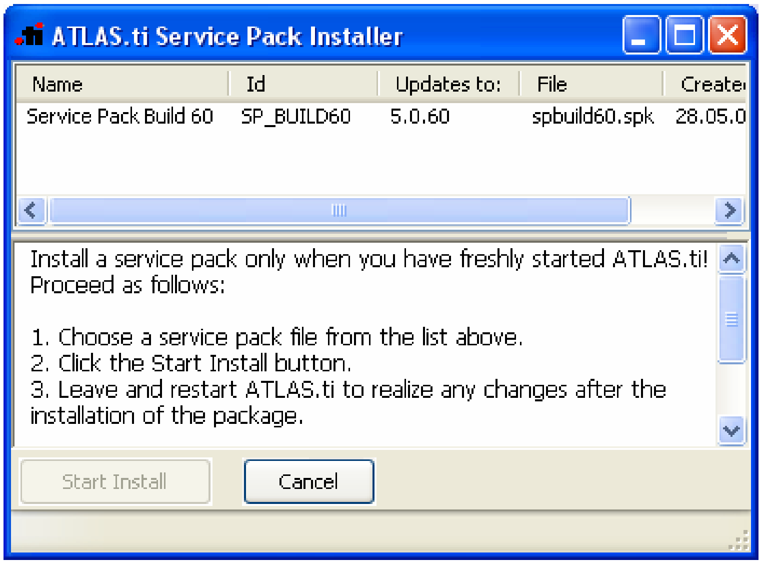
You must be logged in to ATLAS.ti as an administrative user to be able to access the service pack menu. You also need to have administrative rights as a Windows user in order to install the package.

Before you can start the actual installation, you must copy the downloaded service pack into the service pack folder. By default this folder is located in the ATLAS.ti installation folder, e.g. *C:\Program Files\Scientific Software\ATLASti*.

To install a service pack

1. Download the service pack and copy it to the service pack folder.
2. Start ATLAS.ti.

3. Choose **TOOLS/SERVICE PACK MANAGER** from the main menu. The Service Pack Manager window opens displaying all applicable patches.



Name	Id	Updates to:	File	Create
Service Pack Build 60	SP_BUILD60	5.0.60	spbuild60.spk	28.05.0

Install a service pack only when you have freshly started ATLAS.ti!
Proceed as follows:

1. Choose a service pack file from the list above.
2. Click the Start Install button.
3. Leave and restart ATLAS.ti to realize any changes after the installation of the package.

Figure 137 The Service Pack Manager

4. Click on the service pack – usually only one is applicable and listed - that you want to install.
5. Click **INSTALL**.
6. After the installation finishes, you are asked to click the **FINISH** button and to restart ATLAS.ti.
7. Quit ATLAS.ti.
8. Start ATLAS.ti. Usually, the installation of a service pack increments the "build" number. You can verify the new build number in the HU Editor's main screen, e.g. Version: WIN 5.0 (Build 60).

☝ *Make sure you have copied the service pack to the right folder.*

If the Service Pack Manager shows no new service packs even though you know you downloaded the latest service pack from the ATLAS.ti website, the reason might be one of the following:

- The patch does not apply to your current release, i.e., it has already been installed, or your current build number is too low.
- The patch was not copied into the correct directory after downloading.

Reference

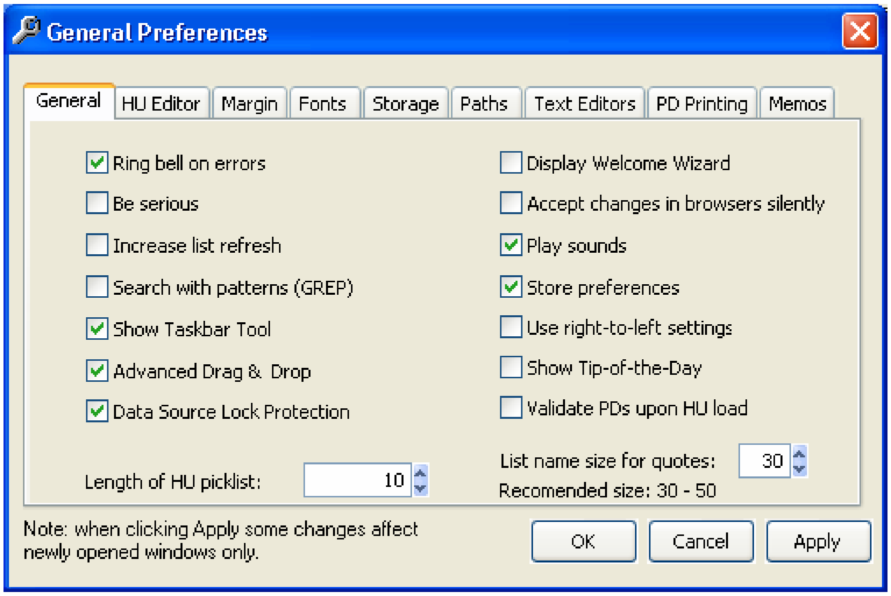
The General Preferences Dialog

All settings from the Preferences dialog are stored in the USER.INI file, which resides in the private user's system folder. The user's system folder is configured during installation of ATLAS.ti and stored in file ATLAS.INI.

Note: Most changes made permanent by clicking **APPLY** or **OK** take effect only after the affected procedures or tools are accessed the next time.

To set General Preferences

Select the main menu option **EXTRAS/GENERAL PREFERENCES** or click on the General Preferences button in the main toolbar.



☑ Ring bell on errors
□ Be serious
□ Increase list refresh
□ Search with patterns (GREP)
☑ Show Taskbar Tool
☑ Advanced Drag & Drop
☑ Data Source Lock Protection

□ Display Welcome Wizard
□ Accept changes in browsers silently
☑ Play sounds
☑ Store preferences
□ Use right-to-left settings
□ Show Tip-of-the-Day
□ Validate PDs upon HU load

Length of HU picklist: 10

List name size for quotes: 30
Recomended size: 30 - 50

Note: when clicking Apply some changes affect newly opened windows only.

Section: General

Ring bell on errors: Self-explanatory.

Be serious: You can reduce the amount of humor thrown at you in the user interface.

Increase list refresh: If lists do not display properly during scrolling, activate this option. However, screen flicker may increase.

Search with patterns (GREP): When turned on, the text search and auto-coding functions use *regular expressions* (see “GREP Search” on page 149). This setting is also controlled by the respective checkbox in the text search and auto-code window.

Show Taskbar Tool: Displays an icon in the task bar to easily access the ATLAS.ti window manager.

Advanced Drag & Drop: Drag & Drop can be suppressed in the margin area. This applies to options like replacing and moving codes in the margin area as described in “Margin Drag & Drop” on page 135.

Data Source Lock Protection: Toggles ATLAS.ti’s system for controlling access to data sources with the help of lock (LOK) files. As this mechanism can create some performance overhead, it can be turned off in situations where only one person will need access to documents.

Length of HU pick list: Specifies the maximum number of Hermeneutic Units appearing in the last recently used list at the bottom of the File menu or in the HU Browser.

Display Welcome Wizard: Displays the Welcome screen offering a few start-up options. May be changed in the Welcome screen.

Accept changes in browser silently: Select this option if modifications in the text area of browsers (i.e., all Object and Family Managers) should automatically be saved when selecting another item.

Play sounds: Activates the use of system sounds.

Store preferences: Preferences are made permanent across sessions. All settings are stored in file *user.ini* when leaving the session.

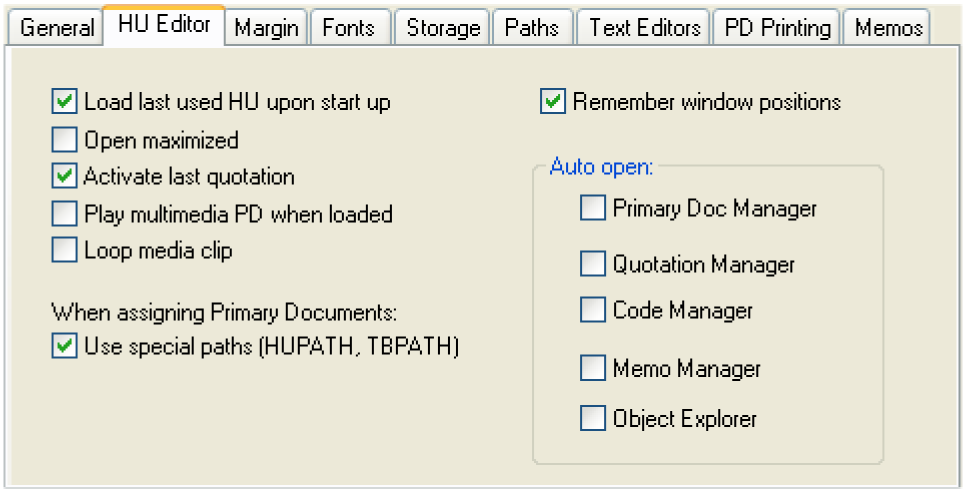
Use right-to-left setting: Activates special user interface features (right text alignment, scrollbars left, mirroring of tree and list views) for RTL languages such as Hebrew or Arabic.

Show Tip-of-the-Day: Display the tip-of-the-day window when starting ATLAS.ti.

Validate PDs on HU load: If active, this checks the synchronized status of all PDs upon start-up of the HU. When turned off, PDs are tested case-by-case when they are accessed the first time.

List name size for quotes: By default, the display name of quotations is 30 characters. The recommended length is between 30 and 50 characters. Note that size changes apply only to subsequently created or modified quotations.

Section: HU-Editor



☑ Load last used HU upon start up
□ Open maximized
☑ Activate last quotation
□ Play multimedia PD when loaded
□ Loop media clip

When assigning Primary Documents:
☑ Use special paths (HUPATH, TBPATH)

☑ Remember window positions

Auto open:
□ Primary Doc Manager
□ Quotation Manager
□ Code Manager
□ Memo Manager
□ Object Explorer

The settings in this section affect the appearance and behavior of the HU editor and its "child" windows.

Load last used HU upon start-up: When checked, the last HU closed is automatically loaded.

Open maximized: Opens the HU Editor in full screen mode.

Activate last quotation: Shows the last quotation selected when the HU was saved.

Play multimedia PD when loaded: Activates immediate play of a multimedia PD when it is loaded. Dis-Play of last used quotation is not affected by this option.

Loop media clip: By default, a media document is only played once after activating and loading it. Activate this option to repeat the clip until stopped manually.

Use special paths (HUPATH, TBPATH): If activated, one of the two abstract paths (HUPATH or TBPATH) is used if applicable (path or part of the document‘s path matches a special path).

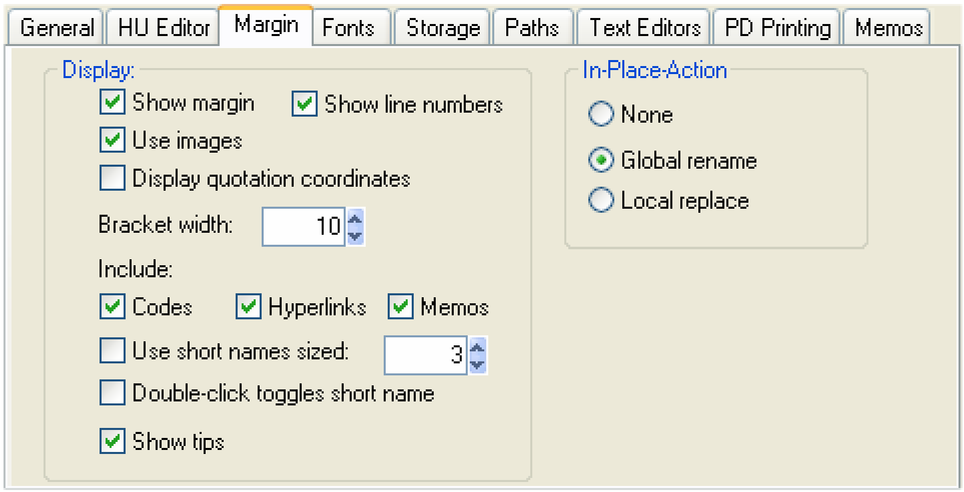
For more information see “Special Paths” on page 97.

Remember windows positions: Stores the position and size of the HU Editor and most other windows.

-- Auto open: --

Upon opening the HU editor, automatically opens the selected manager(s) and/or Object Explorer.

Section: Margin



Display:

☑ Show margin ☑ Show line numbers

☑ Use images

□ Display quotation coordinates

Bracket width: 10

Include:

☑ Codes ☑ Hyperlinks ☑ Memos

□ Use short names sized: 3

□ Double-click toggles short name

☑ Show tips

In-Place-Action

○ None

● Global rename

○ Local replace

-- Display: --

Show margin: When checked, displays the margin area to the right of the primary document. This option can also be changed through the **VIEWS/MARGIN AREA** menu item or the corresponding tool button.

Show line numbers: Shows the line (more precisely, paragraph) number pane for textual PDs.

Use images: Adds a type-related icon to the label of the margin objects.

Display quotation coordinates: Adds the start and end-position (paragraphs [text], [y-]coordinates [graphic] etc.) of the quotations to the label of the margin objects.

Bracket width: Sets the width of the brackets shown for a quotation in the margin.

Include: Codes**,** Memos and Hyperlinks may be selected separately to be displayed in the margin area. You can also change these settings using the context menu in the margin area.

Use short names sized: Activate this option to display abbreviated names for the margin objects. The character limit is chosen in the field next to this option.

Double-click toggles short name: A double-click in the free space of the margin area toggles the name abbreviation described above.

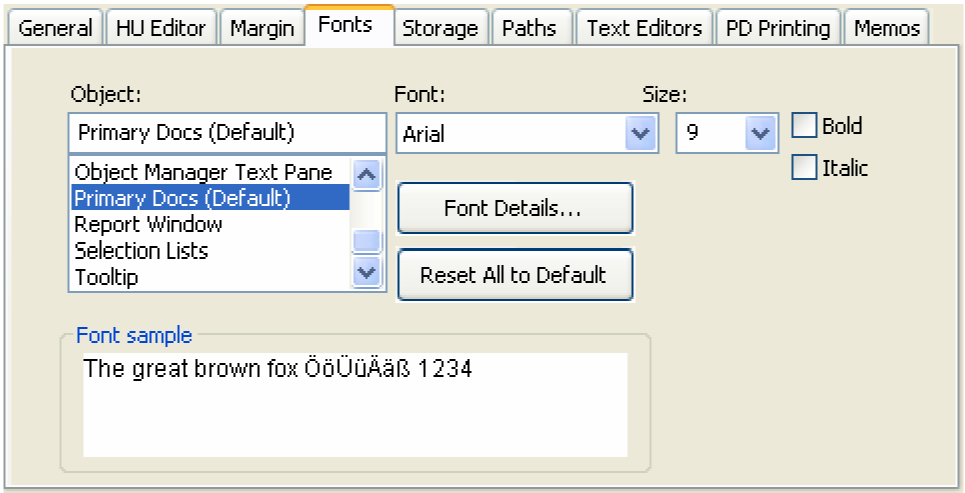
Show tips: When moving with the mouse pointer over an entity in the margin area, a ‘tip’ is displayed providing information about the entity, such as its name and comment.

In-Place-Action:

This refers to what happens when you are in-place editing a margin object.

- **Global rename**
  The selected object will be renamed; this affects all occurrences of this object.
- **Local replace**
  The selected object will be replaced (only for this link) with an object of the same type and with a name as entered. If no object with this name exists, it will be created (only for codes or memos).
- **None**
  No in-place-action will occur.

Section: Fonts



Object: Primary Docs (Default)

Font: Arial

Size: 9

□ Bold

□ Italic

Font sample

The great brown fox ÖöÜüÄäß 1234

Set the font characteristics for the HU Editor and other windows and controls.

Object: Select the window/control for which a font is to be customized.

Font: Select the font face here.

Size: Specify the size in points.

Bold: sets the **bold** attribute.

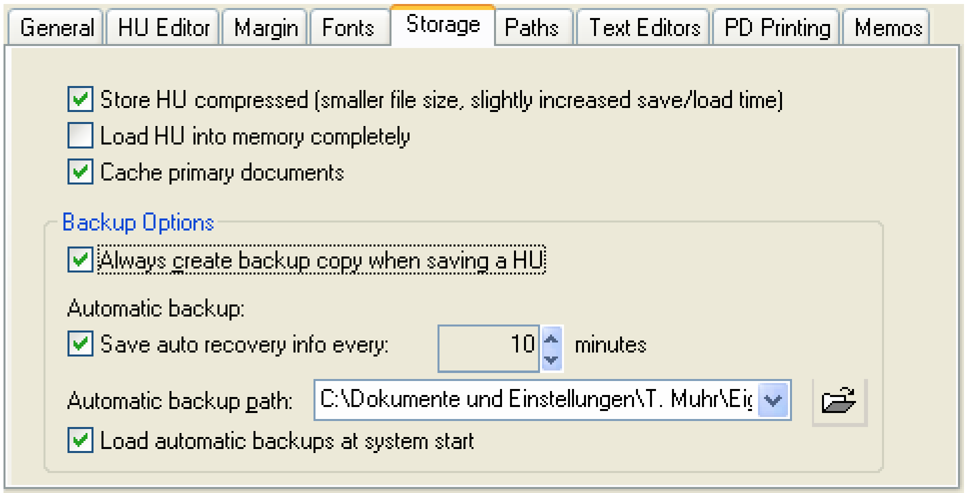
Italic: Sets the *italic* attribute

Font Details... : Opens a Font Dialog on the selected font. Allows the user to choose the script.

