Short Guide to the CBGM - Mark (Phase 3.5)

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This short guide contains only a technical explanation of the functionalities of the present interface. For a more extensive explanation considering the underlying methodology of the Coherence-Based Genealogical Method (CBGM) see the Guide to Acts phase 3 <http://intf.uni-muenster.de/cbgm/actsPh3/GenQ.html>.

The links on the start page take the user to contents related to:
1. Coherence and Textual Flow
2. Comparison of Witnesses
3. Find Relatives
4. Docker Container

1. Coherence and Textual Flow

Navigation Bar
Enter the numerical address of a variation unit, e.g. 1:9/14-16, to populate the sections below. Click the appropriate arrow to go to the previous or next variation unit.

Apparatus
The apparatus shows the Greek manuscript witnesses for each of the variants of the selected passage. Deficiencies are listed under "zz".
"Splits" will split the display of witnesses if their genealogy points to diverse ancestry within the range of **Connectivity** 5.

> Example: At 1:9/14-16 "Splits" will distinguish *a1* from *a2*. The two witnesses displayed under *a2*, 837 and 1675, have no potential ancestors in the *a* attestation within a connectivity range of 5.

Click on the variant text to see the respective Textual Flow Diagram under "Coherence in Attestations" below.

Click on the number of a witness to see a list of its relatives, e.g. 01. (This feature is also available for witness numbers in the sections below.)

Relatives
The witnesses displayed in the apparatus or one of the textual flow diagrams are each linked to a list of their closest relatives. For example, click on 05, a witness of variant *b*, at 1:9/14-16.

The user may choose between several display options from the bar above the list.
Rel (default) – Show all relatives
Anc – Show potential ancestors only
Des – Show potential descendants only

10/20/All (default) – Show up to 10/20/All witnesses of the selected category

Variant: All+Lac (default) – Show all witnesses of the selected category regardless of whether they support a variant or are deficient at the given passage
Variant: All – Output restricted to witnesses extant at the given passage
Variant: a ... – Output restricted to witnesses supporting the selected variant

Chapter: All (default) – Show relatives on the basis of evidence from all chapters of Acts or select a specific chapter from the bar menu

A/MT – Click to exclude (default) or include the reconstructed initial text *A* and/or the majority text *MT*. Note that *MT* is cited as deficient (i.e. labeled *zz*, as in 1:9/14-16) if *Byz* is not defined in the ECM Acts apparatus.

Frag – Click to exclude (default) or include minor fragments. A minor fragment is defined by the number of passages where it shares text with the witness in question. If the number is lower than a half of the passages where the witness in question is extant, then the compared witness is considered a minor fragment. Minor fragments can be displayed and get the mark ">", but they are not included in the ranking of potential ancestors.

Rec/Sim – Recursive/Simple (default) relationships between variants in the local stemmata. If "Sim" is selected, then indirect relationships between variants (e.g. between a and c in a chain *a*<*b*<*c*) are counted as "no relation". If "Rec" is selected, then such a relation is included like a direct one.

MT • MT/P • AA • MA
The header below the bar of options displays four percentages, referring to the witness in question, which help to put the agreement values in the table below into perspective: the share of variants pertaining to the majority text (**MT** and **MT/P**),[1] the percentage of the average agreement (**AA**) and the median agreement (**MA**) with all witnesses included.
MT indicates the percentage of majority readings at passages where the respective manuscript is extant *and* **MT** is defined. **MT/P** indicates the percentage of majority readings on the basis of all variant passages where the respective manuscript is extant.[2]

The list produced with default parameters will show 03 (**W2**) as the closest relative of 01. The ranking number in the second column (**NR**), together with ">" in the third (**D**), marks 03 as the first potential ancestor.
The column headings are explained on mouse-over. The categories and figures are the same as in "Comparison of Witnesses".

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[1] The variants of the majority text were determined by a selection of nearly pure representatives of the Byzantine text (cf. ECM I.1, part 2 Supplementary Material, §2.2 Codices Byzantini). Where these representatives point to a split Byzantine attestation, it is not possible to determine the majority reading with certainty. Such passages were not included for determining the MT value in the "Potential Ancestors and Descendants" module.

