

Overview of ATLAS.ti 5.2 by Nicolas Sheon

Guide to Contents	Page
Three Basic Rules of Project Management in ATLAS.ti	2
Tips on Preparing Transcript Files to Assign them to the HU	3
Turning Off Annoying Sounds	5
Starting a Project: Creating the HU	5
Open a PD to begin the analysis	6
Quotations Are the Basic Unit of Analysis in ATLAS.ti	6
To Code or Not to Code: Creating and Renaming Free Quotations	7
Tips on Naming Codes	8
Ways to Code Quotations in ATLAS.ti	8
Auto-Coding	10
Where to Put Annotations: Comments vs. Memos	10
Family Life: PD Families	11
A Warning about the Process of Coding	12
Sorting Codes and Quotations into Piles using Network Views	13
Retrieving Coded Quotations	15
The Query Tool	15
Supercodes	15
The Cooccurrence Explorer	16
Backing Up, Restoring and Migrating your Project using Copy Bundle	16
Merging HUs	17
Author Contact, Other Links and Acknowledgements	19

Three Basic Rules of Project Management in ATLAS.ti

Qualitative software is designed to help you manage two types of information: the source data and your analytic annotations about the source data. This division is reflected in the two components to an ATLAS.ti project. The first component, the “Hermeneutic Unit” (HU), contains your annotations such as codes, comments, quotes, memos, families, networks. The HU is a single file named after your project and ends with the .hpr5 file extension. The second component consists of the source data, or Primary Documents (PDs). PDs can vary in number and are typically transcripts of interviews and other texts with the .txt, .rtf, or .doc file extension. PDs can also include media files such as drawings, photos, videos and audio. While the HU is constantly being updated as your analysis progresses, the text and formatting of the PDs should remain relatively unchanged.

In ATLAS.ti, the HU and the PDs are separate but closely linked entities. Many of the problems people encounter when using ATLAS.ti occur when the the links between the annotations in the HU and the Primary Documents are broken. This is usually caused when a PD is moved or edited outside of ATLAS.ti. To avoid such broken links in your ATLAS.ti project, follow these three rules when setting up and managing your project, particularly if you plan to work with other researchers or on multiple computers.

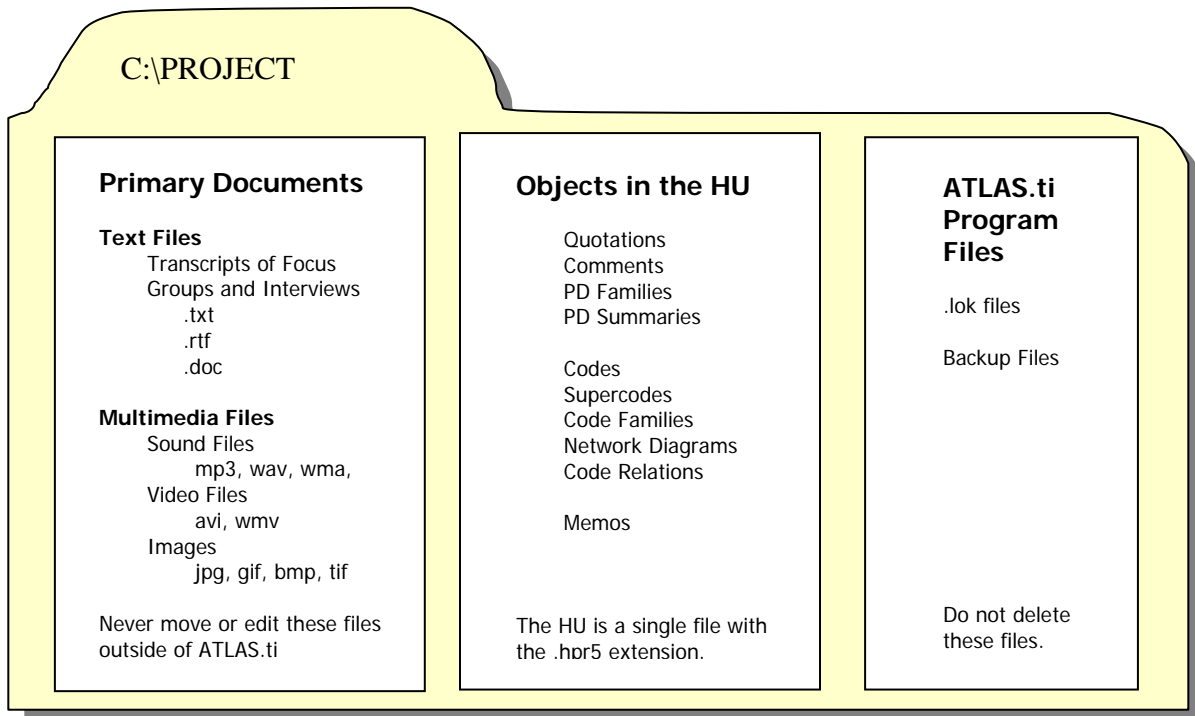
Rule 1. Keep the HU and the PDs in the same, easy to find directory, such as C:\Project.

This will make it much easier to use ATLAS.ti on multiple computers and with other researchers. Do not use one of the paths suggested by Windows such as:

C:\Documents and Settings\Nicolas Sheon\My Documents\Project

These paths will be different on each computer, potentially leading to broken links between the PDs and the HU when the project is migrated from one computer to another.

Within this project folder you will also find some effemeral files generated by ATLAS.ti. Ignore these .lok and backup files that ATLAS creates. Do not delete these files. Backup files are automatically created by ATLAS.ti as are automatic HU recovery files if your computer crashes. Preferences for these backup files can be changed under **Tools->general preferences->Storage Tab**.



Rule 2. Do NOT move your PDs from this folder once they are assigned to ATLAS.ti

Rule 3. Do NOT edit your PDs in WORD or any other software after you use them in ATLAS.ti. You can edit .txt and .rtf files in ATLAS.ti, however .doc files cannot be changed in ATLAS.ti.

Tips on Preparing Transcript Files to Assign them to the HU

ATLAS.ti is designed to work with already transcribed texts. While you can, in theory, edit text PDs in ATLAS.ti, in practice, heavy editing and changes to PDs within ATLAS.ti can lead to problems. Editing several lines of text in one part of transcript changes the line numbers of a PD, which in turn changes the boundaries of existing quotations which are based on line numbers. For this reason, transcribing in ATLAS.ti is not recommended. As much as possible, proofread, format and edit your transcribed PDs in Word or Transana prior to assigning them to ATLAS.ti.

Note: While you can code audio and video files in ATLAS.ti, there is no easy way transcribe these files or link the media PD to a text transcript. Because quotations are the main unit of analysis and coding, a transcript of an audio PD can be placed in the comment field for each audio quotation, but these comments cannot themselves be coded like text files. Moreover, if the comment field contains the transcript, then where do you put annotations or observations about the audio quotation? Transana (<http://www.transana.org>) is another qualitative software program that is designed to code audio and video files and provides a way to link this coding with text transcripts. Unlike, ATLAS.ti, these text transcripts can be updated and edited without risk of unlinking it from the HU. If you want to listen to your data while segmenting and coding it, consider using Transana instead of ATLAS.ti. For a description of team-based coding using Transana see, [Introduction to Transana 2.20 MU](#) by Nicolas Sheon.

PD Naming and File Formats

Be consistent when naming your PDs. The name can be a compound name that indicates what group the PD comes from, the participant ID number, the date, etc. Consistent naming will make it easier to assign your PDs and sort them within the PD manager in ATLAS.ti.

