

The main title of your contribution – **this field cannot be edited**

Browsing, Sharing, Learning and Reviewing the Haine du théâtre Corpus through Insightful Island

Add a subtitle (optional):

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Main body – enter your text and images here:

Researchers of DH need visualizations to help them analyze and share their research results. Meanwhile, the users of the corpus are waiting for a tool (e.g. knowledge Map) to help them with learning and information seeking, and help them with understanding and memorizing tasks. The insightful island is one of the most promising tool for the perception of the corpus and its memorization.

Cartographic Visualizations (Gansner et al., 2013), have a lot of advantages: they propose to map contents onto two-dimensional knowledge maps that use cartographic metaphors and geographical analogies. These help users to understand the knowledge and allow them to show their own understanding on the visualization, then share it with other scholars. With knowledge maps, people from different domains can collaborate with each other, thus leading to additional benefits. For example, the famous Torrance's experiments (Torrance, 1970) show that working in pairs facilitates creativity.

The Project *Haine du théâtre* (HdT) aims at analyzing theatre debates in Europe by using scientific approaches and critical editions of polemical texts. The reflections of the HdT team are mainly focused around the discovery of the circumstances and the arguments used in theatre controversies all across Europe, from the 16th century up to the 19th century.

In this poster, we show how to use Memory Island (MI) technique (Yang, 2015) to help us creating an insightful island for the HdT corpus. MI is inspired by the "loci" method of the Art of Memory technique, and it consists of associating each entity of knowledge to a designated area on a created virtual island. We generated a 2D knowledge island of an ontology built to access the HdT corpus by employing the MI technique.

This visual representation allows users to navigate through the corpus, based on the insights of experts. It uses distance measures, based on the perception of the literary field expressed by scholars specialized of the considered period. This is achieved in this same way that experts from the "Knowledge Cartography" field (Okada et al., 2008) manually craft their knowledge maps.

Users can circulate through the corpus and discover interesting documents that appear to be semantically close to the one they are viewing. The overall organization being based on the ontology skeleton (i.e. a hierarchical structure), the spatial proximity corresponds to a semantic proximity between documents that could arise unexpectedly to the eyes of the viewer, which should stimulate his/her curiosity. In addition, the users can get more information about the concepts by simply clicking their labels on the map: detailed

information windows appear on demand. Moreover, the users can study the online corpus, together with the labels of instances and the supplementary information by clicking the chosen items in this window (Figure 1).