Reset All to Default: Resets all fonts to the default settings.

Font sample: Displays a text sample using the selected font.

Section: Storage



☑ Store HU compressed (smaller file size, slightly increased save/load time)
□ Load HU into memory completely
☑ Cache primary documents

Backup Options
☑ Always create backup copy when saving a HU
Automatic backup:
☑ Save auto recovery info every: 10 minutes
Automatic backup path: C:\Dokumente und Einstellungen\T. Muhr\Eig
☑ Load automatic backups at system start

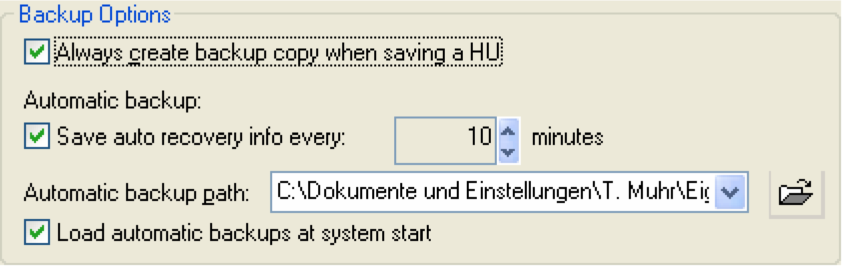
The settings in this section relate to backup and file security modes.

Store HU compressed: significantly reduces the amount of disk space. However, on slow systems, storing HUs uncompressed might have a slight performance benefit.

Load HU into memory completely: During a work session, an HU needs to access the HU file to load memos, etc. If you expect this file to be unavailable at times (e.g., because of an unreliable local network), you should check this option. However, loading times and memory consumption are more demanding when loading completely.

Cache primary documents: The content of primary documents will be kept available in memory for further access once it has been loaded. (See “Content Caching” on page 77 for more information.)

-- Backup Options --



Backup Options
☑ Always create backup copy when saving a HU
Automatic backup:
☑ Save auto recovery info every: 10 minutes
Automatic backup path: C:\Dokumente und Einstellungen\T. Muhr\Eig
☑ Load automatic backups at system start

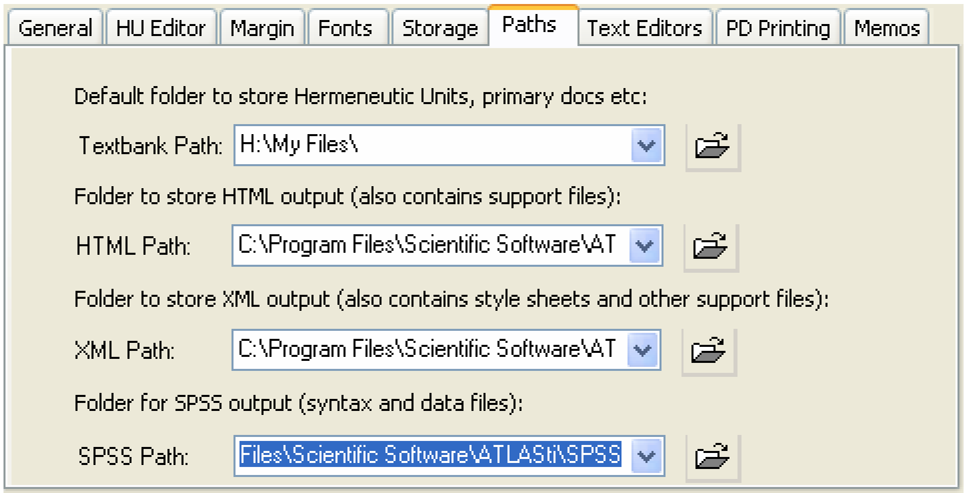
Always reate backup copy when saving a HU: When saving the HU, a copy of the existing file with the added prefix ‘*backup of..* ’ is created in the same directory.

Save auto recovery info every … minutes: ATLAS.ti saves recovery information without any user intervention. The idea behind such auto-backups: Should ATLAS.ti or Windows crash or in any other way be terminated irregularly (e.g., a power failure), the amount of work lost is only the work conducted since the last auto-backup. When exiting ATLAS.ti or after saving the HU, the auto recobver yinformation is removed automatically. It is strongly recommended to keep this feature on.

Automatic backup path: By default, the folder “*Auto Backups*” in the user’s private data folder hierarchy is used as the repository for periodically stored recovery information. You can change this by clicking on Browse button.

Load automatic backups at system start: During startup of ATLAS.ti, auto-backups are offered for recovery.

Section: Paths



Default folder to store Hermeneutic Units, primary docs etc:

Textbank Path: H:\My Files\

Folder to store HTML output (also contains support files):

HTML Path: C:\Program Files\Scientific Software\AT

Folder to store XML output (also contains style sheets and other support files):

XML Path: C:\Program Files\Scientific Software\AT

Folder for SPSS output (syntax and data files):

SPSS Path: Files\Scientific Software\ATLASti\SPSS

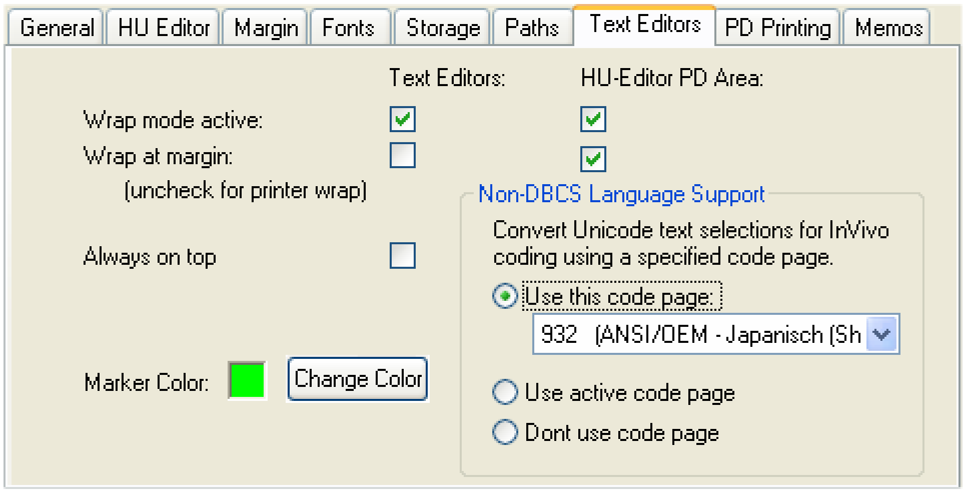
Textbank Path: The Textbank Path is assumed to be your main repository for HUs and primary documents. Although this is a user-related setting, it should be set to a common shared folder when working in teams. This path can be used in references via the TBPATH variable (see “Project Management” on page 270).

HTML Path: Specifies the path to which HTML files are saved and where HTML support files (e.g., style sheets) are located.

XML Path: Specifies the path to which XML output is saved and where all style sheets and support files are located.

SPSS Path: Specifies the path to which syntax and data files related to the SPSS output are stored.

Section: Text-Editors



	Text Editors:	HU-Editor PD Area:
Wrap mode active:	☑	☑
Wrap at margin: (uncheck for printer wrap)	□	☑
Always on top	□	

Marker Color: 🟩 Change Color

Non-DBCS Language Support

Convert Unicode text selections for InVivo coding using a specified code page.

● Use this code page:

932 (ANSI/OEM - Japanisch (Sh

○ Use active code page

○ Dont use code page

The settings of this section affect the behavior and appearance of the editors used for displaying and writing comments and memos, and for the PD pane when displaying text documents.

The following options can be set for the text editors and for the PD pane independently:

Wrap mode active: If checked, line wrapping occurs as selected in the following option:

Wrap at margin: If wrap mode is activated, this option defines wrap in more detail. If checked, text is wrapped at the current right border of the text pane. If unchecked, wrap is calculated for the usable page width for the currently selected printer.

Always on top: When checked, the editors will float on top of all other windows. This option can be individually set in the editor itself.

Marker Color: You can mark selected text passages – when working on editable text – similar to using a highlighter on paper. However, unlike the non-destructive temporary selection and highlighting of text when displaying a quotation, this option modifies the text. Click CHANGE COLOR to select a different marker color.

Non-DBCS Language Support:

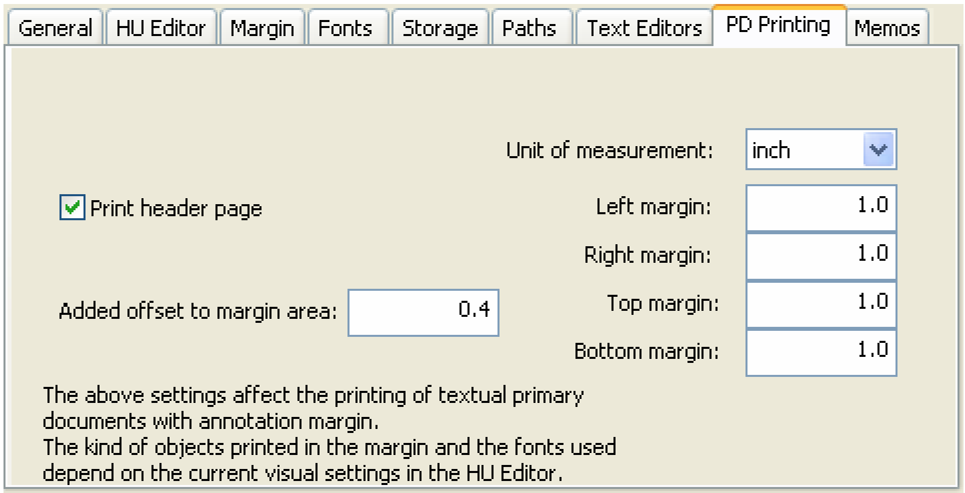
Although full multiple languages for ATLAS.ti's object names (codes, memo titles) are not yet supported, the user can specify the language encoding for extracted text used in subsequent operations (e.g., in-vivo coding). This becomes necessary if the language of the document differs from the language of the Windows installation. However, an appropriate font still needs to be chosen. For general information on this issue consult chapter "Character Encoding for Textual Documents" on page 398.

Use this code page: Permanently selects an appropriate code page matching the character set used in your documents (e.g., 932 for Japanese text).

Use active code page: Uses the currently active code page. This can be switched via the Windows task bar or it is the code page for the active editing pane. The currently active code page is displayed in the HU Editor’s status bar.

Don’t use code page: Do not use any code page other than the default code page (0). Extracted text is considered native. This would be your preferred setting on a native DBCS (Japanese, Korean, Chinese) system.

Section: PD Printing



Unit of measurement: inch

☑ Print header page

Left margin: 1.0

Right margin: 1.0

Added offset to margin area: 0.4

Top margin: 1.0

Bottom margin: 1.0

The above settings affect the printing of textual primary documents with annotation margin.
The kind of objects printed in the margin and the fonts used depend on the current visual settings in the HU Editor.

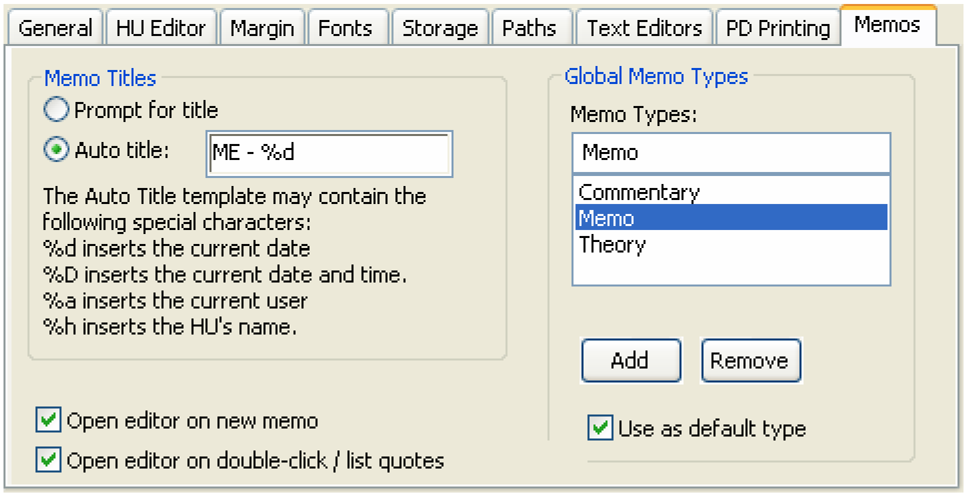
Print header page: If checked, creates a header info page for the primary document.

Units of measurement: You may use inch, mm, cm, pts and picas.

Left, **right**, **top,** and **bottom margin:** Allows you to change the settings for the page margins.

Added offset to margin area: Adds designated amount of space between the text document and the margin area.

Section: Memos



Memo Titles

○ Prompt for title

● Auto title: ME - %d

The Auto Title template may contain the following special characters:
%d inserts the current date
%D inserts the current date and time.
%a inserts the current user
%h inserts the HU's name.

☑ Open editor on new memo

☑ Open editor on double-click / list quotes

Global Memo Types

Memo Types: Memo

Commentary
Memo
Theory

☑ Use as default type

Memo Titles:

Prompt for title: Allows you to enter a title manually for a newly created memo.

Auto title: Automatically generates a memo title using the given template. The template can be edited. Several macro variables can be used in the template:

%d	inserts the current date
%D	inserts date and time
%a	inserts the current user
%h	inserts the HU’s name

Global Memo Types

Specify the default type used when creating a memo. Also allows modifying, adding, and removing memo types. For details see “Memo Types” on page 132.

Open editor on new memo: When a memo is created, a memo editor is opened.

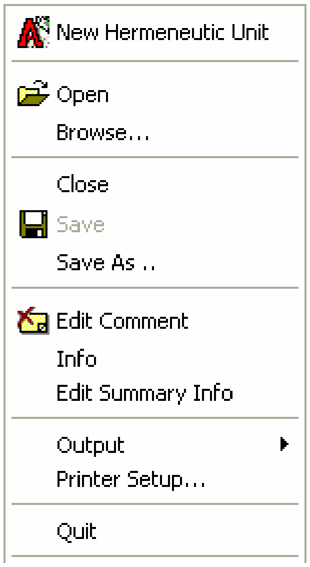
Open editor on double-click/list quotes: Specifies the double-click behavior for memos in the Memo Manager: You can choose either to open the editor or to list the quotations linked to a memo.

The HU Editor's Menus

This section describes the menus for the HU-Editor accessible via the main menu. Some of the menus are also accessible as context (pop-up) menus in the respective panes.

There is some helpful redundancy, as some functions are available under more than one main section, e.g., the **CODING** submenu is available in the Quotations menu as well as in the Codes section.

The File Menu



NEW HERMENEUTIC UNIT

Opens a new HU Editor on a new HU.

OPEN

Selects and opens an HU in a new HU Editor using the standard Windows file dialog. Shortcut: ***CTRL-O***

BROWSE…

The HU Browser offers additional information for the most recently used HUs (see “To open a Hermeneutic Unit using the HU Browser” on page 62).

CLOSE

Closes this HU. The last editor is not closed (as this would end the session) but initialized with a new HU.

SAVE

Saves the HU under its current file name. If the HU has not yet been saved, the Save As dialog is presented instead.

SAVE AS…

Saves the current HU under a new file name.

EDIT COMMENT

Opens an editor for writing or editing an HU comment. This function is also available in the main toolbar. The HU’s comment is included in HTML or XML output code generated from the HU. It becomes part of the HU’s file properties and can be viewed in Windows Explorer via the properties dialog.

INFO

Displays information about the current HU.

Hint: If you press the Ctrl key while selecting this item, a text editor opens and you can edit and print the information. Otherwise, the information is displayed in a read-only window.

OUTPUT SUBMENU

Prints a list of all objects included in the HU. Three options are available:

- **PRINT WITH MARGIN...**
  Prints (complete or the selected text) the current PD including the margin area. Currently only available for textual documents.
- **ALL OBJECTS**
  Provides output of all objects sorted by time of their creation. It illustrates the development of a project as a sequence of object creations.
- **ALL OBJECTS (GROUPED)**
  Provides output of all objects sorted by object type, i.e. the list of PDs, quotations, codes, memos, PD families, Code families, Memo families, Network Views, code links, and hyperlinks.

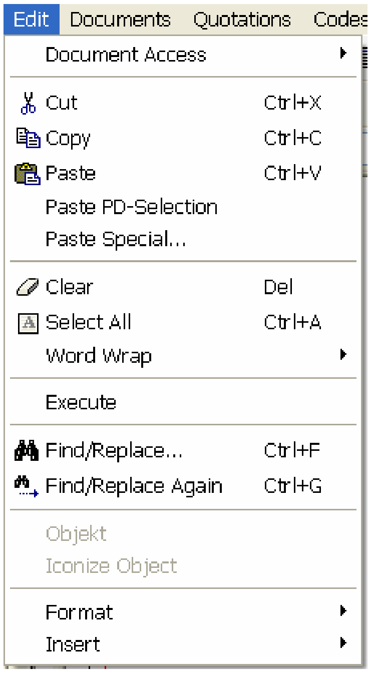
PRINTER SETUP…

Opens the standard Windows print setup dialog. Allows you to select an appropriate printer and set properties like landscape.