Text PDs come in three basic flavors denoted by their file extensions: .doc, .rtf, and .txt. Microsoft Word can be used to convert files from one of these formats to the others. ATLAS.ti cannot work natively with .doc files, but it will convert them to .rtf when you assign them. If you want to make it impossible to edit the PDs within ATLAS.ti, assign the PDs as .doc files. If you would like to be able to edit PDs in ATLAS.ti, save them as .rtf or .txt files. ATLAS.ti cannot open Adobe Acrobat (.pdf) files until they are converted to .rtf. This conversion may lead to a loss of formatting, so check to make sure the document looks okay before you begin coding it. Compared to .doc and .pdf files, .rtf PDs will retain basic formatting such a bold, italic, fonts, etc., however special formatting such as tables or columns will be lost when opened in ATLAS.ti. You can embed objects like Excel tables and images within an .rtf PD, but you cannot code parts of the embedded objects in ATLAS.ti because they will be converted to images that count as only one character. PDs assigned as .txt files have almost no formatting but are useful if you would like to use line numbering (see below).

Before assigning a PD to ATLAS, check the following formatting issues:

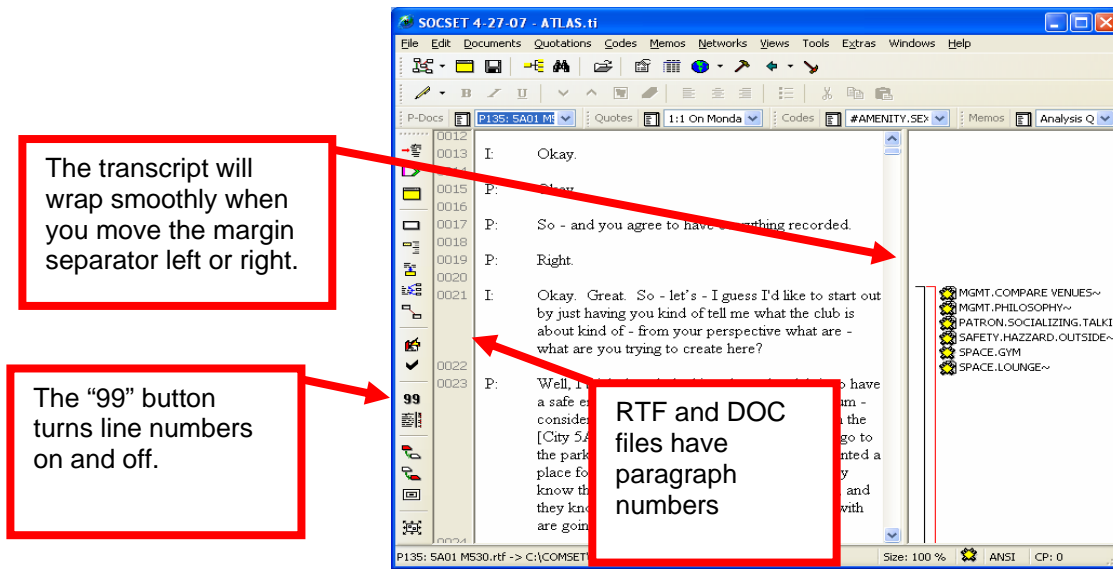
Always include double paragraph breaks between speaker turns like so:

Int: So tell me about your experiences with Tina? ¶
¶
Resp: Well, I first met Tina at Burning Man...

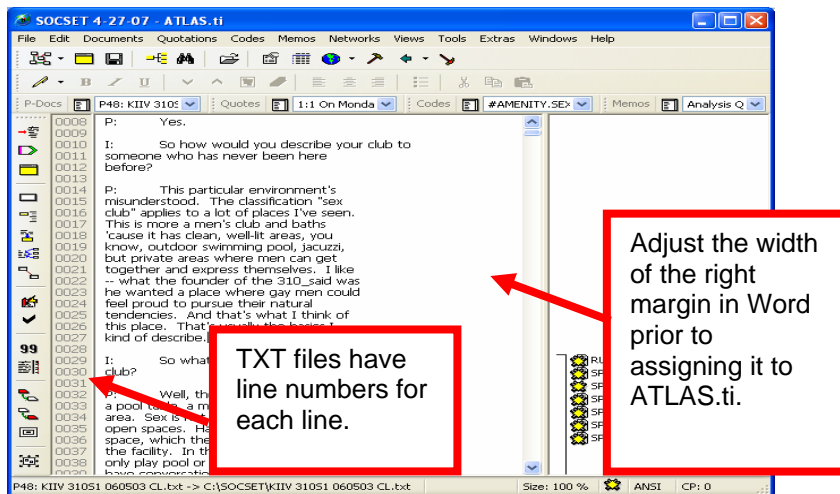
Be consistent with speaker id's, e.g. always use "Int:" not "Int." or "Inter." Being consistent will make it possible to use autocoding based on searching for a text string. Check transcript for omissions and mishearings by transcriptionist. Redact any personally identifying information from the transcript before assigning it to ATLAS.ti. Formatting issues and copyedits to transcripts can and actually must be made within ATLAS.ti, but making a lot of such changes increases the chances that the HU will no longer recognize your PD, leading to lost coding.

PD Formatting will Determine Line Numbering in ATLAS.ti

ATLAS.ti assigns line numbers at each paragraph break or manual line break. PDs in .rtf and .doc formats will be numbered at each double paragraph return, as in the example below:



If you would like line numbers for each line then you need to save the PD as a .txt file and choose "text with line breaks." You may need to adjust the right margin to get lines to wrap at a reasonable point. Because the text transcript has line breaks, it will not wrap smoothly when you move the margin separator.



To print out a transcript with line numbers from within ATLAS go to **Documents->Output->Print with margin**. This will include an offset margin area on the right with any coding you have done as well. These margins can be adjusted in **Extras->General Preferences->PD Printing**.

Turning Off Annoying Sounds

ATLAS.ti makes some annoying sounds that can thankfully be switched off. While the program uses sounds to alert you when errors occur, there are several other gratuitous sounds that are simply obnoxious. For example when launching the program it will play the opening chord of the Beatles' 'Hard Days Night'. When exiting the program, a loud voice exclaims "The Sketch is Ovah!" These can be very jarring, especially when your speakers are turned all the way up. To stop this from occurring, simply rename these files on your computer:

<C:\Program Files\Scientific Software\ATLAS.ti\Program\STARTUP.WAV>

<C:\Program Files\Scientific Software\ATLAS.ti\Program\sketchisover.wav>

Starting a Project: Creating the HU

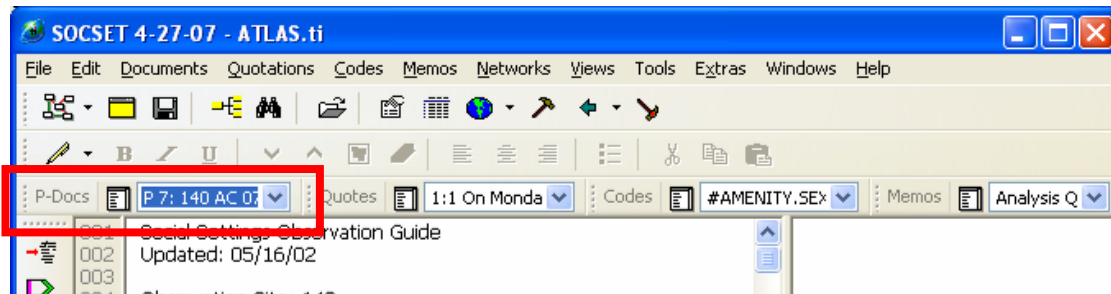
Assemble all your edited and properly formatted PDs and place them in the project folder named after your project: C:\My Project.

To creating an ATLAS.ti project, called a hermeneutic unit or "HU",

1. Launch ATLAS.ti 5.2
2. Close the 'what do you want to do today' window
3. Close the tip of the day, and/or uncheck the box to make it never appear again.
4. Choose 'File: Save As' if an empty HU is open (if not, first choose file: new hermeneutic unit)
5. Save the HU in the C:\My Project folder along with the PDs.

Each time you launch the program, it will open the last HU you were working on.