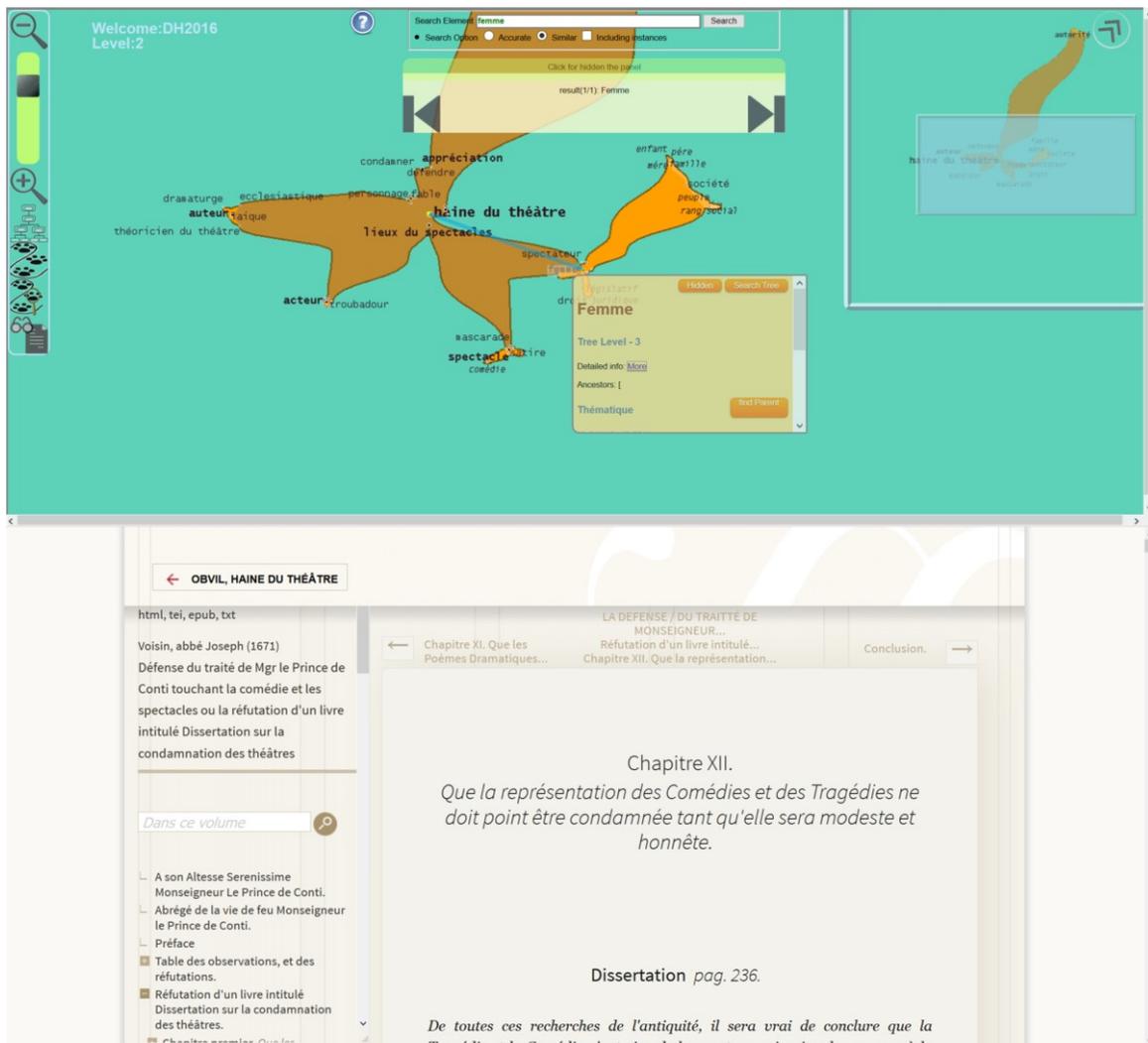


Figure 1 Access, detail information and search with the HdT island.

Then we designed two different actions: "Visit" and "Study". "Visit" is the action performed by the user that allows her to see a concept's detailed information; "study" is the action allowing users to examine concepts and learn from it at a deeper level. We developed techniques for helping the users to learn and memorize this knowledge based on these map representations. For example, the users can share visiting trace with others, which allows to collaboratively study the corpus (Figure 2). This is essential in the perspective of a participatory activity in DH. User can visually display her visiting trace and allow others to re-visit her trace.

The studied concepts of one user are also visually represented (Figure 2) by the novel review function which simulates our mind's memorization and learning mechanisms. The frequency of learning is also visually represented, using degrees of transparency (least transparent means most studied), in a technique analogous to that of the "heat-maps". If the user wants to review the studied concepts, it will show her a summary about the concept, prepared by the expert, also allowing the comparison with the original text in the corpus.