QUIT

Leaves the ATLAS.ti session. Closes all windows and terminates the program.

The Edit Menu



Via the **DOCUMENT ACCESS** menu, you can enter or leave the edit mode.

If you have copied selected text within the primary document pane and want HU-related information about the PD and the position of the copied segment, use **PASTE PD-SELECTION** when inserting it somewhere else.

Use the **PASTE SPECIAL** function whenever you need more control over what is inserted. For instance, if inserting a Network View from the clipboard into a text editor using **PASTE**, it is inserted as a textual description. If you use **PASTE SPECIAL...**, you can select from a number of formats, e.g., as a picture (if the target window supports images). The formats offered by the Paste Special functions depend on the clipboard's content and the formats that the target application can handle.

When selecting **CLEAR** from the Edit menu, the currently highlighted text or object is deleted.

WORD WRAP offers the following options:

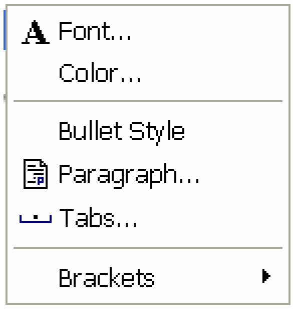
- wrap the text at the window border (splitter in PD pane)
- wrap the text according to current printer settings. This ensures an optimal result when printing.
- no wrap.

The **EXECUTE** command processes the selected text so that web links can be opened.

The **FIND AND REPLACE** command finds and replaces string of characters. Text can be searched forward or backward; searches can be case-sensitive and controlled.

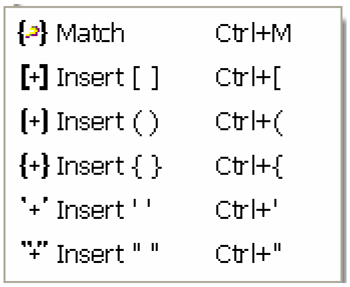
The menu options **OBJECT** and **ICONIZE OBJECT** are used on embedded objects and are discussed below.

FORMAT SUBMENU



You can set the **font**, text **color**, set **bullet style,** and other **paragraph** options (indention and alignment) and set **tabs**.

BRACKETS SUBMENU

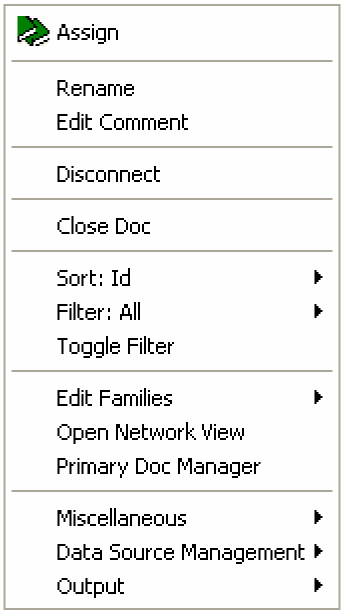


These functions allow you to "decorate" an existing selection of text with parentheses, brackets, or quotation marks. The following brackets and quotation marks can be **inserted**: [], (), {}, ‘’, or "".

If you place the cursor somewhere inside a text enclosed by any of the “brackets”, the **Match option** (short-cut: Ctrl+M) highlights the enclosed text.

The Documents Menu

Manage, assign, and access primary documents.



Assign

Assigns text, audio, or graphic file(s). Opens a file dialog box from which files can be selected. See “Assigning Primary Documents” on page 65 for details.

Rename

Changes the HU’s internal name of the selected PD.

Edit Comment

Opens an editor for the selected PD's comment. Each PD can have its own comment. Unlike the contents of the PD’s data source, this comment is part of the HU. When removing a PD from its HU (via "disconnect"), the comment is also removed.

Disconnect

Removes the selected PD, its quotations, and all references to them from the HU.

Note: The referenced document file is NOT deleted.

Close Doc

Closes the current PD and displays the standard background “wallpaper.”

Sort Submenu

Sets the sort criterion for the PDs. The current sort criterion is displayed as part of the menu item. For details, see “Sorting and Filtering” on page 137.

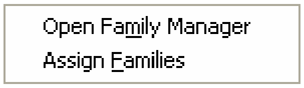
Filter Submenu

Sets or removes the filter for PDs. The current filter is displayed as part of the menu item. For details, see “Sorting and Filtering” on page 137.

Toggle Filter

Reverses the current filter. If your current filter is set to PD family ‘female,’ Toggle Filter will set the filter to all non-‘female’ documents.

Edit Families Submenu



The items in the families submenu provide access to the operations available for assigning objects to subsets ("families"). For details, see “Family Life” on page 191.

Open Family Manager

Creates, edits, or deletes PD families. Assigns to or removes items from families.

Assign Families

Assigns one or more families to the selected PD. If you are choosing this option in the context of an Object Manager, more than one PD can be selected and assigned.

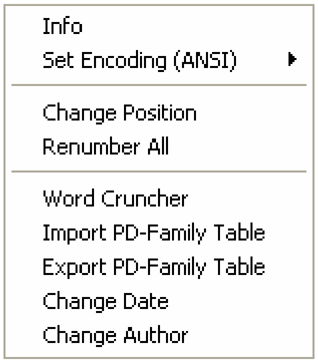
Open Network

Opens a Network View with the selected PD as a node. Choosing this option in the context of an Object Manager displays all selected PDs in the network view. Hold down the Ctrl key to list all network views containing the selected PD.

Primary Doc Manager

Displays PDs in a separate tool. The Primary Document Manager offers a number of options to handle and manage PDs (see “Primary Document Manager” on page 51).

Miscellaneous Submenu



Info

Displays information about the PD. This information includes: name, creation and modification dates, location of its data source file, and comment.

Set Encoding

Changes the encoding type of primary plain-text documents (ANSI, OEM). (See “ANSI or OEM” on page 399).

Change Position

Changes the position of the selected PD as reflected in its ID (see “Rearranging PDs” on page 69).

Renumber All

Eliminates gaps in the sequence of PD IDs (see “Renumbering all Primary Documents” on page 70).

Word Cruncher

Opens the Word Cruncher window. For more detail, see “The Word Cruncher” on page 155.

Import PD-Family Table

Bulk imports PDs and families. For more detail, see “PD-Family Table” on page 197.

Export PD-Family Table

Exports a PD-Family table.

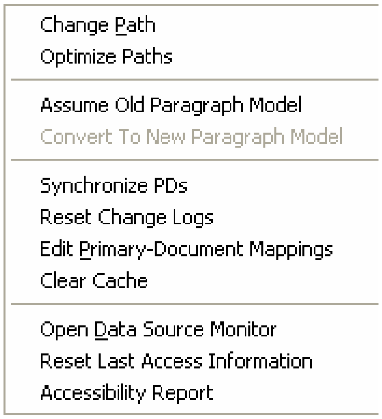
Change Date

Changes the creation date for the currently loaded PD, e.g., to let the date represent the date of an interview or the release date of an article.

Change Author

Changes the name of the author (i.e., the user who assigned this PD) for the selected PD.

Data Source Management Submenu


Change Path
Optimize Paths
Assume Old Paragraph Model
Convert To New Paragraph Model
Synchronize PDs
Reset Change Logs
Edit Primary-Document Mappings
Clear Cache
Open Data Source Monitor
Reset Last Access Information
Accessibility Report

Change Path

Changes the path of the selected PD. For details, see “Change Path (for one PD at a time)” on page 104.

Optimize Paths

Use this option to optimize the path references of PDs in order to gain added flexibility. For details, see “Optimize Paths” on page 100.

Assume Old Paragraph Model

When setting this property, ATLAS.ti assumes the old paragraph model, which implies that paragraphs are separated by empty lines (see “Handling Legacy Documents” on page 73).

Convert to New Paragraph Model

Converts text documents from the ‘old’ to the new paragraph model. As this actually converts the text, it is available in edit mode only. For details, see “Converting Documents to New Paragraph Model” on page 91.

Synchronize PDs

Use this option to force immediate synchronization of all PDs in the current HU. Synchronization consolidates all PDs and their quotations with any changes recorded in the LOG files during editing of data sources. For details, see “Synchronization” on page 88.

RESET CHANGE LOGS

This option can be used to compress log files that are no longer needed. It should only be used if you are sure that all PDs in all HUs that use the same data sources have been synchronized.

EDIT PRIMARY-DOCUMENT MAPPINGS

Modifies or enters new alternative path mappings for PDs. For a detailed description of this feature, see “Redirection” on page 102.

CLEAR CACHE

Clears the primary document cache. When a PD is activated for the first time during a session, the content of its data source is saved in the cache. Therefore, on next access there is no need for reopening it but instead it is loaded from the cache.

OPEN DATA SOURCE MONITOR

The monitor is an instrument to assist administrators and the support staff in resolving document access-related problems. For details, see “The Data Source Monitor” on page 332.

RESET LAST ACCESS INFORMATION

Makes some kinds of problematic documents loadable but may also corrupt the alignment of quotations if applied wrongly. Handle with great care. For details, see “Reset Last Access Information” on page 331.

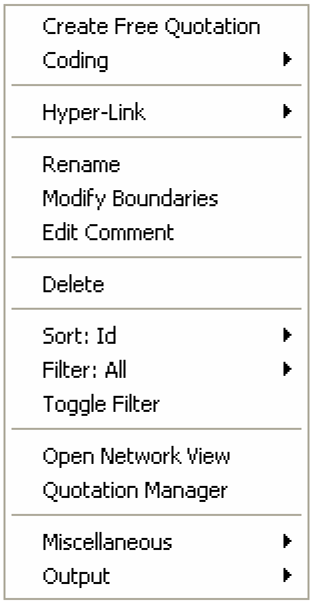
ACCESSIBILITY REPORT

The accessibility report is a diagnostic tool for advanced users or support experts. It provides detailed information about the reasons why a PD’s data source cannot be loaded. You might need to supply this report to support personnel in order to trace a problem.

OUTPUT SUBMENU

All document output options are discussed in the chapter “The (Primary) Documents Output Submenu” on page 313.

The Quotations Menu



CREATE FREE QUOTATION

Creates a new quotation from the current selection. Free quotations are not linked to any other object (e.g., codes).

CODING SUBMENU

The Coding submenu is a subset of options that is also available under the Codes menu.

HYPER-LINK SUBMENU

For a description see “Creating Hyperlinks” on page 255.

CREATE LINK SOURCE

Makes current selection a hyperlink start anchor. Creates a new quotation from the selection if a quotation does not yet exist.

CREATE LINK TARGET

Makes current selection a hyperlink target anchor. Creates a new quotation from the selection if necessary.

CREATE HYPERLINKS BY LIST

Links the selected quotation to other quotations chosen from a list.

RENAME

Renames the selected quotation.

MODIFY BOUNDARIES

Corrects the selected quotation’s boundaries (see “Changing The Boundaries Of A Quotation” on page 115). This option is also available in the vertical tool bar.

EDIT COMMENT

Edits the selected quotation's comment.

DELETE

Deletes the selected quotation. The referenced portion is NOT deleted from the PD’s data source.

SORT SUBMENU

Sets the sort criterion for quotations. The current sort criterion is displayed as part of the menu item. For details, see “Sorting and Filtering” on page 137.

FILTER SUBMENU

Sets or removes the filter for quotations. The current filter is displayed as part of the menu item. For details see “Sorting and Filtering” on page 137.

TOGGLE FILTER

Reverses the current filter.

OPEN NETWORK VIEW

Opens a Network View on the selected quotation. Choosing this option in the context of an Object Manager displays all selected quotations in the network view. Hold down the Ctrl key to list all network views containing the selected quotation.

QUOTATION MANAGER

Displays the list of quotations in a separate window. The Quotation Manager offers a number of options to handle and manage quotations (see “Quotation Manager” on page 52).

MISCELLANEOUS SUBMENU

INFO

Displays information about the currently activated quotation (the source PD’s name, the author’s name, all codes that reference this quotation, and its comment).

MERGE QUOTATIONS

Merges one or more quotations. You have the option to unify the quotations, hence changing the boundaries to cover the full length of all quotations to be unified, or to keep the boundary of the first selected quotation.

SQUEEZE

Removes gaps in the numbering sequence of quotations, resulting from deleting quotations.

CHANGE DATE

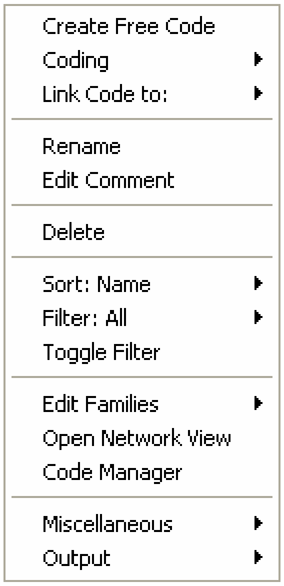
Changes the creation date for the currently displayed quotation.

CHANGE AUTHOR

Changes the name of the author (i.e., the user who created this quotation) for the selected PD.

SUBMENU OUTPUT

All output options for quotations are discussed in chapter “The Quotations Output Submenu” on page 314.



The Codes Menu

Create Free Code

Creates a new code without any links.

Coding Submenu

- **Open Coding**
- Creates a new code (or more than one divided by '|', as in: codeA | codeB | codeC) for the current selection.
- **Code In Vivo**
- Creates a code by using the selected text chunk as the code name. This works for textual PDs only. Also available via drag & drop.
- **Code by List**
- Assigns a code to the current selection by choosing existing codes from the list.

Quick Coding

Codes the current selection with the selected code.

Auto-Coding

Opens a tool to search, select, and code automatically. For details see “The Auto-Coding Tool” on page 151.

Link Code to: Submenu

Links the selected code to one or more other objects, e.g.,

- **Quotations**
- **Codes**
- **Memos**

Rename

Renames the selected code.

Edit Comment

Opens an editor for the selected code's comment.

Delete

Deletes the selected code.

Sort Submenu

Sets the sort criterion for codes. The current sort criterion is displayed as part of the menu item. For details see “Sorting and Filtering” on page 137.

FILTER SUBMENU

Sets or removes the filter for codes. The current filter is displayed as part of the menu item. For details see “Sorting and Filtering” on page 137.

TOGGLE FILTER

Reverses the current filter. If you currently filter for all free codes, Toggle Filter displays all codes that are NOT free (i.e., codes that reference a quotation or are linked to other codes).

EDIT FAMILIES SUBMENU

The items in the families submenu provide access to the operations available for assigning objects to subsets ("families"). For details see “Family Life” on page 191.

- **OPEN FAMILY MANAGER**
  Creates, edits, or deletes code families. Assigns or removes items to families.

- **ASSIGN FAMILIES**
  Assigns one or more families to the selected code. When choosing this option in the context of an Object Manager, more than one code can be selected and assigned.

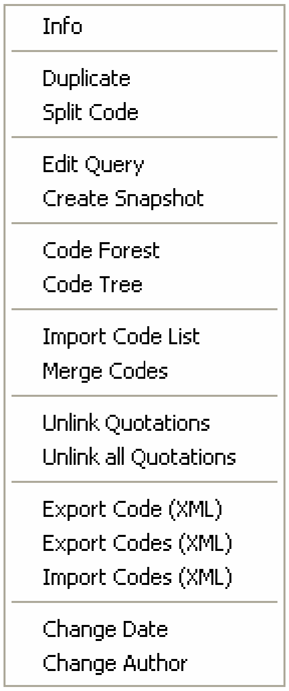
OPEN NETWORK VIEW

Opens a Network View on the selected code. Choosing this option in the context of an Object Manager displays all selected codes in the network view. Hold down the Ctrl key to list all network views containing the selected code.

CODE MANAGER

Displays the list of codes in a separate window, the Code Manager. The Code Manager offers a number of options for managing codes (see “Code Manager” on page 55 for details).

MISCELLANEOUS SUBMENU



INFO

Displays information about the currently activated code (code name, date of creation and modification, name of author, number of referenced quotations, its comment).

DUPLICATE

Opens a Network View including the currently activated code and a clone.

The clone duplicates the code, its comment, all quotation references, and other linked objects. After importing all referenced quotations, the original code can be split (see “Splitting Codes” on page 245 for detail).

SPLIT CODE

Currently, only a message is displayed explaining a work around for splitting codes – the so-called ‘Poor Man’s Split Code’ option (see “Splitting Codes” on page 245 for detail).

EDIT QUERY

Use this option to edit the query of a Super Code (see “The Query Tool” on page 160 for details).

CREATE SNAPSHOT

Creates a new code from the selected super code. See “Snapshot Codes” on page 179 for further detail.

CODE FOREST

Hierarchical display of all codes as a 'forest' in a special Object Explorer (see “Code Trees & Forests” on page 187 for details).

CODE TREE

Hierarchical display of tree with the selected code as root. (see “Code Trees & Forests” on page 187 for details).

MERGE CODES

Merges code(s) with the selected code. See “Merging Codes” on page 125.

UNLINK QUOTATIONS

Unlinks quotations from the selected code (see “Unlinking Codes” on page 125).