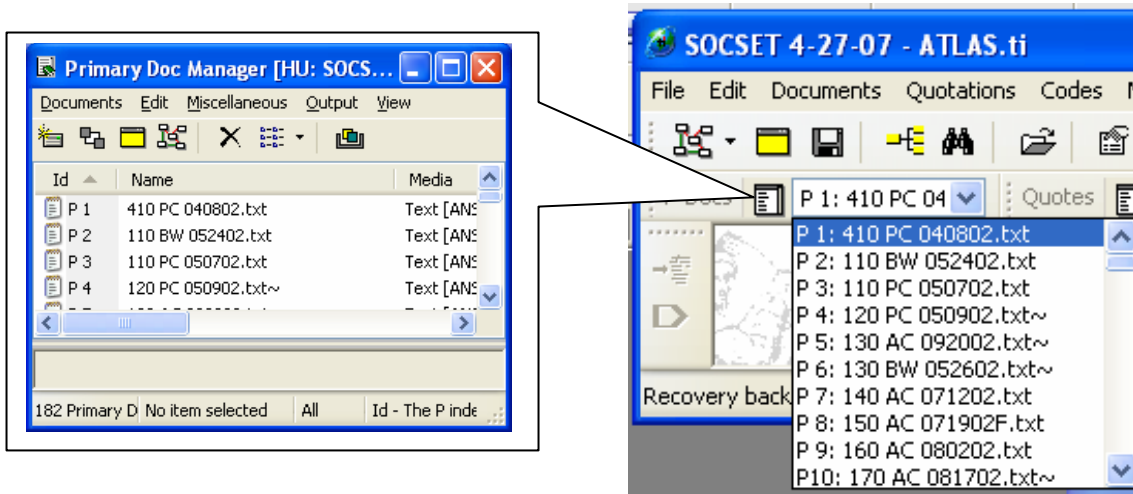
Once you have created the HU, you need to assign primary documents or "PD's" to the HU. The PD's are the text or multimedia documents you would like to analyze with ATLAS.ti. There are four pull down menus above the transcript window marked P-Docs, Quotes, Codes, and Memos. These are the "managers" for each of these objects. Right now, let's use the PD manager to assign PDs to the HU, indicated by the red box below



Assigning PDs in ATLAS.ti is very simple. From windows explorer, just drag the PD file onto the PD manager. You can assign several PDs at once by selecting them in an explorer window and dragging them onto the PD manager. Or use the menus by going to **Documents->Assign**. Browse to the project folder and highlight each PD to assign, and click 'open.'

Open a PD to begin the analysis

Open the PD Manager window by clicking on the white box  on the left of the PD manager.



This opens the PD manager as an explorer window where you can double click the PD you want to read. Another way to open a PD is to select it from the PD pull down menu. Click on the down arrowhead in the blue box on the PD manager and select the PD you want to read. Notes and summaries about the entire PD should be put in the PD comments field. Right-click on the PD in the PD manager and select "edit comment." This is a place to put process notes, field notes, summaries, and face-sheet information about that particular interview. Annotations of segments of the PD go in the quotation comments, described below.

Note: There are always at least two ways to do everything in ATLAS.ti. The design of the program has been cumulative since 1993. New features such as drag and drop were gradually added, but the old ways to doing things via the menus or buttons have been retained. As a general rule, right click on the object you want to modify. If you don't see what you want, try looking under Miscellaneous.

Quotations Are the Basic Unit of Analysis in ATLAS.ti

When reading your PD, the first analytic step is to select the interesting segments. This is analogous using a highlighter marker to mark certain passages in your textbook as significant for some reason. Eventually, you might want to classify these segments using different color markers and use a pencil to make marginal notes as well. But because these markings are physically located on a page, you cannot quickly and easily look them up without skimming through the entire chapter again. Moreover, marginal notes are limited by the size of the book's margin which can result in cryptic notes and tiny handwriting. With ATLAS.ti, you can retrieve, categorize and sort these highlighted passages in many, non-linear ways. Moreover, you can write lengthy marginal annotations in a text editor and these annotations can be used as the basis for writing up papers.

These highlighted segments of PDs are called "quotations" and serve as the basic unit of analysis in ATLAS.ti. The selection of segments can depend on your current research question, or you may just be browsing and allowing the research questions to emerge from the data as you immerse yourself in it. In either case, here are some important considerations when creating quotations.

There are two schools of thought on how to select the quotation boundaries resulting in different units of analysis. I call these schools the "lumpers" and the "splitters." Lumpers select large passages to include some of the surrounding context. Lumpers assign several codes to each of these large quotations. Splitters will create many short quotations and label each one with a different code. I believe it's better to be a lumper for the following reasons: When you retrieve a quotation from the database and read it outside of the context of the PD, you will not understand the significance of the

quotation without some of the surrounding context, such as the question that elicited it. If you want to do a Boolean search for instances where code A overlaps with code B, this is much easier to do with lumped quotations in which several codes are applied to the same quotation, than with split quotations each coded with a single code. Finally, lumped quotations are bigger, but there are fewer of them, making the database less complex to sift through. Finally, I am a lumper because I believe that meaning of an utterance resides in its use in a particular time and place, that is, what a speaker is doing at the time of uttering something. To interpret meaning, one must retain the context as much as possible. Splitters tend to see meaning as residing in the words of the quotation and such meanings are universal, no matter what the context.

To Code or Not To Code: Creating and Renaming Free Quotations

To create a quotation, simply highlight the text you want to include. At this point you can create a “free quotation”, that is a quotation that is not attached to a code, or you can link the new quotation to one or more codes. Most people start the analysis with a set of guiding concepts or research questions that help them know where and what to look for in the data. They develop an *a priori* coding scheme that helps them index the data and focus the analysis. The problem with *a priori* coding schemes is that you run the risk of blinding yourself to discovering new phenomena in the data. As you were collecting the data, you may have been surprised at something you did not expect to find, or that you did not find something you did expect. These surprises are often a good place to begin your analysis of the data.

Before discussing how to create and assign codes to quotations, I want to discuss the value of free, i.e. uncoded quotations. Free quotations are handy when you are just beginning your analysis and you are using an inductive approach to your data. At this point it's a good idea to rename your quotations in a way that helps you remember why you selected this bit of text in the first place. The default name for quotations is the first 30 characters of the text.

Hint: Before you start renaming quotes, go to **Extras->General Preferences**. In the lower right hand corner and change the quote size to 70. This will allow you to rename your quotations using up to 70 characters instead of the default 30.

For example, you select a piece of text in which the respondent provides a narrative in which he describes his mother as warm and nurturing and his father as distant and cold. You could rename this quote: “describes parents affect” or “mom warm, dad cold” or “resp. closer to mother than father.” These labels capture your analytic insight at that moment you encountered the data. These analytical glosses will be very useful when you want to find a particular quotation and when writing up an analysis based on these quotations. You can change these labels at any point, so don't get hung up on finding the right conceptual terminology. Try to include a memorable phrase or image used by the participant in the name of the quotation. While some people call this process of renaming free quotations “pre-coding,” there is no law that you have to use codes at all. If you do decide to develop codes, the renamed quotations will help you sort the quotations into piles and come up with conceptual code names to describe key attributes or resemblances within and between the piles of quotations. To sort the quotations into piles use the network view (See the section entitled “Sorting Codes and Quotations into Piles using Network Views” below). These piles can then be used to organize the presentation of the data in your paper, thereby avoiding the step of coding.

Coding is useful when the phenomenon is complex and spread out over a lot of PDs. Searching and retrieving examples of a particular code assumes that the data have been coded completely and consistently. Coding is also useful if you want to divide up the labor of analysis among several people, for example have someone index the data to identify broad topics, but then have someone else analyze each topic in greater depth. Codes provide a common conceptual language, but can also be a major source of disagreement and acrimony between colleagues. For this reason, it is essential for teams to

spend a good deal of time early in the coding process collectively defining and applying codes to the same document. This allows the team to identify the different tendencies of various members of the team (e.g. who are the “lumpers” and who are the “splitters” on your team), and to compare and resolve differences in applying codes and selecting quotation boundaries. The more these discrepancies are discussed and resolved early in the project, the more the coding will consistent and thereby useful for the write up. See “Using a Matrix to Improve Inter-Coder Agreement” <http://home.comcast.net/~nsheon/intercoderreliability.pdf>.