[2] If x is the number of passages where the manuscript is extant, y the number of passages where the majority text is defined, z the number of passages where the manuscript agrees with the majority text, then **MT** = *z*/*y* and **MT/P** = *z*/*x*.

Local Stemma

A local stemma display provides a graph of the relationship between the variants of a passage. If the source of a variant is unclear this is expressed by a question mark. Note that this can also refer to a variant in specific witnesses, as indicated by the split *a1*/*a2* at 1:9/14-16. In the local stemma of 1:9/14-16, *a2* designates variant *a* in two witnesses, 837 and 1675, because their genealogy does not agree with the rest of the *a* attestation.

Coherence at Variant Passages (GraphViz)

This module shows relationships between pairs of witnesses at a given passage, if one of them is a potential ancestor that, within a set range of connectivity, supports another variant. "GraphViz" is the software used for the graph.

At 1:9/14-16, for example, there are eight witnesses supporting *b* whose first or second potential ancestor have variant *a*. This is expressed by the direction of the arrows to which the appropriate number is attached, if the arrow does not come from the first potential ancestor. In two cases the relationship is converse: 1675 and 837 are witnesses of *a*, but their third or first potential ancestor (349 for 1675 and 543 for 837) support *b*.

Options

Splits, default if applicable, shows to which split of an attestation the displayed witnesses belong.

Conn – Connectivity is the estimated capacity of a variant to connect ancestors and descendants genealogically. It is set to five by default, which is a relatively low value. Move the slider in either direction and observe the effect on the display of relationships. The higher the connectivity, the fewer interrelations are shown. The reason is that the application retrieves potential ancestors within the same attestation as long as the respective ranking number does not exceed the set connectivity value. If connectivity is set to ten, Coherence at Variant Passages will only show pairs, if no potential ancestor with a ranking number up to 10 is found within the same attestation.

Chapter: All – see above

A/MT – see above

Rec/Sim – see above

A=a – If the initial text A has been included by clicking on A in the fourth unit of the options bar, this drop-down menu allows to assign each of the readings of a passage to the initial text.

Coherence at Variant Passages (Chord)

The "Chord" software produces a different view of the same relationships.

Coherence in Attestations

Variant – Select a variant from this menu or click on it in the apparatus module to see the respective textual flow diagram.

The other options have been explained above. The user can explore how they affect the graph.

The graph shows the genealogical relationships within the same attestation according to a set connectivity. If no potential ancestor is found within the same attestation for this connectivity, potential ancestors supporting other variants are taken into account. For 1:9/14-16a, we see such relationships for 837 and 1675 again. The displayed relationship is a "first order relationship" unless a number is attached to the connecting line.

General Textual Flow
This module maps the attestations at a given passage onto a graph in which each witness is connected to its first potential ancestor. The attestations are color-coded. In addition, the witnesses at the top of a genealogical cluster are assigned the variant label. Lacunose witnesses (assigned to *zz*) are included by default if they establish a relationship to a descendant. If lacunose witnesses constitute terminal nodes, they are included only if the *Z* option is selected from the second unit in the options bar. Again, the user may include or exclude the reconstructed entities *A* and/or *MT*.

Chapter: All – see above.
Rec/Sim – see above.

2. Comparison of Witnesses

Enter two witness numbers, e.g. 01 and 02. The resulting list shows a summarization of results in the first line and the results for each individual chapter in the subsequent lines. The figures in the first line are in accordance with those in the lists of relatives of the compared witnesses.
The column headings are explained on mouse-over. The categories and figures are the same as in lists of relatives.
Click "+" in the first column of the list to see a list of passages with differences between the compared witnesses for the respective chapter.

3. Find Relatives

Enter book (e.g. Mark), chapter, version, and word address, then select which variant to see. The resulting data gives a total count of witnesses for the variant and opens a Relatives table for each witness. Clicking on a witness will scroll the page down to its Relatives table.

4. Docker Container

This brings you to a downloadable package that enables you to run the CBGM for Mark on your own computer. Video instructions for the CBGM Acts Docker, which are similar to Mark, are here, with a short introduction to the CBGM:
https://www.youtube.com/watch?v=k0_tlbz_YVQ