UNLINK ALL QUOTATIONS

Unlinks ALL quotations from all (currently filtered) codes. In the Code Manager, all selected codes are unlinked.

EXPORT CODE (XML)

Exports selected code in XML format (see “Export & Import using XML” on page 304).

EXPORT CODES (XML)

Exports all codes in XML format (see “Export & Import using XML” on page 304).

IMPORT CODES (XML)

Imports a list of codes in XML format (see “Export & Import using XML” on page 304). Unlike the Import Code List function, code comments are imported as well.

CHANGE DATE

Changes the creation date for the currently selected code.

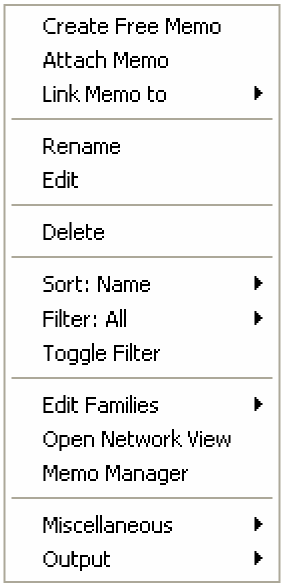
CHANGE AUTHOR

Changes the name of the author (i.e., the user who created the selected code).

SUBMENU OUTPUT

All output options for codes are discussed in the chapter “The Codes Output Submenu” on page 315.

The Memos Menu



CREATE FREE MEMO

Creates a memo that is not (yet) linked to any entity.

ATTACH MEMO

Creates a new memo associated with the current selection in the PD pane. Creates a free memo if nothing is selected.

LINK MEMO TO SUBMENU

Links selected memo to one or more objects:

- **QUOTATIONS**
- **CODES**
- **MEMOS**

RENAME

Renames the selected memo.

EDIT

Opens the memo editor on the selected memo.

DELETE

Deletes the selected memo.

SORT Submenu

Sets the sort criterion for memos. The current sort criterion is displayed as part of the menu item. For details see “Sorting and Filtering” on page 137.

FILTER SUBMENU

Sets or removes the filter for memos. The current filter is displayed as part of the menu item. For details see “Sorting and Filtering” on page 137.

TOGGLE FILTER

Reverses the current filter. If you currently filter for all free memos, Toggle Filter displays all memos that are NOT free (i.e., memos that reference a quotation or are linked to other memos).

EDIT FAMILIES SUBMENU

The items in the Families submenu provide access to the operations available for assigning objects to subsets ("families"). For details see „Family Life“ on page 191.

- **OPEN FAMILY MANAGER**
  Creates, edits, or deletes memo families. Assigns or removes items to families.
- **ASSIGN FAMILIES**
  Assigns one or more families to the selected memo. When choosing this option in the context of an Object Manager, more than one code can be selected and assigned.

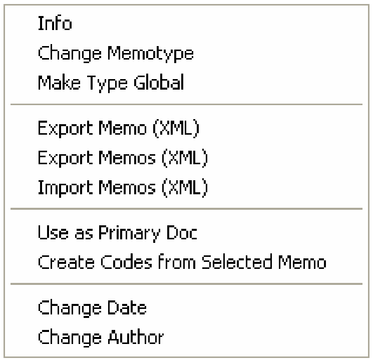
OPEN NETWORK VIEW

Opens a Network View on the selected memo. Choosing this option in the context of an Object Manager displays all selected memos in the network view. Hold down the Ctrl key to list all network views containing the selected memo.

MEMO MANAGER

Displays the list of memos in a separate window. The Memo Manager offers a number of options to handle and manage memos (see “Memo Manager” on page 56).

MISCELLANEOUS SUBMENU



Info

Displays information about the currently active memo (memo title, creation and modification dates, author name, number of referenced quotations, and content).

Change Memo Type

Changes the type of the selected memo.

Make Type Global

If you have entered an individual type for a memo in the memo editor, this type is only known within this HU. To apply the type in other HUs as well, select this option.

Export Memo (XML)

Exports selected memo in XML format (see “Export & Import using XML” on page 304).

Export Memos (XML)

Exports all memos in XML format (see “Export & Import using XML” on page 304).

Import Memos (XML)

Imports memos in XML format (see “Export & Import using XML” on page 304).

Use as Primary Doc

Assigns selected memo as a PD (see “Using Memos as PDs” on page 133).

Create Codes from Selected Memo

Creates a new code from each line of the selected memo. See “Using Memos to Create a Code List” on page 134.

Change Date

Changes the creation date for the currently selected memo.

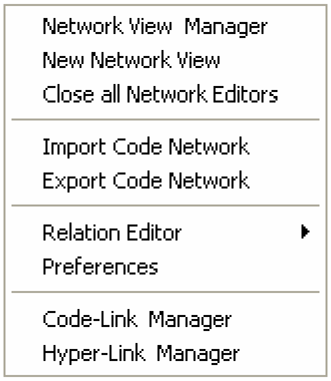
Change Author

Changes the name of the author (i.e., the user who created the selected memo).

Output Submenu

The output options for quotations are discussed in the chapter “The Memos Output Submenu” on page 318.

The Networks Menu



Network View Manger

Opens the Network View manager.

New Network View

Creates a new Network View and opens a Network Editor.

Close all Network Editors

Closes all open Network Editors.

Import Code Network

Imports a code network generated by **Export code network** (see “Semantic Network Migration” on page 242).

Export Code Network

Exports a Network View for later 'theory reuse' (see “Semantic Network Migration” on page 242).

Relation Editor Submenu

Code-Code-Relations

Opens the relation editor on code-code relations. See “The Relation Editor” on page 235 for details.

Hyperlinks

Opens the relation editor on quotation-quotation relations. See “The Relation Editor” on page 235 for details.

Preferences

Sets Network Editor preferences (cf. “Network Editor Preferences” on page 387).

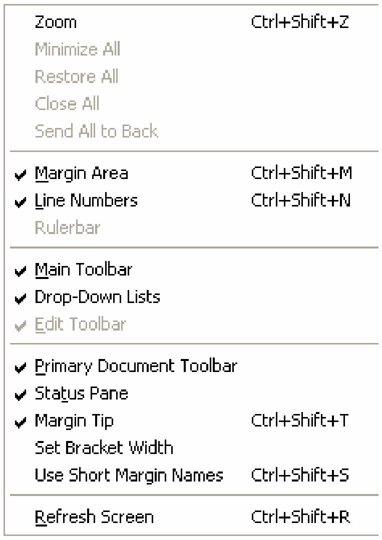
Open Code-Link Manager

Opens a browser on the list of all code-code links. The links can be reviewed and edited. See “Link Management” on page 234 for details.

Open Hyperlink Manager

Opens a browser on the list of all hyperlinks. The hyperlinks can be reviewed and edited. See “Link Management” on page 234 for details.

The Views Menu


Zoom Ctrl+Shift+Z
Minimize All
Restore All
Close All
Send All to Back
✓ Margin Area Ctrl+Shift+M
✓ Line Numbers Ctrl+Shift+N
Rulerbar
✓ Main Toolbar
✓ Drop-Down Lists
✓ Edit Toolbar
✓ Primary Document Toolbar
✓ Status Pane
✓ Margin Tip Ctrl+Shift+T
Set Bracket Width
Use Short Margin Names Ctrl+Shift+S
Refresh Screen Ctrl+Shift+R

ZOOM

Zooms main primary data pane within main window. Shortcut: ***CTRL+SHIFT+Z***. All toolbars and status bars disappear in activated Zoom. The regular view is restored with another click.

MINIMIZE ALL

Minimizes all dependent secondary windows (Network Editors, Managers, etc).

RESTORE ALL

Restores all minimized secondary windows.

CLOSE ALL

Closes all secondary windows.

SEND ALL TO BACK

Many secondary windows (text editor, Network Editors, etc.) "float" on top of the HU Editor. Toggle floating with this option.

MARGIN AREA

Toggles margin area display (makes the margin area appear and disappear). Shortcut: **CTRL+SHIFT+M**.

LINE NUMBERS

Toggles line/paragraph number display. For graphical data, the quotation reference number is displayed instead. Shortcut: **CTRL+SHIFT+N**.

RULERBAR

Displays the rulerbar for textual documents in edit mode.

MAIN TOOLBAR

Toggles display of the main toolbar.

DROP-DOWN LISTS

Toggles display of the four drop-down lists (i.e., for PDs, quotations, codes, and memos).

EDIT TOOLBAR

Toggles display of edit toolbar. Only available for editable documents.

PRIMARY DOCUMENT TOOLBAR

Toggles display of PD toolbar.

STATUS PANE

Toggles display of the status bar.

MARGIN TIP

Toggles display of tips displayed for the objects in the margin area.

SET BRACKET WIDTH

Sets the width of the quotation brackets in the margin area. The bracket width can also be set in General Preferences.

SHORT MARGIN NAMES

If space gets sparse in the margin area, you can reduce object names to a specified amount of characters. Customize in General Preferences.

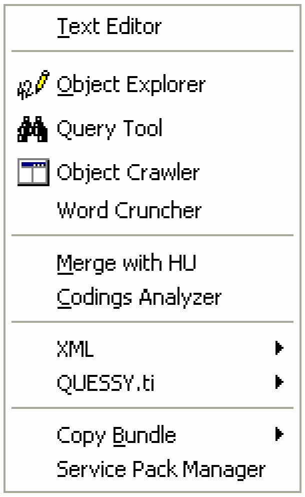
ADD TASK BAR ICON

Adds an ATLAS.ti Task Manager icon to the Windows task bar. When clicking on the Task Manager icon, a browser lists all windows currently opened in the ATLAS.ti session. This can also be accomplished by selecting **BROWSE WINDOWS** from the Views menu.

REFRESH SCREEN

The splitter bar may disappear when dragging, or there may be other display-related peculiarities. These can usually be cured by selecting this option.

The Tools Menu



Text Editor

Opens a text editor that is independent of the current HU.

Object Explorer

A hierarchical browser for all objects.

Query Tool

Opens the Query Tool. (cf. “The Query Tool” on page 160).

Object Crawler

Searches through the entire HU. See “The Object Crawler” on page 158 for details.

Word Cruncher

Creates word counts. See “The Word Cruncher” on page 155 for details.

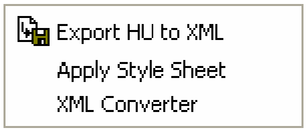
Merge with HU

Merges the currently loaded HU with another HU. See “Merging Hermeneutic Units” on page 289.

Codings Analyzer

The Codings Analyzer identifies codes that were used redundantly on overlapping data segments (see “Redundant Coding Analyzer” on page 188).

XML Submenu



Export HU to XML

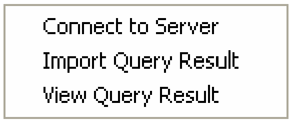
Generates an XML file from the current HU. See “Exporting the Hermeneutic Unit in XML” on page 306.

Apply Style Sheet

Creates output on the basis of an XML stylesheet without previously having saved the HU as XML file.

XML Converter

Opens a window on XML converted HUs and available stylesheets for conversion into reports, browsers, and foreign formats (see “Creating Reports with the XML Converter” on page 318 for further detail).



QUESSY.TI Submenu

Functions for querying databases and importing PDs and families. Only available in enterprise edition.

CONNECT TO SERVER

Connects to a remote computer running the QUESSY.ti server.

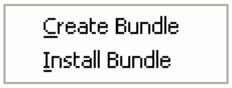
IMPORT QUERY RESULT

Imports the result of a query processed by the QUESSY.ti server.

VIEW QUERY RESULT

Displays a query result using style sheets.

COPY BUNDLE SUBMENU



CREATE BUNDLE

Creates a portable package of the project (HU and all associated files). See “Copy Bundle - Migrate and Backup Projects” on page 282 for a detailed explanation.

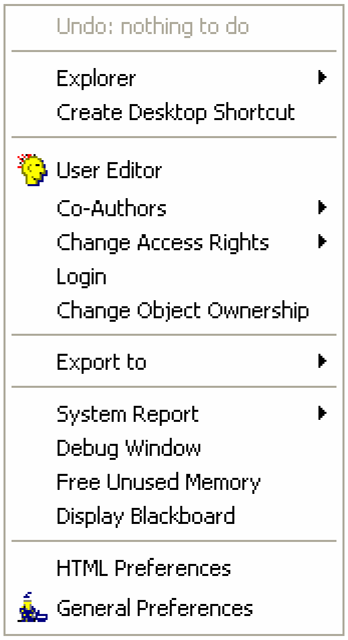
INSTALL BUNDLE

Distributes the HU and all other files in a bundle to be used on a target computer.

SERVICE PACK MANAGER

Installs service packs and patches to upgrade the program. See “Service Packs & Patches” on page 334.

The Extras Menu



Undo

Reverts the last action, if it is an action that can be reversed, e.g. renaming objects.

Explorer

Opens the Windows Explorer. You can drag PDs into the PD list or the PD pane.

Create Desktop Shortcut

Creates a shortcut for the presently open HU on the desktop.

User Editor

Click this option to maintain a database of users (see “User Management” on page 264).

Co-Authors Submenu

Register Co-Authors

Assigns co-authors to the HU.

Remove Co-Authors

Removes registered co-authors from HU.

Display Co-Authors

Shows the list of all registered co-authors.

Change Access Rights Submenu

Changes general access permissions for this HU.

Public – read only

The HU can be opened and reviewed by all users, but it cannot be saved.

Public – read write

The HU can be opened by all users, reviewed, and changed.

Private

The HU can only be opened by the author and registered co-authors.

Set Password

Sets a password to protect the current HU.

Login

Log in under a different name without closing the session.

Change Object Ownership

Allows to globally change the name of one or more selected authors (i.e., the creators and hence 'owners' of objects).

EXPORT TO SUBMENU

PROLOG

Generates Prolog notation from current HU.

XML

Generates an XML file from the current HU. See "Exporting the Hermeneutic Unit in XML" on page 306.

HTML

Generates a HTML file from the current HU (see "HTML Export" on page 307).

SPSS JOB

Generates SPSS job with current codes as variables and current quotations as cases (see "SPSS Export" on page 299).

GENERATE SYSTEM REPORT SUBMENU

Generates a report for a number of specified system settings including operating system, printer capabilities, etc.

DISPLAY SYSTEM REPORT

Creates and displays a System Report in a text editor.

CREATE AND MAIL REPORT

A zip file is created containing system information, and your default email client is started. You are then ready to send the file to bugsreport@atlasti.com. See "Reporting Bugs" on page 333.

DEBUG WINDOW

When active, writes debug information into a text editor. For diagnostic purposes, you might be asked to switch it on and deliver the report.

FREE UNUSED MEMORY

During a work session with loading and display of large and numerous memos, system resources may become low, affecting performance. Selecting this option frees the tied resources.

DISPLAY BLACKBOARD

Display the contents of the file blackbrd.txt, which can be found in the ATLAS.ti program directory.

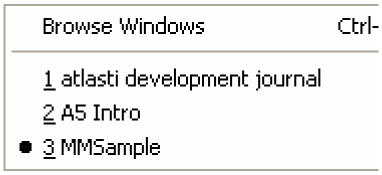
HTML PREFERENCES

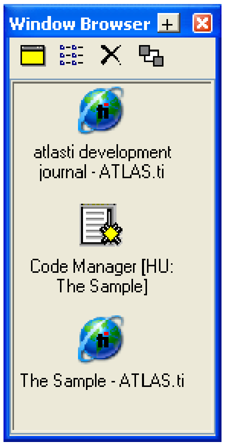
Manages the HTML code output. See “HTML Export” on page 307.

GENERAL PREFERENCES

Opens the General Preferences dialog to customize the user interface and other system properties.

The Windows Menu



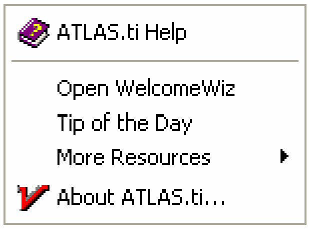

Window Browser
atlasti development journal - ATLAS.ti
Code Manager [HU: The Sample]
The Sample - ATLAS.ti

BROWSE WINDOWS

Opens the Window Browser directly. The Window Browser lists all currently opened ATLAS.ti related windows. When resized, it can be displayed conveniently on the right or the left side of the screen, this way offering easy access to all currently open windows.

Separated by a line from the above function the list of currently open HU Editors is displayed for easy switching.

The Help Menu



ATLAS.TI HELP

Launches online help. Also available via the F1 key.

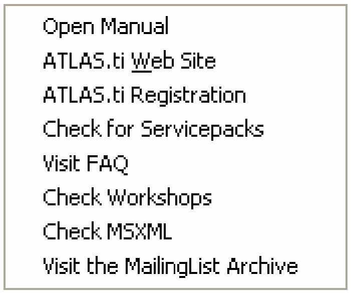
OPEN WELCOMEWIZ

Opens the Welcome Wizard.

TIP OF THE DAY

Display useful and short tips

MORE RESOURCES SUBMENU



OPEN MANUAL

Accesses the PDF manual that was copied to your computer during installation of the program.

ATLAS.TI WEB SITE

Visits our home page (active Internet connection needed).

ATLAS.TI REGISTRATION

Registers your license online if you haven’t already (active Internet connection needed).

CHECK FOR SERVICE PACKS

Accesses the ATLAS.ti Service Pack web site and checks for updates (active Internet connection needed).