Tips on Naming Codes

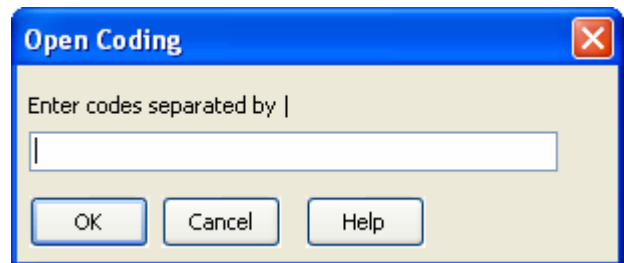
Try to keep code names concise but not too cryptic. Concise code names will make it easier for you to read and pick out codes from a long list. For example: HIV Counseling and Testing can be abbreviated as HIVCT. You may find that this term is too broad, so you may want to create subcodes that describe different types of HIV Testing such as HIVCT:RAPID, HIVCT:STANDARD, HIVCT:RNA, etc. These compound code names can get lengthy, so try to keep each part concise. By beginning each of these related subcodes with HIVCT, these related codes will sort together in the code manager. I always capitalize code names to distinguish the code from the surrounding text when writing memos.

Ways to Code Quotations in ATLAS.ti

The different methods depend on whether the code you want to apply to a quotation already exists in the code manager or you need to create the code.

If the code does not yet exist: If you would like to create a new code or codes based on the highlighted text segment, right click on the highlighted text in the transcript window and choose **Coding->Open Coding** and name the code in the dialogue box that appears.

You can create and assign multiple codes by typing the code names separated by |, the “pipe” symbol. On Dell keyboards, the pipe symbol looks like two vertical dashes and is typed using Shift+\.



As you create new codes, they will appear in the code manager where you can rename and define them in the comment field. Defining your codes is always a good idea, particularly if you will be asking other people to use your codes. Definitions can be elaborated as the analysis progresses and ambiguities arise over which code applies to a quotation. The boundaries between codes are often fuzzy. In your code definition, try to indicate how each code can be differentiated from similar codes.

If the code already exists: If you highlight some text in a PD and the code you want to assign is already in the code manager, you can drag a code (or codes) from the code manager onto the highlighted text and it will create a quotation coded with the selected codes. You can also right click on the highlighted text and choose **Coding->Bode by List**. A list of existing codes appears and you can use the ctrl and shift keys to select multiple codes to assign to the highlighted text.

As you create quotations, these will also appear in the quotation manager in the order they were created. To filter the quotation manager so that it displays only quotations from the currently opened PD, from the Quotation Manager menus, choose **Quotations->Filter->Selected PD**. Note how the background color in the Quotation Manager changes from white to yellowish – this indicates that a

filter is active and not all quotations in the HU are being displayed.

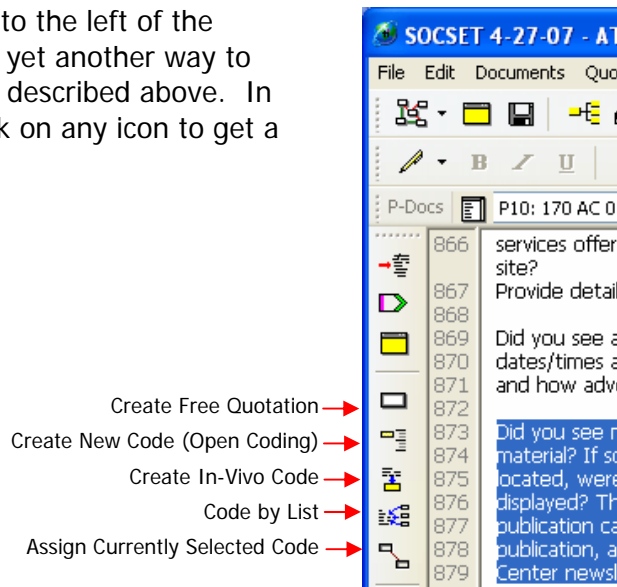
Codes and quotations can also be manipulated in the margin area to the right of the PD text, quotations appear as square brackets. Codes assigned to those quotations will appear next to the brackets. All the objects in the margin are interactive. If you want to remove a code from a quotation, right-click on the code name in the margin and choose "unlink." DO NOT CHOOSE "delete" or it will delete the code from the HU! Right-clicking on these brackets highlights the text of the quotation and provides a menu to add codes, rename, delete, or annotate the quotation.

There are two other coding choices when you right click on a quotation:

In Vivo coding will create a new code named after the first few words of the quotation. I'm not sure why you would want to use this.

Quick Coding assigns the currently highlighted code(s) in the code manager to the currently highlighted text in the PD. This is useful if you are repeatedly looking for and labeling one particular phenomenon in the data.

The second group of icons to the left of the transcript window provides yet another way to apply the coding strategies described above. In ATLAS.ti, you can right click on any icon to get a description of its function.



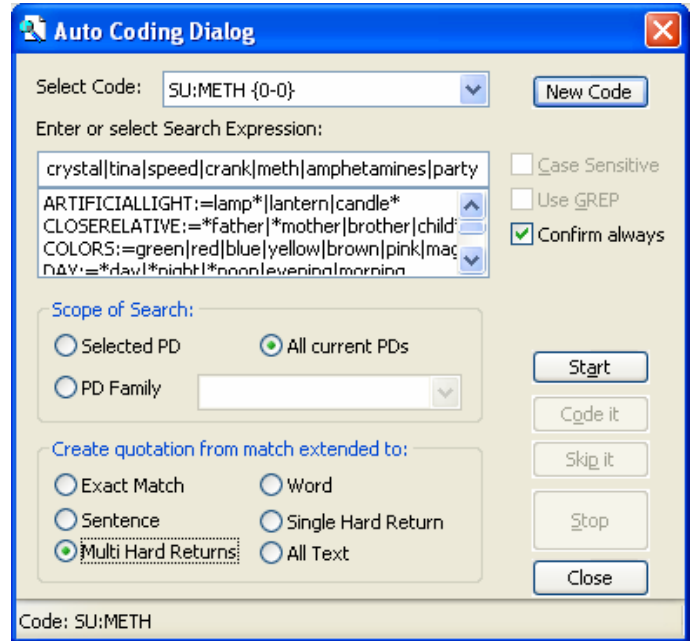
An intuitive way to code text is to open the code manager and resize it into a tall and narrow window so that you can see as many codes as possible. Move the tall code manager window to the right side of the screen beyond the margin so that the quotation brackets are visible. Highlight the text you want to code in the transcript window, select a code or codes in the code manager, and drag the codes into the transcript window. Dragging and dropping codes onto the transcript window will create the quotation and assign codes to the highlighted text in one step.

Auto-Coding

ATLAS.ti can find strings of text and automatically code them with a specified code. You can specify fuzzy search strings to include a related set of terms. For example, if you had a set of 30 interviews and you would like to code all references to methamphetamine use. Rather than read through each interview, you could use auto coding to search all PDs for every reference to common terms of meth such as crystal, tina, speed, crank, meth, amphetamines, party, bump.

Open the Auto Coding Dialog under **Codes->Coding->Auto Coding**.

Tell ATLAS.ti to assign the code SU:METH to each paragraph surrounding the meth term. To select the surrounding paragraph, we clicked the button next to Multi-Hard Returns. Confirm each hit by checking the box next to "Confirm always" so that you have the option to include or skip the quotation. While this is a quick way to gauge the frequency of a topic in your entire dataset, you will still need to manually check the results to confirm that the quotation boundaries make sense. For example, auto coding may break up one extended passage into several quotations each counting as a hit when on closer inspection it is clearly just one extended passage.



