

1. TIC-Belgium – TIC-International

TIC-Collaborative is a collaborative digital humanities project, focusing on what was described as transnational 'Intellectual Cooperation' (TIC) in the long nineteenth century in general and transnational connections in the field of 'social reform' in particular. Using a Virtual Research Environment (VRE) for the study of international connections, this project opens new perspectives on the history of social reform in and beyond the Low Countries in the period 1840-1940.

TIC Collaborative currently hosts and facilitates two projects: TIC Belgium (project description TIC-Belgium in annex) and TIC International.

2. Towards a Virtual Research Environment

Introduction

The VRE offers access to digitized and dispersed material. It contains data and documents on international organizations, congresses, its participants and their publications between 1840 and 1940. The platform will include:

- (1) a relational database which links international congresses, international organizations, people and publications (in order to process the data for social network analysis, cluster analysis, prosopography, etc)
- (2) a corpus with on line annotation tools that integrates digitized primary sources concerning international congresses (e.g. conference proceedings, reports, lectures and attendees lists) and international organizations (e.g. yearbooks, periodicals, articles of association and pamphlets)
- (3) a bibliography of relevant publications regarding transnational social reform in the long 19th century
- (4) general communication and cooperation possibilities.□

The VRE is currently hosted by the faculty of Arts and Philosophy of Ghent University and powered by Drupal. It will however be necessary to take some important decisions on how eventually the main platform, the database and the corpus environment will relate to each other.

At the end of the project, the (enriched) data will be stored in the partners' (institutional) repositories and will be made available for other research, e.g. the Fedora based **repository** of Ghent University. TIC Collaborative will be used as a pilot in the development a flexible VRE service infrastructure with modules, applications and data assets management facilitating digital humanities research (within the context of DARIAH-VL/BE).

2.1. Relational database: Nodegoat

For our structured data collection we will use 'Nodegoat', developed by Lab1100. Pim Van Bree and Geert Kessels. Nodegoat is a web-based database management, analysis and visualisation platform: "Using this system, scholars define, create, query, update, and manage any number of data tables by use of a graphic user interface. Their custom data model autoconfigures the backbone of the research environment's core functionalities. Within nodegoat, scholars are able to instantly analyse and visualise data sets. Nodegoat allows scholars to enrich data with relational, geographical and temporal attributes. Therefore, the modes of analysis are inherently diachronic and ready-to-use for interactive maps and extensive trailblazing." (www.nodegoat.net). Nodegoat will be set up on a Ghent University web server.

As of today, our database contains basic descriptions of more than 400 conferences (all social reform congresses between 1840 and 1890), 200 social reform organizations and thousands of congress attendants. Data collections of other TIC-Collaborative partners containing valuable information on social, legal and cultural reformers will also be integrated into the platform. The integration and exchange of data with other databases is crucial, as well as a wide range of query- and export possibilities (Json, XML, xls). We aspire a high interoperability of our new database platform with ODIS 2 (www.odis.be). Next to ODIS, TIC Collaborative will be linked to VIAF.

2.2. A corpus of (printed) sources

Current situation

We currently have a corpus of more than 800 digitized primary sources in pdf-format (approximately 400.000 pages). It concerns digitized and partially OCR-screened sources on international congresses on the one hand (e.g. conference proceedings, reports, lectures and attendees lists) and international organizations on the other hand (e.g. yearbooks, periodicals, articles of association and pamphlets). [The metadata of a part of these sources are filled in a shared Zotero-library.] Besides the sources we already own, we also generated an exhaustive list of congresses on social reform between 1840 and 1914 and located 200 linked digitized sources in dispersed online repositories around the world.

The corpus of files is now available via a shared Dropbox folder. We'll also try to expand our corpus with the located new material. Therefore we initiated negotiations with the concerned owning institutions about scanning fees and copyrights. For the documents available in the US, additional scanning of documents seems to be the most feasible alternative for now. We aim to enlarge the corpus up to 800.000/1.000.000 pages by the end of 2015.