VISIT FAQ

Accesses the ATLAS.ti web site to review the Frequently Asked Questions (active Internet connection needed).

CHECK WORKSHOPS

Accesses the ATLAS.ti Workshop site (active Internet connection needed).

CHECK MSXML

Checks whether the necessary preliminaries for running the MSXML parser are installed on your computer. If they are missing, you are directed to a site on the Web where you can download the needed files.

VISIT THE MAILING LIST ARCHIVE

Accesses the ATLAS.ti mailing list archive (requires an active Internet connection).

ABOUT ATLAS.TI

Displays information about the program.

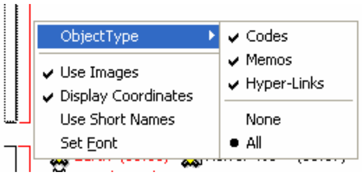
The Margin Area Context Menus

The margin area is a multi-purpose device and displays a variety of menus, depending on the object or pane area for which it was opened.

The Margin Area Main Context Menu

The main context menu pops up when you right-click in the margin’s background between the displayed objects. By clicking on an object, a dedicated context menu pops up.

OBJECT TYPE Submenu



Sets the type of objects you want to see displayed in the margin area: **CODES**, **MEMOS**, **HYPERLINKS**. **NONE** de-selects and **ALL** selects all three objects types in one step.

USE IMAGES

Displays the object's type icon along with its name. This facilitates quick identification of objects, especially when more than one object type is displayed.

DISPLAY COORDINATES

Appends the quotation’s start and end position to each displayed object.

USE SHORT NAMES

If space gets sparse in the margin area, you can reduce object names to a specified amount of characters. Customize in General Preferences.

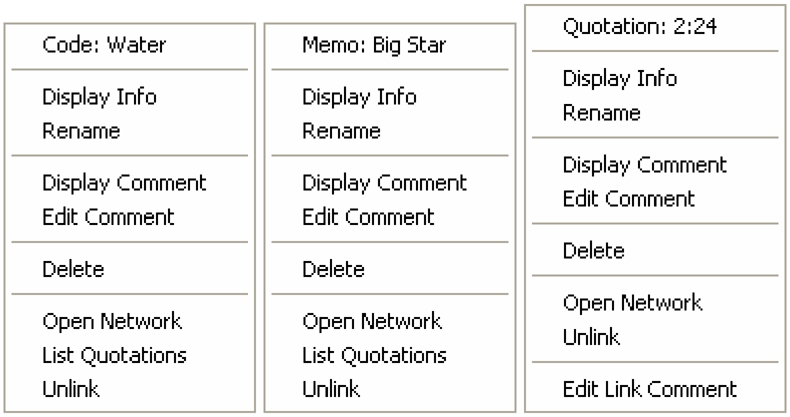
SET FONT

Sets the font for the margin object’s labels. Keep the margin font small in relation to the PD font for less clutter. In order to correctly display non-Western languages, select an appropriate font and its script.

The Margin Area Object Menus

Right-clicking on an object in the margin area pops up a context menu that presents available options for the corresponding object. This section explains these menus.

The menu’s title (top line) shows the object’s name.



DISPLAY INFO

Displays name, creation date, last modification date, author, and comment for the object.

Rename

Renames the object (code, memo, or hyperlink).

Display Comment

Displays the comment (or the text body of a memo) in a pop-up window. For codes and memos, the same is achieved by double-clicking the object itself.

Edit Comment

Opens an editor to edit the comment or memo text body.

Delete

Removes the object (not only its link) from the HU.

Open Network

Creates and opens a Network View for the selected object (and its neighbors).

List Quotations

Displays a list of quotations to which the object refers (available for codes and memos).

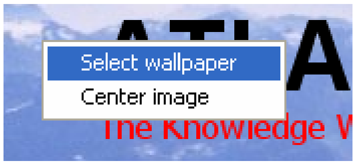
Unlink

Removes the link between the object and the quotation represented by the bracket. Resembles erasing an annotation at one place in a physical book.

Edit Link Comment

Applies only to quotations. You can write or edit a comment for the hyperlink between the bracket and the quotation itself.

The Wallpaper Menu



You can specify the background image to be displayed when no PD is displayed. All file formats that are valid graphical PDs are accepted.

Select wallpaper

To specify another wallpaper

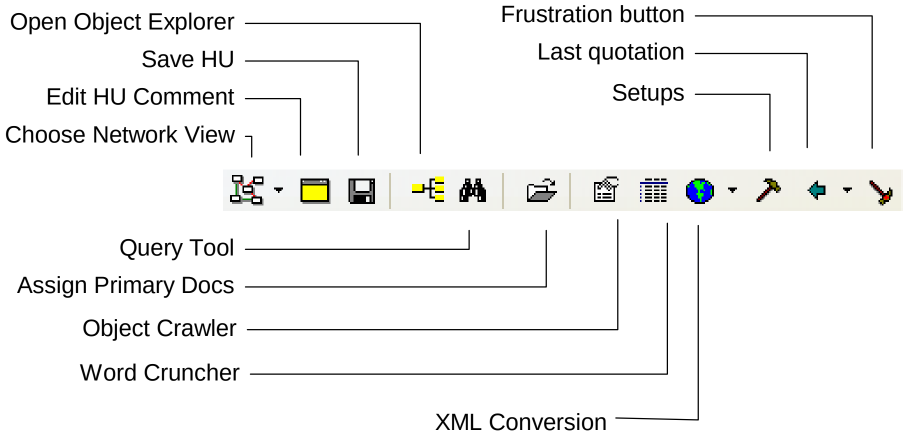
1. Make sure the HU editor does not display a PD. If necessary, close the PD.
2. Right-click on the HU Editor's background and choose **Select Wallpaper** from the context menu.
3. Choose an image file from the file dialog as the new wallpaper.

Center Image

If checked, centers the image inside the pane. If unchecked, tiles the image to cover the complete pane.

The HU Editor’s Toolbars

The Main Toolbar

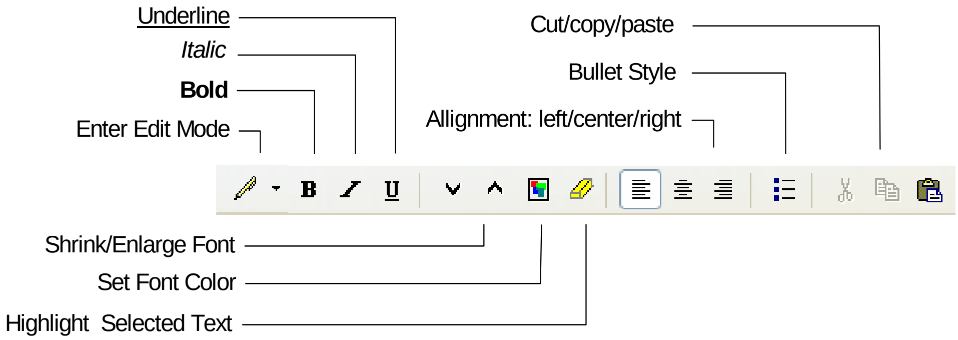


Tool	Name	Description
▾	Choose Network View	Open the Network View Manager or select an existing Network View
🟨	Edit HU comment	Opens a text editor to view and edit the HU’s comment
💾	Save HU	Save the HU under current name
	Open Object Explorer	Opens the Object Explorer
	Query Tool	Opens the Query Tool
📂	Assign Primary Docs	Open a file dialog to assign PDs
	Open Crawler	Opens the Object Crawler to search the entire HU
	Word Cruncher	Create word ferquency counts
🌐 ▾	XML Tools	Opens the XML Converter
🔨	Genral Preferences	Opens the preferences dialog
⬅ ▾	Last quotation	Selects a previously activated quotation
	Frustration button	See (or better: hear) for yourself

The Edit Toolbar

The Edit toolbar offers a variety of character and paragraph formatting options. If not in edit mode, the only tool available is the Enter Edit Mode button.

The color for highlighting selected text can be specified in the General Preferences Text Editor tab.



The Primary Document Toolbar

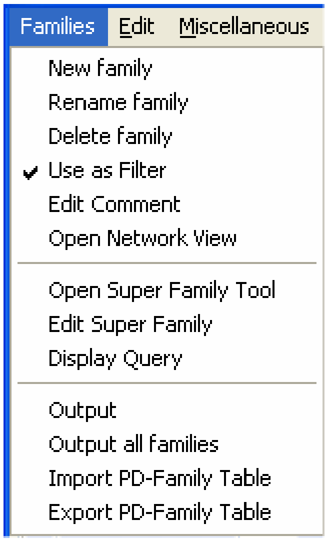
Tool	Name	Description
	Goto paragraph	Jump to the beginning of a specified paragraph
	Search	Opens the search tool
	Free Quotation	Creates a free quotation from the selected data segment
	Open Coding	Enter new codes for the selected data
	In Vivo Coding	Create a code from the selected text
	Code by List	Select codes from a list
	Quick Coding	Use the active code
	Create Memo	Creates a new memo and assigns it to the selected data
✓	Modify Quotation	Change the boundaries of a quotation
99	Line/Paragraph Numbers	Toggle display of paragraph numbers
	Margin Area	Toggle display of the margin area
	Hyperlink Start	Make the highlighted selection a hyperlink start anchor
	Hyperlink End	Make the highlighted selection a hyperlink end
	Show Quotations	Displays the list of all quotations surrounding the current text cursor position.
	Zoom	Zoom in. Hold the Ctrl-key to zoom out,

Ctrl-Shift to reset

The Family Manager’s Menus and Toolbar

The Family Manager offers four menus: Families, Edit, Miscellaneous, and View. The options offered by the Edit and the View menu have been described elsewhere and are not repeated here. For a description of the edit menu see “The Edit Menu” on page 349, and for a description of the view menu see “View Menu” on page 49.

The Families Menu



The last two items are only available for PD Families.

The options provided by the Families menu are also accessible from the context menu.

New Family

Creates a new family

Rename Family

Renames a family (you can also rename a family by in-place editing).

Delete Family

Deletes a family. This operation does not delete the items that were included in that family.

Use as Filter

Sets or resets a filter for the selected family. Same as double-clicking a family.

Edit Comment

Opens an editor where you can write or edit a comment for a family.

Open Network View

Opens a Network View displaying a family node and all family members. In the Network View, family members are linked via red dashed lines to the family node.

Open Super Family Tool

Opens a tool to create Super Families.

Edit Super Family

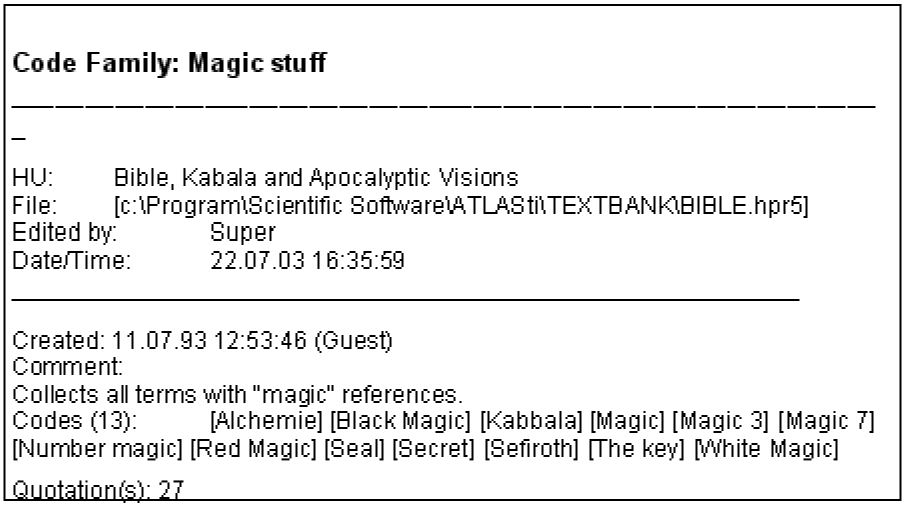
Opens an editor to edit the Super Family's query.

Display Query

Shows the Super Family's query. An example of such a query would be the expression: ("Female"|"Age 20-30"|"rural").

Output

Creates an output providing descriptive information about the selected family (see example below). The output includes the name of the HU, the date of creation, the name of the author, the comment, the number and names of codes included in the family, and the number of quotations that are referenced by these codes. If desired, the quotations' content can also be included in the output.



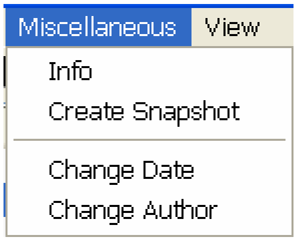
```
Code Family: Magic stuff
_____________________________________________________
_
HU:        Bible, Kabala and Apocalyptic Visions
File:      [c:\Program\Scientific Software\ATLASti\TEXTBANK\BIBLE.hpr5]
Edited by:          Super
Date/Time:          22.07.03 16:35:59
______________________________________________________

Created: 11.07.93 12:53:46 (Guest)
Comment:
Collects all terms with "magic" references.
Codes (13):         [Alchemie] [Black Magic] [Kabbala] [Magic] [Magic 3] [Magic 7]
[Number magic] [Red Magic] [Seal] [Secret] [Sefiroth] [The key] [White Magic]

Quotation(s): 27
```

Output all families

This output option provides an overview of all families of a specific type (PD, code, or memo families). Referenced quotations are not included.

Additional option in the Code Family Manager	**Create Network** Creates a new code named *F:<Family Name>_1* (or consecutive numbers) and links all members of the family to this code via the 'is a' relation. This allows you to leverage a cluster of loose concepts into a more semantically rich model fragment.
Additional options in the PD Family Manager	**Import PD-Family Table** Assigns PDs and creates PD families from a table created with the following function (or created with another application such as Excel). **Export PD-Family Table** Generates an Excel compatible table of PD descriptions and PD families.

The Miscellaneous Menu



Info

Displays information about the selected family, e.g., type and name, creation date, author, commentary, number of objects included in the family, and their names.

Create Snapshot

This option is only available for Super Families (see “Super Families” on page 203). A snapshot creates a “hard-wired” standard family containing the current items of the Super Family as its members (see “Create a Snapshot” on page 210).

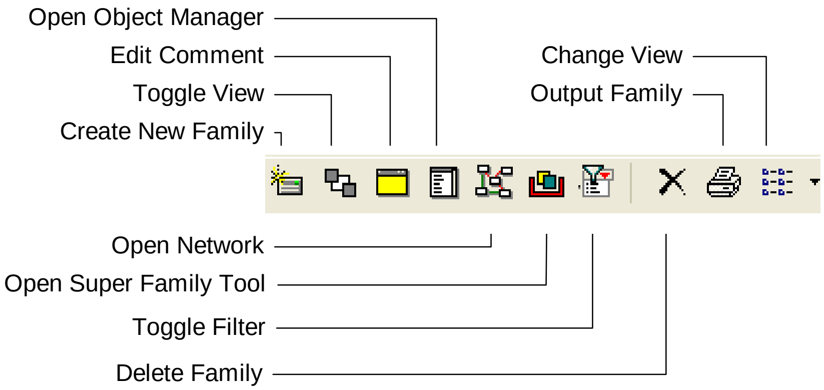
Change Date

Changes the date of creation for a selected family.

Change Author

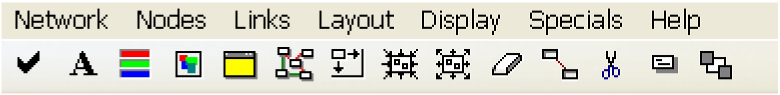
Changes the name of the author for a selected family.

The Family Manager Toolbar



The Network Editor's Menus and Toolbar

This section explains the menus and toolbars available for the Network Editor (see “The Network Editor et. al.” on page 215). As in the margin area, object-specific context menus are also available.



✔ Save (commit changes into) the Network View.

A Set the font for nodes and link labels.

▤ Set the color for nodes and the background. Set Auto Color mode.

Display node bitmaps.

Edit the Network View’s comment.

Position nodes using the semantic layout algorithm.

Undo positioning (helpful after misalignments).

Shrink layout.

Expand layout.

Delete selected node. Note: deleting a code node deletes the code itself from the HU.

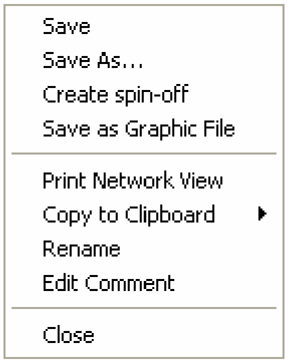
Create a new link.

Cut link.

Switch node display between ‘3D’ and shadowed style.

Toggle always on top. The Network Editor will float on top of all other windows (default setting).

The Network Menu



SAVE

Saves the Network View under its current name. Use this option to commit changes periodically.
To preserve the current view, choose **SAVE AS...**.

SAVE AS...

Saves the Network View under a new name. To create a new Network View and continue to work with the current, choose

CREATE SPIN-OFF

Creates a clone (duplicate) of the current Network View. You are prompted to enter a name for the cloned network.

SAVE AS GRAPHIC FILE

Saves your Network View as a graphic file, either as a bitmap (*.bmp) or as a Windows Enhanced Meta file (*.emf).

PRINT NETWORK VIEW

Opens the printer dialog. Check "Selection" to print the selected nodes only.