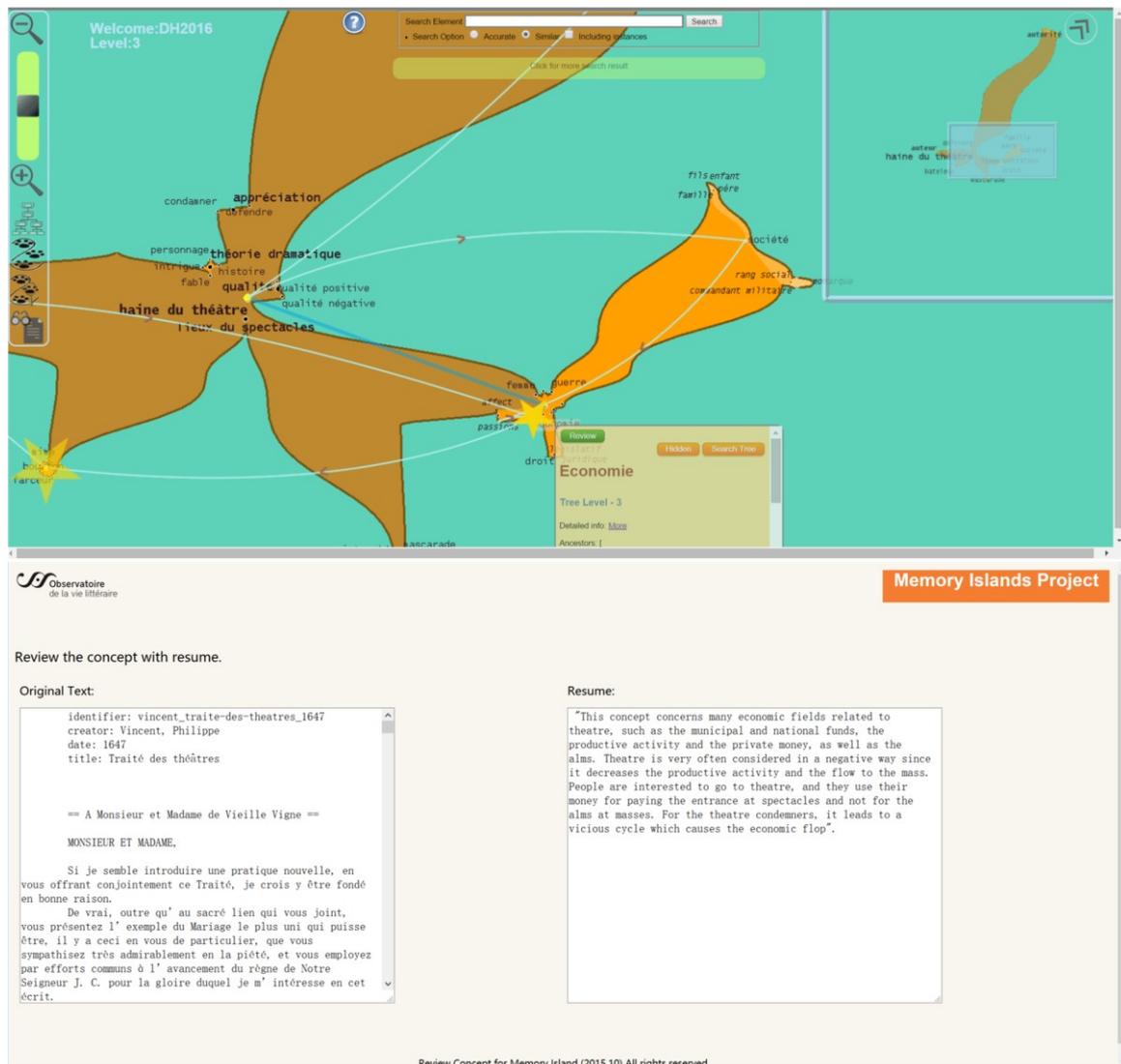


Figure 2 Visualize the visiting trace and review the studied concepts (highlighting with the five-point stars). In this case, the user has studied "society", "quality" and "thematics" concepts, alighting on the concept "economy" and reading its summary.

In the future, we envisage integrating Natural Language Processing and Artificial Intelligence techniques, such as Name Entities Recognition (NER) to rendering our technique fully automatic; this in turn will enable all scholars in DH to develop their own visualizations for sharing their knowledge more easily.

References

Enter your references here:

- Gansner, E., Hu, Y., and Kobourov, S. (2013).** *Handbook of Human Centric Visualization*. Springer.
- Okada, A., Shum, S.B., and Sherborne, T. (2008).** *Knowledge Cartography: Software Tools and Mapping Techniques (Advanced Information and Knowledge Processing)*. Springer.
- Torrance, E.P.(1970).** *Dyadic interaction as a facilitator of gifted performance. Gifted Child Quarterly, 14(3):139-143.*
- Yang, B. (2015).** Memory Island: Visualizing Hierarchical Knowledge as Insightful Islands. Ph.D thesis, University Pierre and Marie Curie.