The Graph Tutorial

You can toggle between the component and graph views at the top of the workbench. The graph is a visualisation of all the information that has been captured in PRISMS on the texts on the workbench. For example that the digital manifestation is part of Taylor Editions. It allows you to easily see connections, eg. between people, printers and places. It is a small snapshot of the enormous graph that underpins PRISMS – all the annotations, components, notebooks and other content are recorded in the graph.

This graph view shows only the top-level relationships of the texts that are present on the workbench. The display settings allow you to toggle between only seeing the relationships relevant to the original print copy, or only the digitised copy, or both.

As a type of formal knowledge representation, the relationships in the graph have to be both explicit and encoded in a structured way. PRISMS uses the CIDOC-CRM family of ontologies for this purpose. These set out how the graph is to be arranged, and the terms to use for the different types of relationships within it. Clicking on any of the nodes (that is the points in the network) or edges (the relationships between the points) in the graph will display a text-based description of its properties and relationships.

To read the graph, you should start with the work. The work will have an expression. Both work and expression are abstract entities. Each expression is a new version of the work, for example a new edition, or a translation, would be another expression. The expression is embodied (and here we transition from the abstract to the concrete) in a material manifestation and a digital manifestation.

Lets just consider the material manifestation for now. I'll use the display settings to hide the digital manifestation.

The material manifestation is materialised in the particular copy in PRISMS. We can find out more about this copy – it was brought into existence by a creation event, which was carried out by the scribe, in a particular year. This copy was also the copy used for digital photography.

Looking now at the digital manifestation only, we can see that the graph shows all its parts, including the transcription and the facsimile, and how they relate to each other.

Viewing both material and digital again, you can see that they are connected by the transcription process and the photography process. The manifestations are also directly connected in the graph.

Once you have got to grips with the graph as a way of visualising the book history of each edition, you might want to add some more connections. This is really easy to do in PRISMS.

If there are two nodes already visible in the graph, and you want to add a relationship between them, you can simply select the starting node, click on the red dot and then drag this to the destination node. You will then see a pop up box which invites you to select the nature of the relationship from a drop down list. Tick the reification box if you need to add additional information about the connection, for example to cite the source of this knowledge about the edition, which is helpful when constructing scholarly argumentation.

If you want to create a relationship to something not visible in the graph view, then select the starting node as before and drag and drop the red dot into white space (or simply click the red dot). This time there is a drop-down list for the type of relationship, and a text box for adding the name of the destination node.

For example, to encode some provenance history, you would select the copy, choose "has former or current owner" and then enter the name of the owner.

It is important to follow the CIDOC-CRM model, which is an event-based ontology. For example, to add a translation, there would be a translation event, which had participants (the translator) and a date, a manifestation in print and so on. For further details on the taxonomy, you can browse the entire family of ontologies on PRISMS, or you can consult the CRM website itself.

To access this, just double-click in white space on the graph view and click the taxonomy view. This shows how the information in PRISMS is organised into classes and sub classes. Each node in the graph is part of a class, e.g. the places class. You can add new nodes with all their properties from the templates tab. You'll need to decide which

class of node you want to add, e.g. a person. You'll then be prompted to search PRISMS to make sure it isn't already there. Once you have done this, you can add the node, along with any properties – for a person, than might mean birth dates and death dates etc. The shortcuts tab allows you to create relationships between nodes in a consistent way. You can easily select the type of connection you want to add, e.g. for a birth it would be actor brought into existence at event. Using these shortcuts is preferable to creating your own directly on the graph, as they ensure consistency in the way the ontology is applied.

Once you have added connections, you can view them in the workbench toolbox and publish them to the wider community. Over time this collective modelling effort will not only support scholarly work done on particular texts or groups of texts, but will contribute to an ever-expanding knowledge graph for the benefit of a truly open scholarship. PRISMS is an invitation to participate in this effort.

That brings us to the end of the tutorial on the graph in PRISMS. If you have any feedback or suggestions for future development, please get in touch!