COPY TO CLIPBOARD Submenu

Copies the Network View (all nodes or selected nodes only) to the clipboard in a variety of formats.

RENAME NETWORK

Renames the current Network View.

EDIT COMMENT

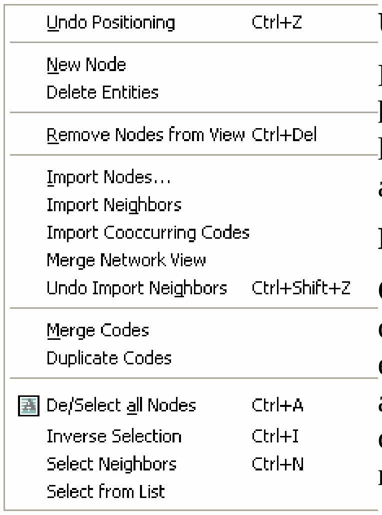
Opens a text editor to edit the Network View comment

CLOSE

Closes the Network Editor.

Nodes Menu

The Nodes menu offers node-related operations. All operations except **UNDO POSITIONING**, **NEW NODE**, **DE/SELECT ALL NODES**, and **IMPORT NODES** affect the currently selected node(s).



UNDO POSITIONING

Moves the nodes back to their previous position. This is a very handy option when experimenting with different arrangements, layouts, and alignments of nodes. Note that this a one-level undo and only the most recent layout can be restored. Shortcut: ***CTRL+Z***.

NEW NODE

Create a new code or memo inside the Network Editor. A new object is created and placed into the network as a node. After entering a name for the new object (memo names are created automatically when configured this way), it is displayed as a box close to the mouse pointer. Click at the position you want the new nodes to appear.

DELETE ENTITIES

This deletes the objects represented by the selected nodes from your HU. Deleted objects cannot be recovered!
To only remove nodes from the view, choose **REMOVE NODES FROM VIEW** instead.

REMOVE NODES FROM VIEW (Shortcut: CTRL-DEL)

Removes the selected nodes from this network view. The represented objects are not affected.

IMPORT NODES

Opens a window offering the choice to import different node types into the Network View. These are: codes, code families, memos, memo families, PDs, PD families or quotations, codes, and memos (see “Importing Nodes” on page 226).

IMPORT NEIGHBORS

*Hold down the **Ctrl-key** if you do not want to import quotations.*

Imports all directly connected neighbors of the selected node into the Network View (see “Import Node Neighbors” on page 228).

IMPORT CO-OCCURRING CODES

Imports all co-occurring codes of a selected code-node into the Network View.

This used to be called *the blind-shot tool* on the ATLAS.ti discussion group wish list. With this option, you can forego having to enter a specific search request in the Query Tool in order to determine which codes co-occur (see “Import Co-occurring Codes” on page 228 for more detail).

MERGE NETWORK VIEWS

Imports all nodes from another Network View of the same HU. Objects for nodes that already exist are ignored.

UNDO IMPORT NEIGHBORS (Shortcut: **CTRL-SHIFT-Z**)

Removes all nodes that were imported when last clicking on the **IMPORT NEIGHBORS** option. This can be helpful when a large number of quotation nodes were accidentally imported.

MERGE CODES

One or more selected codes are incorporated into one single code. See also “Merging Codes using the Network Editor” on page 243.

DUPLICATE CODES

Creates exact clones of the selected code nodes. This option is only available if codes are selected. Super Codes are not allowed. Can be used used to inverse the effect of Merge Codes. See “Splitting Codes” on page 245 for an application of this function.

DE/SELECT ALL NODES (Shortcut: **CTRL-A**)

Selects all nodes. If all nodes are already selected, this operation de-selects all nodes.
De-selecting all nodes can also be accomplished by double-clicking on the background of the Network Editor between nodes.

INVERSE SELECTION (Shortcut: **CTRL-I**)

Selects all nodes that are currently not selected, and de-selects all nodes currently selected.

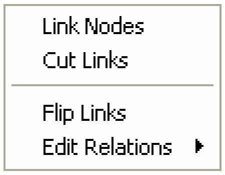
SELECT NEIGHBOR(S) (Shortcut: **CTRL-N**)

Selects all direct neighbors of the currently selected node(s). See also “Selecting Neighbors” on page 221.

SELECT FROM LIST

Opens a list of all nodes in the Network View for selection.

Links Menu



The link menu provides options to link nodes, to cut existing links, or to invert links. You may also activate a relation editor in order to create, modify, save, or load the relation types. Some operations require that links are selected beforehand (i.e., Cut and Flip).

LINK NODES

Links nodes. Use this option to link two or more nodes. See “Linking Nodes” on page 223.

CUT LINKS

Removes the association between one or more linked nodes.

FLIP LINKS

Reverses the directionality of the link you created.

Edit Relations Submenu

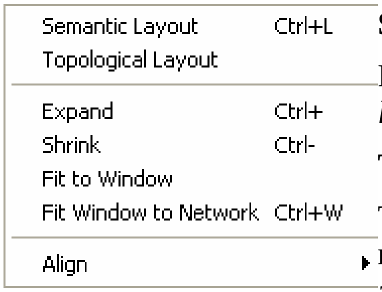
CODE-CODE-RELATIONS

Opens the relation editor for code-code relations (cf. “The Relation Editor” on page 235).

HYPERLINK-RELATIONS

Opens the relation editor for hyperlinked relations (cf. “The Relation Editor” on page 235).

Layout Menu



SEMANTIC LAYOUT

Places the nodes within the Network Editor using a *semantic layout algorithm*. See “Semantic Layout” on page 230 for details.

TOPOLOGICAL LAYOUT

This special layout procedure creates a linear list of nodes as the result of a **depth first traversal** of the graph. Nodes with the least amount of dependencies are positioned at the beginning. See “Topological Layout” on page 231 for details.

EXPAND (Shortcut: **CTRL +**)

Expands a Network View by increasing distances between nodes.

SHRINK (Shortcut: **CTRL -**)

Shrinks a Network View by decreasing distances between nodes.

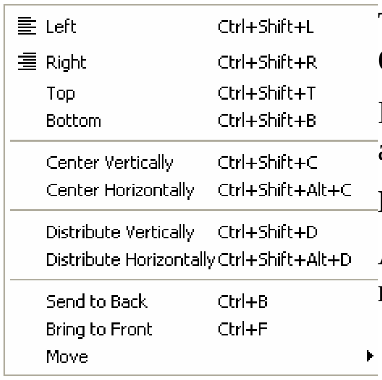
FIT TO WINDOW

Expands or shrinks the current layout proportionally to fit the current window size.

FIT WINDOW TO NETWORK (Shortcut: **CTRL+W**)

Reduces or enlarges the Network Editor's window, depending on the size of the network displayed.

Alignment Submenu


Left Ctrl+Shift+L
Right Ctrl+Shift+R
Top Ctrl+Shift+T
Bottom Ctrl+Shift+B
Center Vertically Ctrl+Shift+C
Center Horizontally Ctrl+Shift+Alt+C
Distribute Vertically Ctrl+Shift+D
Distribute Horizontally Ctrl+Shift+Alt+D
Send to Back Ctrl+B
Bring to Front Ctrl+F
Move

The alignment options help produce neat-looking Network Views. Only selected nodes are affected by the alignment process.

If you use alignment functions frequently, open the floating alignment tool via the Display menu.

LEFT (Shortcut: **Ctrl+Left+L)**

Aligns selected nodes with the left-hand side of the first selected node. Their vertical position is not changed.

1. Select a node whose left edge should serve as reference point.
2. Select the nodes that are to be aligned with the first node's left edge.

RIGHT (Shortcut: **CTRL+SHIFT+R**)

Aligns selected nodes with the right-hand side of the first selected node. Their vertical position is not changed.

1. Select a node whose right edge should serve as reference point.
2. Select the nodes that are to be aligned with the first node's right edge.

TOP (Shortcut: **CTRL+SHIFT+T**)

Aligns selected nodes with the top of the first selected node. This changes their horizontal position.

BOTTOM (Shortcut: **CTRL+SHIFT+B**)

Aligns selected nodes with the bottom of the first selected node. Their horizontal position is not changed.

CENTER VERTICALLY (Shortcut: **CTRL+SHIFT+C**)

Centers selected nodes around the vertical axis of the first selected node. Their horizontal position is not changed.

CENTER HORIZONTALLY (Shortcut: **CTRL+SHIFT+ALT+C**)

Centers selected nodes around the horizontal axis of the first selected node. Their vertical position is not changed.

DISTRIBUTE VERTICALLY (Shortcut: **CTRL+SHIFT+D**)

Creates equal vertical spacing between nodes. Their horizontal position is not changed. At least three nodes must be selected.

DISTRIBUTE HORIZONTALLY (Shortcut: **CTRL+SHIFT+ALT+D**)

Creates equal horizontal spacing between nodes. The vertical position is not changed. At least three nodes must be selected.

SEND TO BACK (Shortcut: **CTRL+B)**

In the z-order of all nodes, sends all selected nodes to the back, e.g., to be covered by all other nodes.

BRING TO FRONT (Shortcut: **CTRL+F)**

In the z-order of all nodes, brings all selected nodes to the foreground, covering all other nodes.

MOVE SUBMENU

These operations move the selected node(s) one pixel at a time in any of the four directions; up, down, left, and right.

Use this to fine-tune a layout. Should prefer to access these functions with their shortcuts use the arrow keys in combination with the Ctrl key.

UP (Shortcut: **CTRL+UP**)

Moves all selected nodes up by one pixel.

DOWN (Shortcut: **CTRL+DOWN**)

Moves all selected nodes down by one pixel.

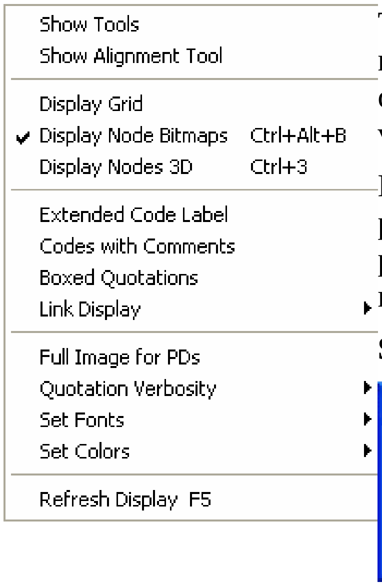
LEFT (Shortcut: **CTRL+LEFT**)

Moves all selected nodes to the left by one pixel.

RIGHT (Shortcut: **CTRL+RIGHT**)

Moves all selected nodes to the right by one pixel.

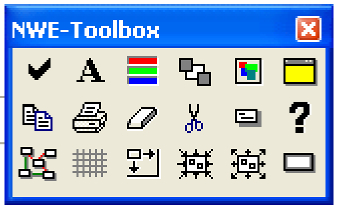
Display Menu



The functions offered by the Display menu affect the display of the nodes, the links, and the background of the Network Editor. Some of the properties are reserved for specific node types (e.g., verbosity for quotations).

By combining display attributes, a large variety of display properties are configurable. To make your individual settings permanent, use the preferences dialog window under the Specials menu.

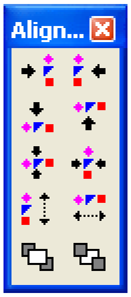
Show Tools



Opens a floating toolbox that offers a selection of the operations described above. As long as the toolbox is open, it replaces the toolbar.

Show Alignment Tool

Opens the floating Alignment Tool palette. Keeping the palette open makes your life easier when you are manually adjusting the layout of several nodes.



Display Grid

Overlays the network view with a grid to help with manual placement of nodes. As the grid is colored light gray, you need to use a different background color when using this feature.

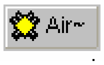
Display Node Bitmaps

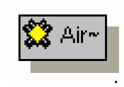
Display a type specific icon for the nodes.

Display Nodes 3D

Shortcut: ***Ctrl+3***

Displays nodes in 3D style. Two basic display styles for node boxes are available:


Air~

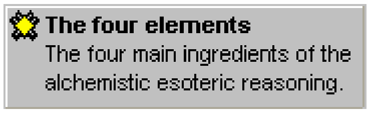

Air~

The 3-D displayDisplay with a frame and a drop shadow

EXTENDED CODE-LABEL

Displays the suffix along with the code name. Turning this option off results in more compact node labels.

CODES WITH COMMENTS

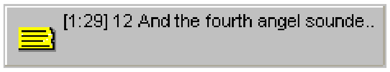

The four elements
The four main ingredients of the alchemistic esoteric reasoning.

By default, only the code’s name is displayed. Select this option to also display the comment (or at least a portion of it). This option can also be configured under Network View preferences (see section “Nodes” on page 389).

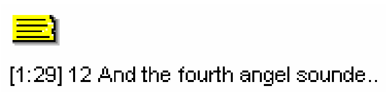
BOXED QUOTATIONS

Displays a colored solid bounding box for the quotations.

boxed


[1:29] 12 And the fourth angel sounde..

Not boxed


[1:29] 12 And the fourth angel sounde..

LINK DISPLAY SUBMENU

For relation types, you can define two link labels and a menu text in the Relation Editor (see “The Relation Editor” on page 235). By selecting either **LABEL 1**, **LABEL 2**, or the **MENU LABEL**, you can decide which label is displayed in the network view.

BOXED LABELS

Switches between plain text display and boxed display of link labels.

ROTATED LABELS

Displays labels rotated, e.g., alongside the link between two objects.

FULL IMAGE FOR PDS

Displays miniature (“thumbnail”) versions of graphical PDs. For an application example, see “Network Views as Graphical Tables of Contents” on page 249.

QUOTATION VERBOSITY SUBMENU

The following options control the amount of information displayed for quotations:

ID ONLY

Displays only the quotation ID (e.g., “1:27”)

+ NAME

Displays the ID plus the name of the quotation.

+ COMMENT

All of the above, plus the quotation comment.

+ FULL TEXT

All of the above, plus the complete content of the quotation (applies to textual quotations only). Be careful with long text passages.

For non-textual quotations, the media type is displayed.

SET FONTS SUBMENU

NODES

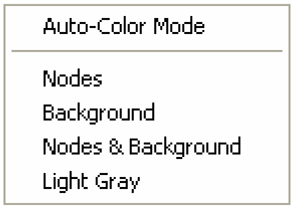
Sets the font for nodes

LINKS

Sets the font for links

SET COLORS SUBMENU

Colors for nodes affect code nodes only.



AUTO-COLOR MODE

Code nodes are automatically assigned a color according to their groundedness and density. See “Auto-Color Mode” on page 239 for details.

NODES

Sets the color for code nodes.

BACKGROUND

Sets the color for the network editor’s canvas.

NODES & BACKGROUND

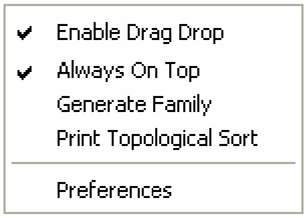
Sets the same color for nodes and background.

LIGHT GRAY

Sets nodes and background to light gray.

REFRESH DISPLAY (F5)

Refreshes (redraws) display. Because of incomplete screen refreshes that may happen occasionally, it is sometimes necessary to manually "repaint" the window.



Specials Menu

ENABLE DRAG DROP

If enabled, the Network Editor will accept dropped objects.

ALWAYS ON TOP

If set, the Network Editor will float on top of its parent HU Editor.

GENERATE FAMILY

Generates a new code family from all codes contained in the Network View.

PRINT TOPOLOGICAL SORT

Creates a textual representation of the topologically sorted nodes (see “Topological Layout” on page 231 for detail).

PREFERENCES

Opens the preferences dialog to make many of the settings described above permanent. For a detailed description see “Network Editor Preferences” on page 387.

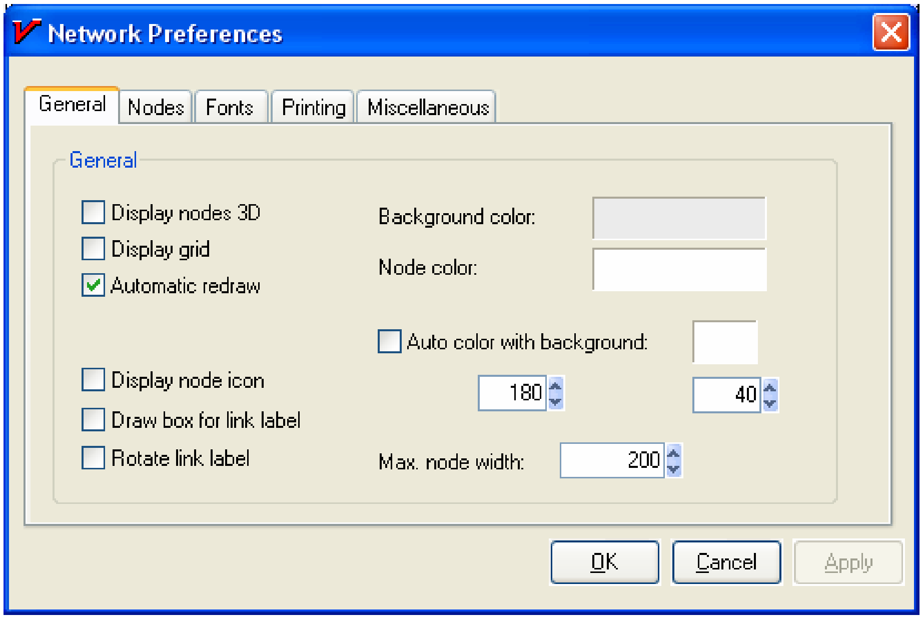
Network Editor Preferences

Unlike settings modified using the Network Editor's menu commands, several options can be made permanent using the network preferences dialog. Note that most modifications are not immediately displayed in the Network Editors. Close and reopen a Network Editor to see the changes.