To resize quotation boundaries

Highlight the quote you want to resize by clicking on the bracket in the margin

Highlight the new amount of text while holding down the shift key

Click the check mark button to the left of the text window to resize quotation

To merge adjacent quotations into one

Select the first part of the quotation in the quotation manager

Choose **Miscellaneous->Merge Quotation**

Select the other quotation and it will merge them under the first quotation's name.

Where to Put Annotations: Comments vs. Memos

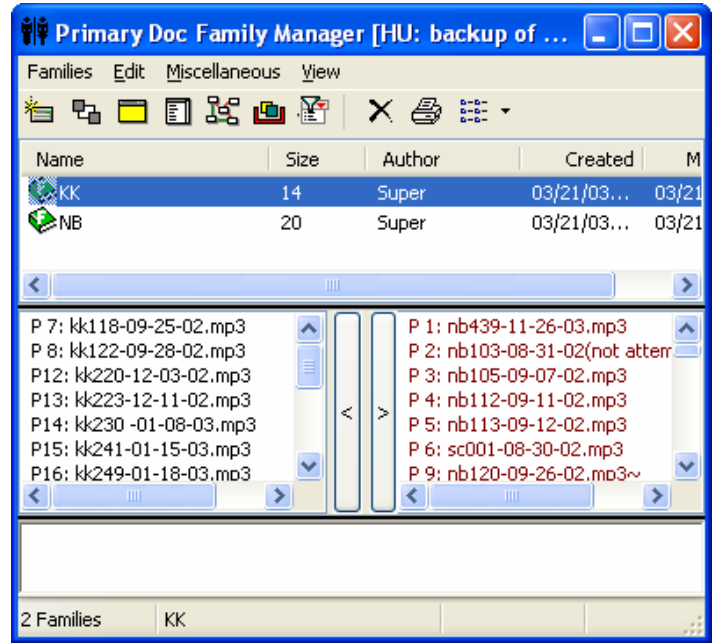
Because the quotation is your unit of analysis, the quotation **comments** are the main place to write your analytic brainstorms related to the data. To annotate the quotation, you right click on the quotation (either the bracket in the margin, or from the quotation manager) and select "edit comment." This opens a text editor where you can write notes of any length about that particular quotation. This comment can always be retrieved along with the text of the quotation itself. Comments can also be added to PDs and codes. **Memos** have their own manager and are more independent than comments. Memos can be linked to quotations or PDs or codes, but you have to make the link yourself. Comments, by contrast, are only attached to the quotation, PD, or code that they annotate. If you delete that object, the comment is deleted along with it. Annotations about the data should go in comments rather than memos. Memos should be reserved for meta-comments about methods, the entire project, articles from the literature, etc. Let's say you found an article in an online journal that you wanted to include in your HU. You can highlight text from a website or document and drag it onto the memo manager to create a memo out of that text. If you want to code that memo text, right click on it in the Memo Manager and choose **Miscellaneous->Use as Primary Doc**. The memo will be assigned as a PD and can be opened using the PD manager.

Hint: Before you use memos go to **Extras->General Preferences**. Select the memos tab. From within the 'memo titles' section in the upper left hand section of the window, choose the 'prompt for title' option. This will force you to title your memos which is very useful.

Family Life: PD Families


In many studies the sample is stratified by variables such as age, gender, race, recruitment site, date, etc. If you would like to group PDs according to these kinds of variables so that you can focus your inquiry, use the Family Manager under the **Documents->Edit Families ->Open Family Manager**. Click the new family button, the sparkly box in the upper left hand corner of the family manager. Use the following naming convention for families: Variable name::value (e.g. gender::female; gender::male; site::110)

To assign family membership: Highlight the family you want to add members to and highlight each PD you want to include in that family and click the left arrow button. Alternatively, you can double click each document that belongs to the selected family to assign it to the highlighted family. Note that families can also be annotated in the comment field.



Super Families allow you to combine family attributes to further focus your query. For example, in a study where you interviewed staff at all levels from clubs in various cities, if you wanted to look at just the manager interviews from New York, you would use the Super Family Tool to create the family that combines two existing PD families, "NY CLUBS" AND "Managers." These can be combined using boolean operators OR, AND, and NOT.

To create a Super Family:

1. **Documents->Edit Families ->Open Family Manager**
2. Go to **Families->Open Super Family Tool** or click on the  button
3. Double click on each family, then select the ^ symbol on the upper left hand side which stands for "AND". You can right click on these icons for a definition.
4. Click the **Create Super Family** button.
5. Enter a name for the super family.

Note that there are other ways of "combining" families, using, for example, the "or", the "exclusive or", "not." Brief glosses of these terms are provided next to their symbols in the picture below.

OR: at least one term matches →

EXCLUSIVE OR: Exactly one term matches →

AND: All terms match →

NOT: No terms match →

OR will return quotes coded with just A, just B, and both A and B

EXCLUSIVE OR will just return quotes coded with A or B, but not those coded with both A and B.

AND will return only quotes coded both A and B

NOT will return quotes not coded with A or B.

A Warning about the Process of Coding

As was briefly discussed in the section on coding highlighted text, coding is not always necessary. Renaming free quotations and pile sorting them in the network view may be more efficient than defining codes and attaching them to each quotation. Before there was qualitative software, researchers did fine working with key text segments, which were often cut up pieces of paper arranged into piles on the floor and annotated. Or researchers use copy and paste to write up analytical summaries that quote the interesting parts of the data.

Coding can become a private conceptual language unto itself, one that is abstruse to everyone except the analyst. This can be a dangerous distraction from real analysis, that is explaining your findings to others by writing them up in terms that they can understand.

Coding can be useful, but only in moderation. Coding can help you index the data, making it easy to retrieve certain passages or topics later in the analysis. Be very selective of what you index and describe to yourself exactly how you will be using the collection of quotations on that topic for your write up. Beware of the temptation to create a new code every time you notice something interesting in the data. Every code you create will imply its opposite and an host of subcodes as well. It is tempting to generate a hierarchical taxonomy of detailed codes to account for everything in your data. Such cataloging is fun and it passes the time, but it is an *analytical dead end*. Coding requires great discipline to keep codes as few, broad and inclusive as possible. Whenever you feel the urge to create a new code try to find an existing one you can expand to incorporate the new phenomenon you want to code.


Consider using pile sorts of your quotations instead of coding. Even if that does not work out, sorting quotations into piles will ultimately help you develop better, i.e. more grounded, codes. This is the goal of inductive analysis, to discover new connections and to let the data speak, rather than try to shoehorn the data into a pre-existing set of concepts borrowed from the literature. Coding is a positivistic approach to social science. The act of coding assumes that there exists some context-free essence or causality linking phenomena together. Getting people to agree on how to apply codes can be a challenge because the relationship between a code and the quotation it signifies can be interpreted in an

infinite variety of ways.

Coding can often get in the way of reading the data in depth. When coding, you tend to read the data through the lens of the code concepts, rather than analyze the text on its own terms in the context in which it was elicited. There is often a tendency to forestall the analysis until the coding is “completed.” This is an illusion. Coding is an unending process because you are constantly changing your ideas in response to immersion in the data. Codes that made sense at the start of the coding process will take on different meanings or no longer seem valid at later stages of the project. Rather than fighting this conceptual drift by rigidly adhering to a code book you no longer believe in, you should accept this change as growth and insight and document this change as part of your analysis. Your ideas *should* change as your understandings of the data evolve. Keep track of this evolution in your analytic comments and memos.

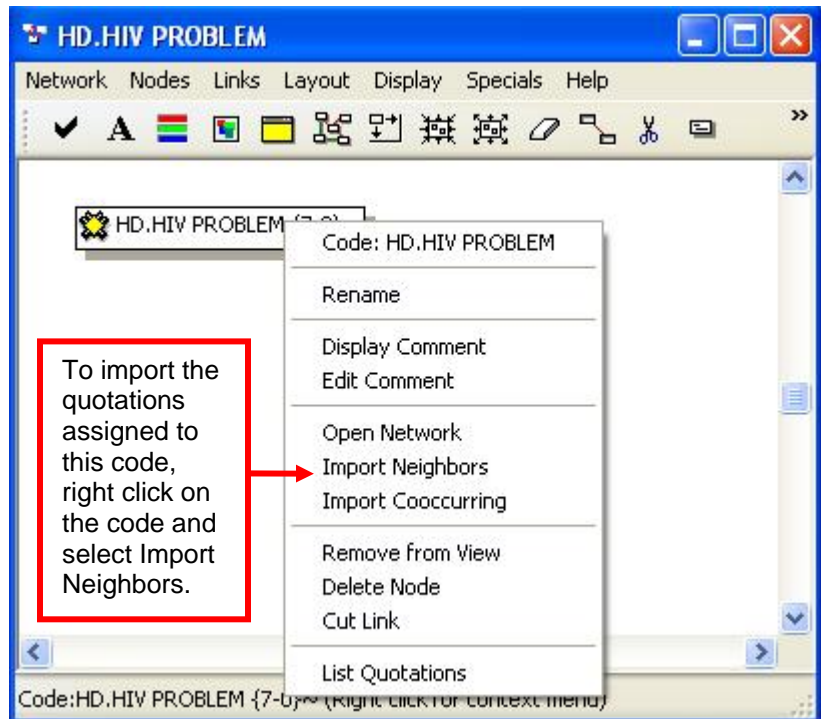
The code manager works just like the PD manager. Within the manager, you can create, sort, filter, annotate, merge and rename codes. If you have organized your codes into a hierarchical relationships by specifying that a set of subcodes are part of a parent code, you can view these relationships using the Code Forest under the **Codes->Miscellaneous** menu or the Object Explorer under the Tools menu.

Sorting Codes and Quotations into Piles using Network Views

Network views are a useful feature that is unique to ATLAS.ti. Network views are simply another way to view and change the relations between codes with quotations or between codes and other codes. To view an object in a network view simply highlight it in the manager and click the network button . To see all the objects associated with a particular object, right click on it in the network view and select Import Neighbors.

For example, when a code has a lot of quotations associated with it, you may want to review each quotation to assess whether it fits the code, or whether the code needs to be expanded or divided to fit the quotations. Network views provide a helpful interface to do pile sorts of quotations and to view and change the relations between codes and quotations. ATLAS.ti does not force you to create a hierarchical tree of codes. The network view is flat, allowing you to arrange families of codes that are related in whatever way you define, including hierarchically.

For example, let's say you have 7 quotations under a code called HD.HIV PROBLEM (i.e. HIV priorities identified by the Health Dept.) Another way to open a network view on a code is to right-click on the code in the code manager and choose Open Network View. The network view on the right appears.

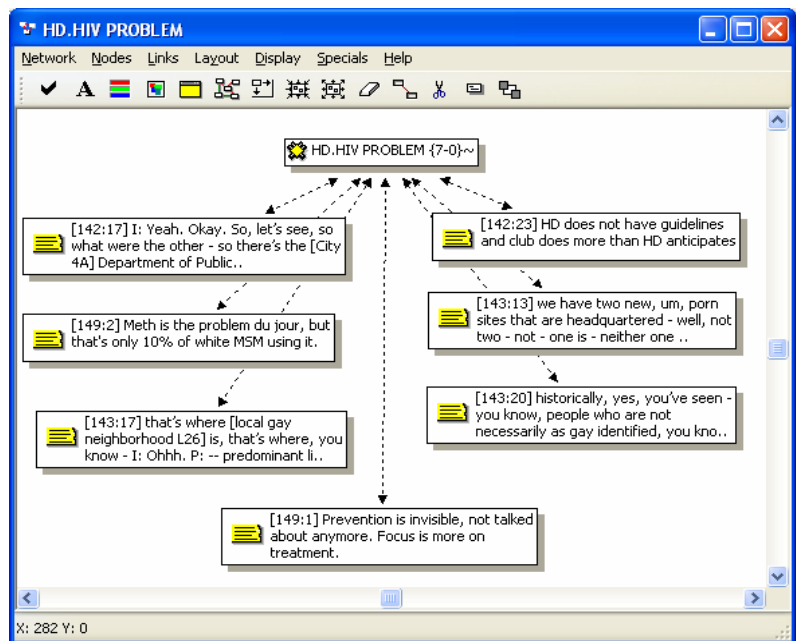


The number in the curly brackets next to the name of the code, {7-0}, tells you that this code is linked to 7 quotations and 0 codes. Then if you right click on the code in the middle and select Import Neighbors, a stack of quotations will also appear in the network view. To make the quotations look more like index cards, select **Display->Boxed Quotations** from the menu at the top of the Network View window. You will see other settings that change the appearance of the objects in the Network View. For example, "quotation verbosity" determines how much text from the quotation is displayed including the comment and even the full text. Expand the Network View window to give yourself more space to sort through the quotations and place them into piles based on similarities and differences. One trick for distributing your quotations so that you can sort through them is to click Ctrl-L. Also to spread out the quotations use Ctrl + or Ctrl - to group them closer together.

To move or draw links between nodes, first select the nodes you want to link using the Ctrl key then use the Link menu. A set of link relations will appear. These relations can be modified and new ones added.

Note how the first 80 characters of the quotation name appear in the boxed quotations. If you renamed your quotations with a succinct analytical gloss, this will make it a lot easier to sort them in analytically interesting ways within the Network Views.

If you double click on a quotation you can read the first hundred words of the quotation. Right click on the quotation and choose Display in Context and that quotation will appear, highlighted in the transcript window. Notice that each of the quotations is numbered according to the PD and the quotation number. This shows that these seven quotations are from three different PDs. Now you can use the mouse to drag and drop the quotations into different piles in whatever way makes sense to you. For example, you may subdivide the quotations into subcodes still linked to their parent code or split the code into two new codes that replace the original code, you may arrange them in terms of their order within a sequential or causal process, you may arrange them in terms of how compelling the quotes are for use in a particular paper. Think of the network view as an analytic sandbox and theory building tool. For example, use the network to draw a flow chart of a process, an organizational chart, or a formal causal model represented by your codes.




Note that any changes made in the Network View are applied to the entire HU. If one or more of the quotations do not seem to fit with the others, perhaps because they were miscoded, you can go the menu item Links and select "Cut Link" to sever the link between the selected quotations and a code in the diagram. You can import existing codes or create a new code in the Network View and link them to quotations. These functions are under the Nodes Menu. A "node" is simply any object (code, quotation, etc.) in the Network View. To remove a node from the network view, right click on it and select "Remove from View" but don't choose "Delete" unless you never want to see that node again. You do not need to save the Network View once it has served its purpose of giving you an overview of a part of your project so that you can tweak it. If you do save the Network View, it will be stored in the Network View Manager under the Networks menu on the main ATLAS.ti window. The network view can be saved in various graphical formats and inserted into a power point slide or report.

Retrieving Coded Quotations

To retrieve all the quotations for a single code, open the code manager. When you double click on a code in the code manager, a list of associated quotations appears. Apply filters to the quotations to limit the number of hits to a single PD or a family of PDs. If you want to generate a report consisting of all the quotations for a particular set of codes or code family simply select the codes in the code manager and in the menu go to **Output->Quotations for Selected Code(s)**.

The Query Tool

One of the most useful functions of qualitative software programs is the ability to search and retrieve coded text. To retrieve quotations using a Boolean query in which you combine codes with operators like "OR" or "AND", use the Query Tool (the binoculars button ). This dialogue is similar to the superfamily tool in that you choose a combination of codes first, and then add operators or combinations of operators. This dialogue is riddled with cryptic icons. The figure below explains what they mean. Right clicking on any icon in the program will display help information. The printer icon on the right of result pane generates a report including all the hits from the query, minus those removed from the results using the X button above it.