For all options that were already described in the Network Editor’s menu description, there will only be a reference.

The Network Editor preferences are activated either from the HU editor’s Networks/Preferences or from the Network Editor’s Specials/Preferences menu.

General



☐ Display nodes 3D
☐ Display grid
☑ Automatic redraw
☐ Display node icon
☐ Draw box for link label
☐ Rotate link label

Background color:
Node color:
☐ Auto color with background:
180
40
Max. node width: 200

Figure 138 - General Network Preferences

Display nodes 3D: Display nodes as simple boxes with a 3-D border. Uncheck for a box with dropped shadow.

Display grid: Overlays the network view with a grid to help with manual placement of nodes. As the grid is colored light gray, you need to use a different background color when using this feature.

Automatic redraw (default)**:** If disabled, the network editor will redraw its contents only when forcing a repaint via **DISPLAY/REFRESH DISPLAY** (or by pressing F5). If the automatic redraw does not work properly (i.e., certain things are not displayed correctly), press F5.

Display node icon: Display a type specific icon for the nodes.

Draw box for link label: Switches between plain text display and boxed display of link labels.

Rotated link label: Displays labels rotated, e.g., alongside the link between two objects.

Background color: Sets the color for the network editor’s canvas.

Node color: Sets the color for (code) nodes.

Auto color with background: If activating this option, the background color is also used in auto color mode (which is set to white by default).

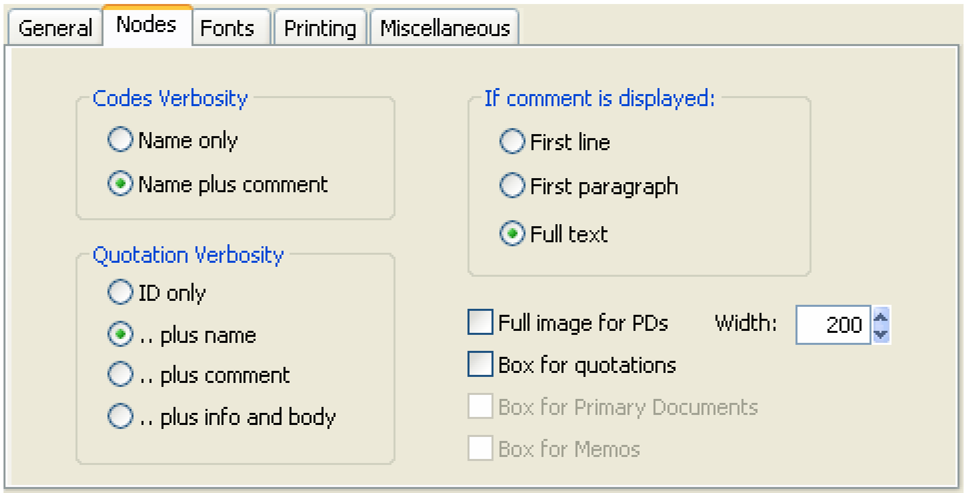
Green part: Customizes the auto color procedure.

Range min: Customizes the auto color procedure.

Max node width: The maximum horizontal size in pixels within which the node's text is formatted.

Nodes

This page allows you to define the default settings for the display of nodes.



Codes Verbosity

○ Name only

● Name plus comment

Quotation Verbosity

○ ID only

● .. plus name

○ .. plus comment

○ .. plus info and body

If comment is displayed:

○ First line

○ First paragraph

● Full text

□ Full image for PDs Width: 200

□ Box for quotations

□ Box for Primary Documents

□ Box for Memos

Figure 139 - Network Preferences for Nodes

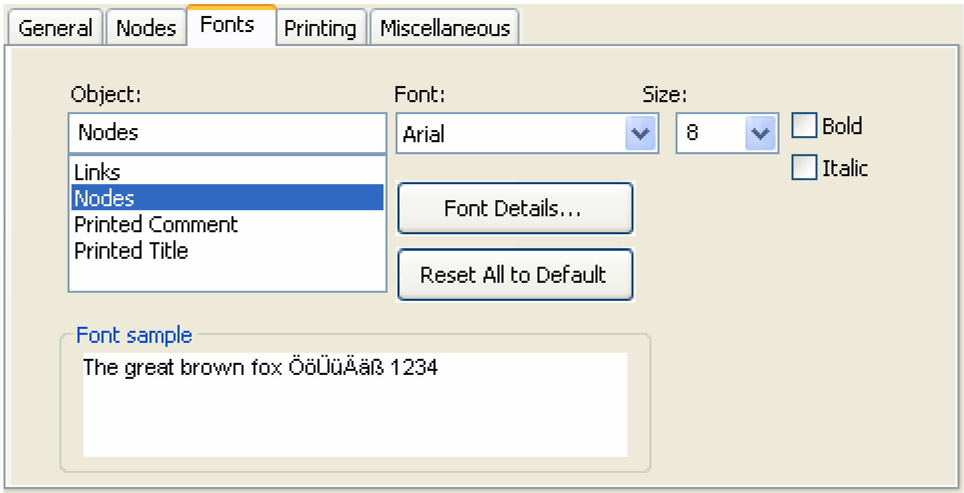
Codes Verbosity controls the length of the node name displayed for codes (and memos). You have the option to display the *name only*, or the *name plus comment*. If “Name plus comment” is selected, you may also define how much of the comment should be displayed: First line, first paragraph, or the full text of the comment (see options to the right).

Quotation verbosity allows four increasing amounts of information to be displayed.

Full image for PDs displays graphical PDs as small images, also called "thumbnails.”
In addition, you can set the horizontal width in pixels for all displayed graphical PD thumbnails.

Box for quotations: Display quotations inside a bounding box.

Fonts



Object: Nodes

Links
Nodes
Printed Comment
Printed Title

Font: Arial

Size: 8

□ Bold

□ Italic

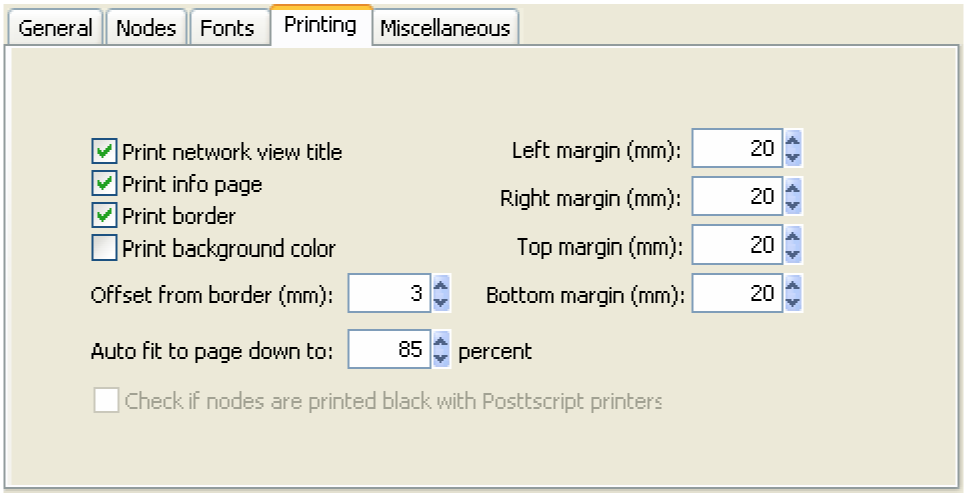
Font sample

The great brown fox ÖöÜüÄäß 1234

Figure 140 - Network Fonts Preferences

You can globally specify a font for all nodes and links. In addition, you can choose how the network title and comment should look when outputting a network. Font changes for nodes and links are visible the next time you open a Network View.

Printing



☑ Print network view title

☑ Print info page

☑ Print border

□ Print background color

Offset from border (mm): 3

Auto fit to page down to: 85 percent

Left margin (mm): 20

Right margin (mm): 20

Top margin (mm): 20

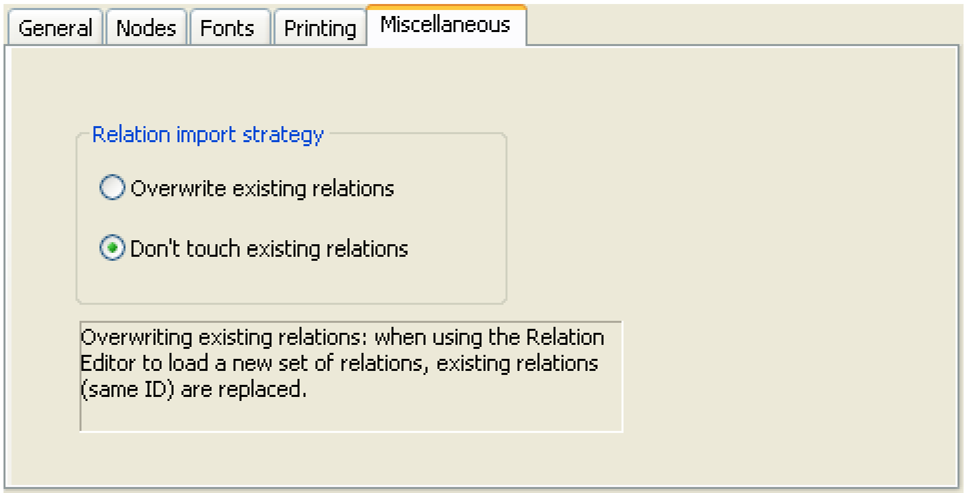
Bottom margin (mm): 20

□ Check if nodes are printed black with Posttscript printers

Figure 141 - Network Printing Preferences

Network Views are printed as bitmaps. You have the following options: to include the title and comment (info page), to draw a border around the Network View, and to print or ignore the background color. Furthermore you can scale the Network View down or up to fit it to the page size. The margin settings can also be set to suit individual preferences.

Miscellaneous



Relation import strategy

○ Overwrite existing relations

● Don't touch existing relations

Overwriting existing relations: when using the Relation Editor to load a new set of relations, existing relations (same ID) are replaced.

Figure 142 - Network Miscellaneous Preferences

When loading an HU, all relations used inside the HU are imported. This is comparable to word processors that use styles. For relations imported by loading another HU, the default strategy is to not overwrite already loaded relations with the same ID ("**Don't touch existing relations**").

Example: If your standard set of relations as defined in the file default.rel contains a relation ISA with line width 2, and the HU just loaded contains the same relation but defined with width 1, all Network Views (of any HU loaded) will display any ISA link with a width of 2. Furthermore, when you save any of the HUs, their original relational definitions are exchanged with the current ones.

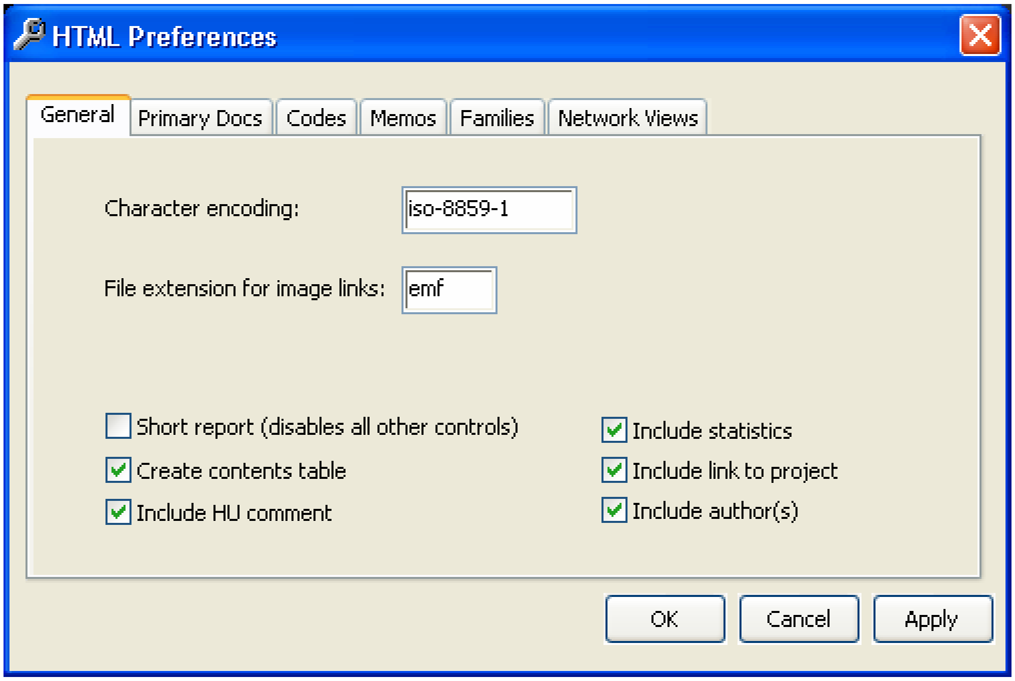
Choosing the option "**Overwrite existing relations**" does the following: If a new HU is opened, all already loaded relations that use the same ID as relations in the newly opened HU are replaced. This changes the characteristics of the links in the HU loaded previously. Although this is complicated , problems rarely occur because different relations with the same name are not very common in everyday work.

HTML Preferences

A number of options can be set to customize the appearance of the generated HTML document.

To set HTML preferences, select **EXTRAS/HTML PREFERENCES** from the main menu.

General



Character encoding: iso-8859-1

File extension for image links: emf

☐ Short report (disables all other controls)

☑ Create contents table

☑ Include HU comment

☑ Include statistics

☑ Include link to project

☑ Include author(s)

Character Encoding: Controls interpretation of characters encoded with values beyond 7-bit ASCII. For western locales this encoding should be set to ISO-8859-1.

File extension for image links: This extension is used for network view image links like:

<IMG ALIGN=BOTTOM SRC="Terminology.emf"> or

<A HREF="Terminology.emf">Terminology</A>.

As you can save network views as WMF files, leave or set this value to WMF.

Short Report: Only the name, author, date, and commentary of the HU become part of the HTML document. All other setup options are disabled.

Create contents table: A list of all sections in the HTML page is created. All sections can be jumped to from the contents table.

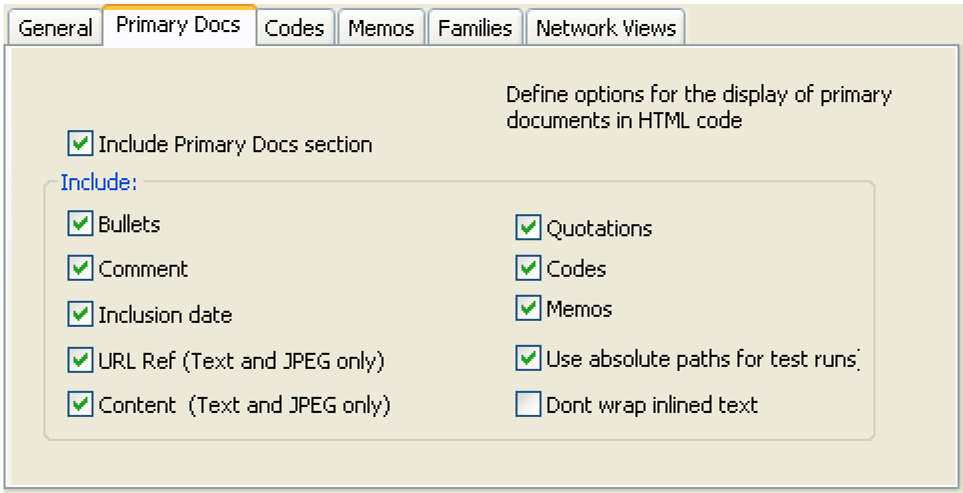
Include HU comment: Includes the HU's comment in italics.

Include statistics: A short numerical summary of the main objects included in the HU is created.

Include link to HPR: A link is included that allows the reader of the HTML page download the HU itself. If this link is activated, a copy bundle (ACB) version of the project must be provided and copied to the location of the HTML page.

Include author(s): Includes the name of the HU’s author and co-authors, if any.

Primary Docs



Define options for the display of primary documents in HTML code

☑ Include Primary Docs section

Include:

☑ Bullets
☑ Comment
☑ Inclusion date
☑ URL Ref (Text and JPEG only)
☑ Content (Text and JPEG only)
☑ Quotations
☑ Codes
☑ Memos
☑ Use absolute paths for test runs
□ Dont wrap inlined text

Include Primary Docs section: Check this box if you want to include information about the PDs.

Bullets: Displays a specific icon with every PD description.

Comment: Includes the PD’s comment.

Inclusion date: Includes the date the PD was assigned to the HU.

URL Reference (Text and JPEG only): Includes a clickable link to the PD file. Note that if the files are plain ASCII, JPEG, or of another suitable file type, PDs can be displayed by most WWW browsers without additional plug-ins.

Content (Text and JPEG only): Displays the contents of the PDs within the created HTML document itself. The same restrictions for file types apply as in “Reference to PD”. Note that the size of the WWW page increases significantly with the in-lined inclusion of PDs.

Quotations: Only the number of quotations is included.

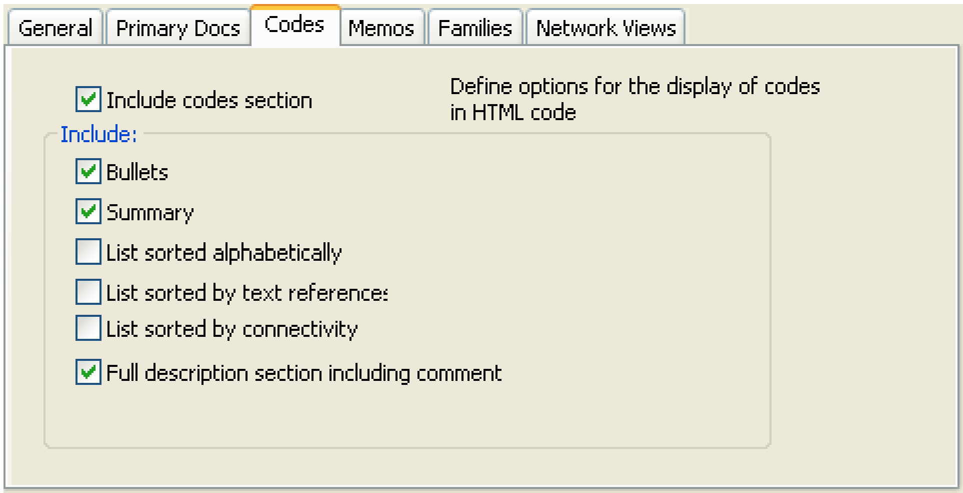
Codes: Displays the codes used for coding the PD.

Memos: Displays memos (titles) used for the PD.

Use absolute paths for test runs: Check this option when testing the WWW page on your local computer. Absolute paths to all PDs are included in the links created. Make sure to uncheck this box when you are creating the final page to be uploaded to the server. When unchecked, all paths will be removed, assuming that the PD files are then located in the same location as the WWW page itself. Without this option, all PDs accessed from the WWW page created would have to be copied to the HTML directory to be displayed properly when needed.

Don't wrap inlined text: Use the line breaks of the original text. If unchecked, line breaks are removed in order to let the HTML browser apply dynamic wrapping.

Codes



☑ Include codes section

Define options for the display of codes in HTML code

Include:

☑ Bullets

☑ Summary

□ List sorted alphabetically

□ List sorted by text reference:

□ List sorted by connectivity

☑ Full description section including comment

Include codes section: Includes information about codes.

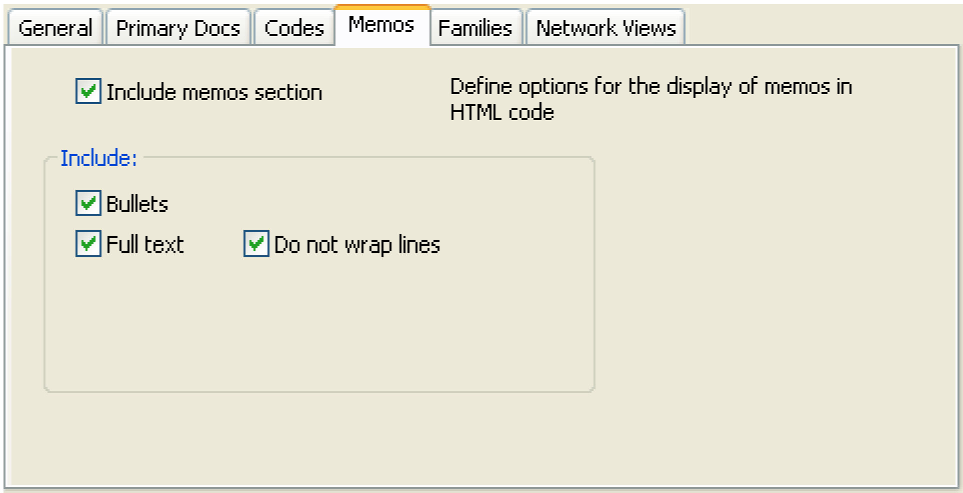
Bullets: Displays a specific icon with every code description.

Summary: Lists all codes including the label, groundedness, and density count.

List sorted by (3 options): Includes scrollable lists that sort the codes *alphabetically*, by number of *text references* (i.e., groundedness), and *connectivity*, i.e. number of code neighbors (i.e., theoretical density).

Full description section including comments: All codes that have comments are listed in an extra section. The summary has links to these descriptions for all commented codes.

Memos



☑ Include memos section

Define options for the display of memos in HTML code

Include:

☑ Bullets

☑ Full text ☑ Do not wrap lines

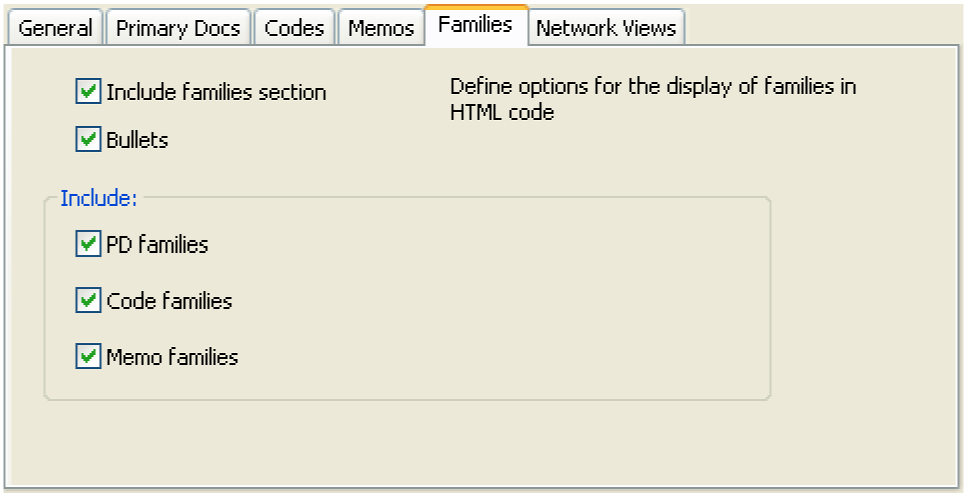
Include memos section: Includes information about memos.

Bullets: Displays a specific icon with every memo description.

Full text: Includes the complete text body.

Do not wrap lines: Keeps the line/paragraph structure of the memo intact.

Families



☑ Include families section

☑ Bullets

Define options for the display of families in HTML code

Include:

☑ PD families

☑ Code families

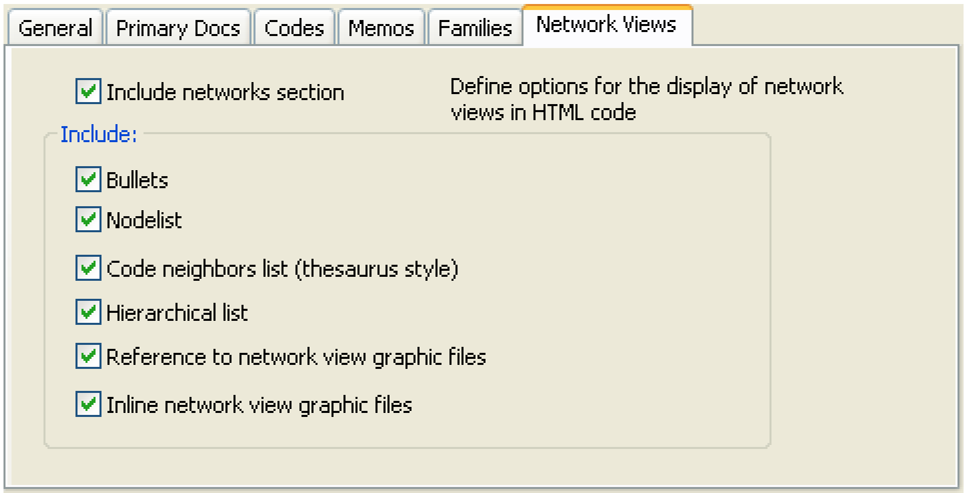
☑ Memo families

Include families section: Includes information about families.

Bullets: Displays a specific icon with every family description.

Include (3 options): Includes PD, code, and/or memo families

Network Views



☑ Include networks section

Define options for the display of network views in HTML code

Include:

☑ Bullets

☑ Nodelist

☑ Code neighbors list (thesaurus style)

☑ Hierarchical list

☑ Reference to network view graphic files

☑ Inline network view graphic files

Include networks section: Includes information about Network Views.

Bullets: Displays a specific icon with every Network View description.

Node list: Includes a textual description of every node.

Code neighbors list: Textual description of the complete network structure in a “thesaurus style” format: for every alphabetically listed node, displays its direct neighbors.

Hierarchical list: Converts the network into a hierarchy. Identifies the root objects and displays an indented “forest” of trees.

Reference to Network View graphic files: Includes links to the graphic files created from the Network Views. **These files have to be created manually**. A common file format is Windows Enhanced Metafile (EMF). EMF can be created within ATLAS.ti (see “Save Network View as Graphic File” on page 234).

Inline Network View graphic files: As above, but displays the graphic images in the WWW page itself.

Appendix

Selecting Objects

Multiple selections are possible in some situations, while in other situations they aren't. This section explains the differences:

Single Selection Only

Drop-down lists and pop-up menus allow single selection only

- All four ***drop-down lists*** in the Hermeneutic Unit editor under the main menu are single selection devices.
- Any **pop-up menu** offering a selection of options is single selection only. The pop-up menu disappears immediately after the item is selected.
- Data segments in the primary document pane.
- The Object Explorer, Code Forest and Code Tree also only allow single selections.
- Family Managers families list are single selection.
- All items in the margin area
- All lists in the Query Tool

Multiple Selection

Multiple selections are possible in the following places

- All **Object Managers**
- **All Family Managers' member and non-member panes**
- "**Code by list**" window
- All "**Link to**:" list windows (e.g., **CODES/CODING/LINK CODES TO:** from the main menu)

- **The Network Editor**: several methods for multiple node selections.

Character Encoding for Textual Documents

Most plain-text and all Rich Text documents are displayed correctly using the default settings.

For older texts or documents using special character sets (e.g., Arabic, Cyrillic, Hebrew) a few preferences might need to be set. If such settings are necessary can often easily be determined when texts are displayed incorrectly, especially in regard to language specific characters, “Umlaute”, etc.

To understand the problem of encoding the following excurse should shed some light on this issue. A plain-text file does not by itself contain readable characters as does a piece of hand-written paper. It contains “instructions” or “codes” (don’t mix these up with the codes you use during coding!-); in fact, a sequence of characters represented by a sequence of numbers in the text file. To arrive at something readable on the computer screen or printer, the computer reads those numbers, uses them as an index into a font table, and when it finds a character description say, at position 166, it takes this character information and instruct the video adapter or printer to paint it. Another name for a font table is – quite shortly - a **font**. Now it gets interesting: As a plain text does not carry any information along, which font should be used, it needs to rely on the user or the operating system having selected the correct font or providing information about specific procedures when determining and displaying the correct characters. By the way, this is one of the benefits of the **Rich Text** format, that such a text includes all information about which font (table) is to be used at any position in the text. However, you still need these fonts installed on your system in order for the text to be displayed correctly.

While in the early days the number of displayed characters was not overwhelming, today’s systems are capable of handling all known languages in a vast variety of variations. In those days 128 different – Latin - characters were the standard, much better than “0” and “1” in the beginning of all computing, but not really satisfying. The next step was to extend the table of characters to 256, which allowed for some national special characters. In the absence of a standard for this extended character set, computer manufacturers invented their own, assuming that they were the standard themselves … One of those "standards" is the Original Equipment Manufacturer encoding, shortly OEM. This was used under DOS and also in the early Windows versions.

ANSI or OEM

Nowadays, the standard on modern systems is ANSI and has replaced the old OEM (or DOS) texts almost completely.

Even though working with text-only files may become more the exception than the rule in ATLAS.ti 5, the Encoding Type selector has not been removed. Should you still need to access such "legacy" documents, you can display them correctly in ATLAS.ti by setting the OEM attribute accordingly. You may change these encoding for a selected primary document using the **DOCUMENTS/MISCELLANEOUS/SET ENCODING** menu.

The option of setting the encoding type individually for each PD allows for primary documents with different encoding types to co-exist in the same Hermeneutic Unit.

Correct Character Set?

While ANSI reduced the uncontrolled growth of character encodings quite a bit, the limited character set could not be coped entirely. So even within ANSI a number of variations was inevitable. So, in addition to selecting a font, you may need to select the correct **script** in the font dialog. The script chosen within ATLAS.ti's font preferences should match the encoding used on the system where the text was created (e.g., using the Cyrillic script for a text created on a Cyrillic system).

Unicode!

Wouldn't it be nice if there was only ONE encoding which would cover all languages, including the East Asian languages with their enormous amount of characters? To display a mixture of different languages correctly within the same text, the same line?

Recently, a new emerging standard addresses this desire: Unicode.

The potential character set was significantly extended to cover all characters of all languages, so that mixing languages in the same document became feasible.

Now why is Unicode not used by all applications on all systems? The problem is that the computer power needed to correctly handle Unicode far exceeds the demands for simply OEM or ANSI encodings. But it's getting better.

At least: texts saved in Unicode format from an appropriate text processor can be read into ATLAS.ti without any further tweaking.

Enriched Texts!

Texts available in enriched formats, like RTF, DOC or HTML files, generally have no problems with different encodings, as they store the encoding information along with the text itself.

XML – an Introduction

Version 4.2 of ATLAS.ti already offered a few options to work with the XML format, such importing and exporting codes and memos. This possibility has been substantially expanded in A5.

In case you don’t know what XML is, the short explanation is that XML, similar to HTML, is a document markup language. XML, however, has the advantage that it is less dependent on the capabilities of a particular application (Web browsers for HTML).

Furthermore, XML concentrates on structuring information. Structured information contains both content (actual words, pictures, etc.) plus some indication of what role that content plays (for example, text content inside a "heading" has a different meaning from content in a "footnote", content in a "figure caption" differs from content in a "database table", etc.). Almost all documents have some structure, and a markup language is a mechanism to identify this structure in a document. The XML specification defines a standard way to add markup to documents.

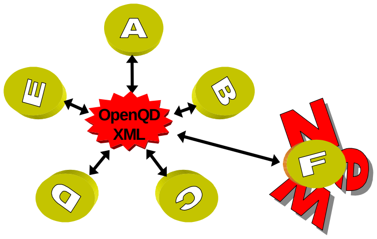


Figure 143 - With XML programs can exchange data via a standard data interface.

If you create an XML output file, it can be read by other applications that support XML. One main advantage is that the application can define autonomously and completely detached from any display information contained in the document what parts of the structure are to be displayed and what the display should look like. This is commonly achieved with the help of so-called stylesheets.

XML vs. HTML: A Little Tech Talk

XML is short for *eXtensible Markup Language*. This is already quite a useful description when you compare it to its "competitor" or predecessor, HTML, short for *HyperText Markup Language*.

The crucial term is "ex*tensible*", NOT "ex*tended*". HTML was intended to allow documents and information of considerable complexity to be exchanged across different technologies, operating systems, browsers, etc. It was also meant as a language, which describes the logical structure of documents.

If you look at today’s HTML code (right-click and select "View Source" when browsing a web page), you will have a hard time identifying content in the chaotic "noise" produced by tags representing tables, frames, buttons, rulers, fonts, images, indentation, etc.

Both HTML and XML are descendants of a much more powerful (and less comprehensible) language, SGML, the Standard Generalized Markup Language. What XML shares with the latter is that you can define your own new languages, something HTML does not allow for. While HTML is a ready complete language itself, XML is a meta-language for defining new languages.

HTML has no clear separation of content and presentation. With a fixed set of tags there is no way to clearly mark-up document content in a meaningful manner.

If you have ever seen the source code of a HTML coded web page, you can easily recognize two of the main characteristics of XML which makes them distinct from HTML:

- The presence of tags (e.g., <MEMO>, <SPEECH TURN>) which are not available in the fixed set of HTML tags (where new tags are proprietary or at least deviations from the standards). The tags used in an XML file represent YOUR data without invalidating any standards! Below, a raw XML file is shown.
- The absence of presentation (display, layout) related information (tables, fonts, images, rulers, etc)

```
<Trans version="1" trans_method="LING22"  version_date="990120"
audio_filename="au.wav" xml:lang="DE">
  <Speakers>
    <Speaker id="I" name="Interviewer"/>
    <Speaker id="B" name="Herr Schultz" dialect="bavarian"/>
  </Speakers>
  <Turn speaker="I" tape_pos="2010">
     Ja.
  </Turn>
  <Turn speaker="B" tape_pos="2314">
     Wars doch eigentlich, ja da wars doch
     glaub ich erst ein oder zwei Tage, oder
     vielleicht einen Tag.
  </Turn>
</Trans>
```

Figure 144 – XML version of an interview section with some added information

If you interested to learn more about XML, you may want to look at the following online article:

Muhr, Thomas (2000, December). Increasing the Reusability of Qualitative Data with XML [64 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* [Online Journal], *1*(3). Available at: http://www.qualitative-research.net/fqs-texte/3-00/3-00muhr-e.htm [Date of Access: January 08, 2004].

Index