OR: at least one term matches

EXCLUSIVE OR: one term matches

AND: All terms match

NOT: No terms match

Include all CHILD codes

Include all PARENT codes

Include SIBLINGS of PARENT codes

WITHIN: find all A within B

ENCLOSES: find all A encloses B

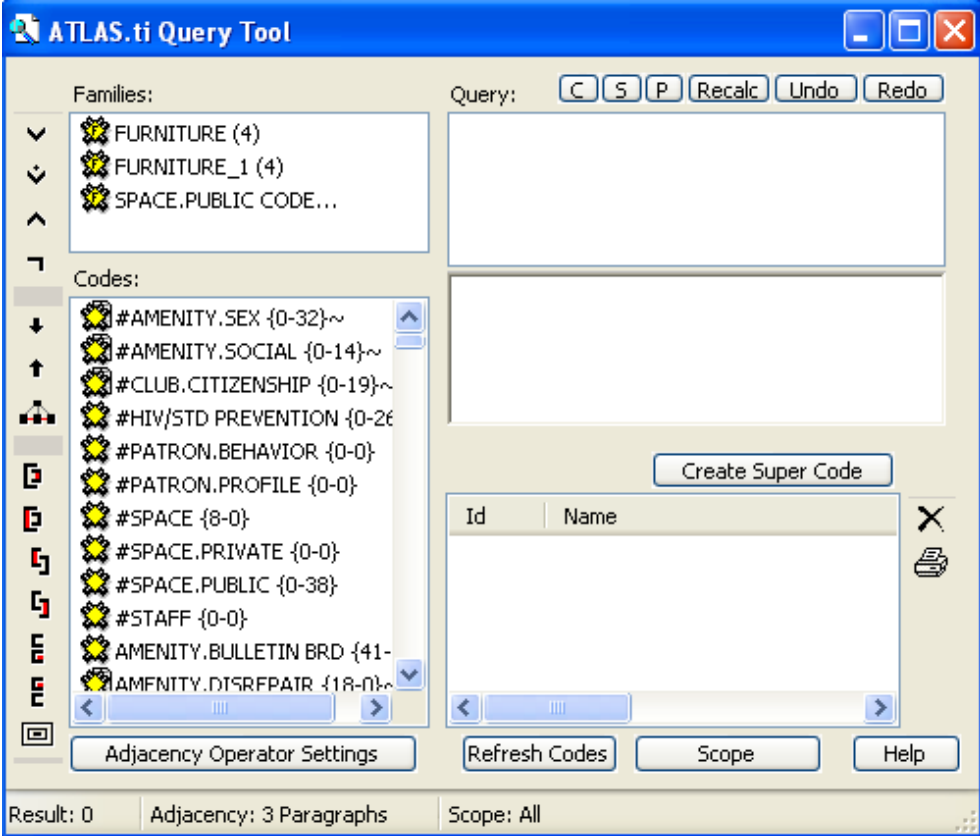
OVERLAPPED BY : A overlapped by B

OVERLAPS: A overlaps B

FOLLOWS: A follows B

PRECEDES: A precedes B

COOCCUR: A cooccurs with B




The Scope button allows you to limit the query to a particular PD or PD family.

Supercodes

A Supercode is a simply a way to save a Boolean query string for future use. A query string consists of several codes and an operator. For example, the query to find all the quotations coded with A OR B can be saved as a supercode. This means you don't have to open the query tool and select A, B and OR. The supercode for this query can be clicked from the code manager. The results of a supercode are

dynamic, which means that the results will update as you code more documents or remove quotations from your project.

Supercodes can be created using the Query Tool or the Cooccurrence Explorer (described in the next section). While the Cooccurrence Explorer allows you to make cooccurrence supercodes using the  button, the Query Tool allows you to create the following four types of supercodes:

1. for codes that code the same quotations (cooccurrence)
2. for codes that code overlapping quotations (nested and overlapping)
3. for quotations that are coded within a specified number of lines from each other (proximity)
4. to group codes together into a query (Boolean operators)

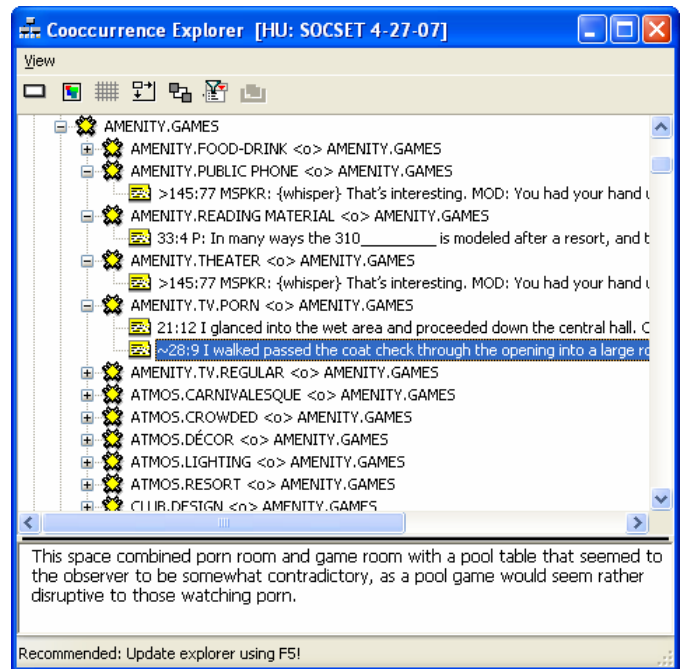
To use the Query Tool to create a supercode:

1. Click on the Binocular symbol on main tool bar at the top of the ATLAS.ti screen or go to **Tools->Query Tool**.
2. Double click the first code for your query
3. Double click the second code for your query
4. Click a Boolean, hierarchical, proximity, or cooccurrence operator
5. Click the Create Super Code button to save the result and type the name of the supercode.
6. Review codes from the results pane of the Query Tool or go to the Code manager and review the supercode in the same way you review codes.

The Cooccurrence Explorer

The Cooccurrence Explorer displays a list of quotations that have been coded by a particular combination of two codes. Not every possible combination of two codes is included, just those that were actually combined in the HU.

1. Go to **Tools->Cooccurrence Explorer**
2. Click on the + next to "codes" to view all the codes used in the HU.
3. Click on the + next to a particular code to view all the combinations of that code with other codes. These are not all the possible combinations, just those that currently exist in the HU.
4. Click on the + next to each cooccurring code pair to view all the quotations that were coded with both codes selected.
5. Click on the quotations to see them in context.



Backing Up, Restoring and Migrating your Project using Copy Bundle

The copy bundle function can be used to create a backup file of your project, or to transfer your project HU via email or disc. The file resulting from a copy bundle has a file extension of .acb, and can only be created (exported) and opened (imported) from within ATLAS.ti 5.2. It's important to backup your project regularly. The best way to do this is to use Copy Bundle. Copy Bundle combines the HU and the PDs and all extraneous files created by ATLAS.ti to log changes you've made into a single file. If your HU or one of your PDs should get corrupted, having a recent copy bundle will help you restore your

project to a prior, functional state. The copy bundle is also the only way to migrate the project from one computer to another or to save your project onto a thumb drive. Never move the HU and PDs without first creating a copy bundle.

Creating a Bundle

Open the HU you would like to bundle in ATLAS.ti. Go to **Tools->Copy Bundle->Create Bundle**. A new screen will open showing what will be included in your copy bundle. PDs that cannot be opened by the HU will be excluded. You can also select which PDs you would like to include or exclude from the bundle. This is helpful if you want to send someone just a subset of your PDs. Next, click the 'Create Bundle' button. You will then be asked where you want to save the copy bundle file (with a file extension of .acb). The .acb file can be saved anywhere on your computer, but it is vital that you remember where it is saved. Once the .acb is saved, you can email it as an attachment or save it to a CD or thumb drive - just as you would do with any other file. The .acb will tend to be a rather large file that contains your entire project including all your PDs and HU work you've done.

Installing a Bundle

Note that if you have a bundle (.acb file) as an email attachment, you must first save the file somewhere on your hard drive. Again, it doesn't matter where the .acb is saved – just remember where it is on your machine. The .acb cannot be opened by clicking on it. To open the bundle, open ATLAS.ti and select **Tools ->Copy Bundle->Install Bundle**. Browse to your .acb file and double click it or highlight and click 'open'. This next screen describes everything contained in the bundle. This screen also warns you when certain files already on your computer, such as PDs will be overwritten or replaced by the versions contained in the copy bundle. If all if well, the 'status report' window at the bottom right of the screen should say 'HU will be unbundled all documents will be unbundled'. If so, click the 'Unbundle' button on the bottom right. The HU will then open and you're all set!

Migrate vs. Restore

When you install a bundle, you will have the option to 'Migrate' or 'Restore'. Here are descriptions of each feature:

Migrate: This function is designed for moving HUs and data documents from one computer to another. Migrate prioritizes the newest versions of files. If the HU contains the newest version of all files, these will take priority. But if any of the existing files on the computer are newer versions, these will take priority over the files in the bundle.

Restore: This function prioritizes everything that is in the copy bundle. Restore will write over any project files that are already on the computer. Restore is generally used for recovery from a problem.

Merging HUs

Merging two or more HUs is necessary when the work of coding and analyzing PDs is divided among multiple people working on different computers. Merging is complex and daunting, even for experienced ATLAS.ti users. Therefore, in projects where there are multiple coders, it is crucial that one person play the administrative role and be responsible for merging the HUs sent in by other coders. This admin person should be the most experienced ATLAS.ti user on the team, someone willing and able to troubleshoot merge problems. This admin person also checks the consistency of coding, making sure that codes are being used correctly, that new codes suggested by team members are justified and correctly named. The admin is also responsible for creating Families based on discussions with the team.

Without an administrator, a team-based coding project will quickly run into major problems of lost or redundant coding and lack of consistency in coding.

Once the HU admin is anointed, the following team workflow is recommended. The HU admin prepares the master HU, updates the codes and their definitions, assigns PD families and checks to make sure all the PDs are accessible to the HU. The admin then creates a copy bundle of the master HU and distributes it to the project members and assigns each coder a set of PDs to code. The coders do some coding and then save a copy of the HU and include the date and their initials in the HU file name. New codes added by coders are distinguished using a preface "NEW.CODENAME." This allows the admin to review the new suggested codes to determine whether such a new code is needed or whether an existing code can be expanded to accommodate the new code. The new codes should be discussed at meetings. They then email their version of the HU to the admin. The admin checks the HUs for consistency and merges the the work of each of the coders into the master HU. Once all the HUs have been merged, a new master HU is prepared. During the meeting, the Admin will make changes to the code book so that an updated HU can be sent out to the team members. Any new PDs that became available are assigned to the new master HU and copy bundled with the new master HU and sent out to the coders for further coding.

Caution: Merging cannot be undone. Save a copy of your Target HU under a different name in case the merge does not produce the desired results. Merging is done to the target HU and does not change the source HU.

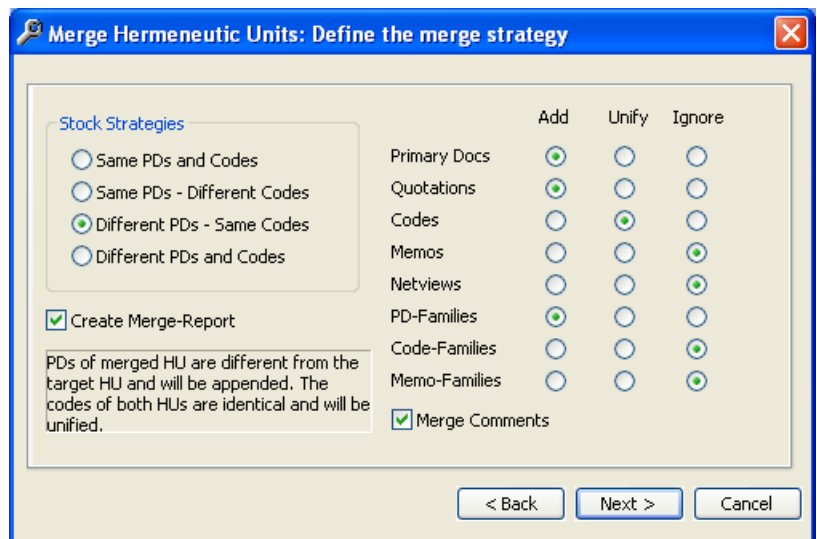
Hint: To get a feel for merging, it is recommended that the admin practice merging simple practice HUs with a couple PDs and a few codes and quotations and observe what happens when different merge settings are used.

Target HU – the HU open while you merge. Information from the the source HU will be brought into the target HU.

Source HU – the HU that contains information that will be brought into the target HU.

There are 3 choices to make about each object (documents, quotations, codes, memos, networks, and families). Rather than rely on the stock strategies suggested by the merge dialog, it is important to understand what are meant by "Add", "Unify" and "Ignore" for each object to be merged.

1. **ADD** simply combines everything from the source project whether or not duplicates exist. Use add in situations where you have DIFFERENT PDs and Codes in your source HU from and target HU.



2. **UNIFY** adds information about each individual object (each document, each code, each memo, etc.) to the target project from the source project. Use unify in situations where you have the SAME PDs and Codes in each HU. Before using UNIFY, make sure that the PDs in each HU are in the same order with the correct PD numbers. To unify PDs correctly, the PD numbers must match.

As discussed in the section about lumping vs. splitting quotations, a unify merge works more cleanly when your quotation boundaries match. Therefore, before having multiple coders work on different HUs that you plan to merge, it is important for everyone to agree on how much text to include in each quotation. If you are working on someone else's coding, add codes to existing quotations, rather than creating an overlapping quotation and coding that. You may need to extend the boundaries of existing quotations to accommodate the new codes.

3. **IGNORE** simply excludes any objects from the source HU for which you select 'ignore.' Items marked IGNORE will simply not be merged to the target HU.

Memos can be safely ignored if you do not want to take in memos from the source project. If you want to build a memo on a topic have it in both projects and be SURE that you have the same Exact name (character by character) and then use UNIFY for this merge. Note that repeated merges will be problematic with memos because ATLAS.ti cannot distinguish unique text in each memo. The program simply adds the text from the memo in the source project to the memo in the target project. The result can be a huge rambling memo with a lot of text repeated several times. We find that it is best to ignore memos and use cut and paste to build memos.

Network views can be safely ignored unless you want to import the network diagrams from the source project. Remember that you can save network diagrams as graphic files and attach them to emails.

PD and Code Families – Families can be created all at once in a master project if that project contains all families AND all members of each family. For example, you have one document family for gender::female and another for state::New York. You also have all of the New York and Female documents in the master HU. If the families exist in the target and the composition of each is correct, you can ignore the families in the source. Use add if the source project has families that do not exist in the target. Use unify if you have the same families in each and a unique set of documents exist in those families in the source project.

A common unintended consequence of merging is duplicate quotations. There are two tools to resolve this problem:

1. **Tools->Merge Identical Quotations** is pretty self-explanatory.
2. **Tools->Codings Analyzer** displays all redundant coding and allows you to unlink codes from the quotation, delete the duplicate quotation (and get rid of the redundant codes in the process), or merge the redundant quotations and their codings.

Author Contact, Other Links and Acknowledgements

Nicolas Sheon, PhD, is an Assistant Professor at the Center for AIDS Prevention Studies, School of Medicine, University of California, San Francisco. Email: nicolas.sheon@ucsf.edu

Updated versions of this and other guides are available at <http://home.comcast.net/~nsheon>

Other useful online resources:

- CAQDAS Networking Project: <http://caqdas.soc.surrey.ac.uk>
- Online QDA: <http://onlineqda.hud.ac.uk>

This overview updates ATLAS.ti training materials prepared by Ray Maietta, Nick Woolf, Susanne Friese, Silvana di Gregorio, and Thomas Muhr. Upcoming trainings provided by these and other ATLAS.ti experts are listed at <http://forum.atlasti.com/calendar.php>. For support see <http://www.atlasti.com>.