Aims / Notes

Our goal is to provide online (full-text) access to the corpus. We aim to do so via an **open source digital objects management platform** with annotation and analytical **modules and applications**, hosted at our own servers. The key futures are:

- Viewer and navigator with original source
- Viewer with OCR'ed text – collaborative text correction functionality
- Option to add annotations /comments, also on page level (both personal as shared): page level tagging (faceted search)
- Option to create personal lists/libraries
- Search options (metadata and full text) with a broad range of filter possibilities
- Export possibilities in multiple formats
- Import possibilities (for all users)
- Option to implement Natural Language Processing (NLP) techniques, and Named-Entity Recognition (NER) more in particular, to mine our documents collection for meaningful concepts.

The basic philosophy is that by the principle scholarly crowdsourcing (in a first phase between 20 and 30 researchers will make use of the platform) the sources and metadata will be enriched and the – often rather moderate- OCR quality and metadata in general improved.

The disambiguation of concepts through the use of uniform resource identifiers (URI) will allow us to dynamically make use of external data and metadata related to persons, locations and events who played a role in social and legal reform, starting with our own database in Nodegoat (2.1 Nodegoat).

2.3. A bibliography

Current situation

We have a very limited shared Zotero group library, which is partially transferred to the VRE. There is however no automatic synchronization between the Zotero library and the bibliography on the current VRE. Users can edit and supplement the bibliography on the VRE both manually as well as via an import function. It is possible to attach files (the latter are not searchable though).

Aims / Notes

We aim to create a shared digital library with searchable PDF's. Problem: can we host downloaded files (e.g. Proquest or JSTOR?)

2.4. Communication

Current situation

The current VRE includes a wide range of communication and cooperation possibilities: a forum, a chatbox (for live communication), a shared calendar and a file depot to share personal files with (a selection of) other VRE-users.

3. Data accessibility

General principle: principle of scientific crowdsourcing: trust and shared authority

Shared within the entire TIC network :	relational data, documents/objects, OCR and metadata
Personal/group:	annotations and tags (?)

Objectives open access in three levels/stages:

Open access > 2015:	newly scanned documents
Open access > 2017:	database
Open access by invitation/ after peer review:	entire VRE

Network members post their research intentions (questions, parts of the data collection) on the platform in order to stimulate collaboration and exchange of knowledge, but also in order to avoid conflicts of interest.

Researchers or research units interested in joining and using the VRE can submit a project proposal in which they indicate 1) their research interests and –theme and 2) how they will contribute to the enrichment of (meta)data. Ad hoc consultation is not allowed. Procedure: the VRE-coordinator sends the application to the international steering committee of TIC-Collaborative.

4. Partners

TIC-International

- Maastricht University Netherlands (N. Randeraad, coordinator, and C. Leonards)
- Ghent University Belgium (Christophe Verbruggen, research unit 'Social History since 1750')
- University of Lausanne Switzerland (Thomas David)
- Northumbria University UK (Daniel Laqua, 'Histories of Activism' research group)
- University of Mainz Germany (J. Paulmann, Leibniz-Institute für Europäische Geschichte)
- Ecole des Hautes Etudes en Sciences Sociales Paris (Christian Topalov)

- Université Catholique Louvain Belgium (Centre d'histoire du droit et de la justice, prof. dr. Xavier Rousseaux)
- Université Laval Canada (Pierre-Yves Saunier)

TIC-Belgium

- Ghent University Research Unit Social History since 1750 | Ghent Center for Digital Humanities (coordination Christophe Verbruggen)
- Maastricht University (Nico Randeraad)
- Université Catholique Louvain Centre d'histoire du droit et de la justice (Xavier Rousseaux)
- Université libre de Bruxelles ReSIC- Research Center in Information and Communication (Seth Van Hooland)
- State Archives (Karel Velle)

(New) Archival/library partners

The digitization of not yet digitized conference proceedings and journals edited by the international organisations is an important feature of the project. We set up a partnership with Belgian institutions such as the Mundaneum, Amsab-ISG, Liberaal Archief and the University Library in Ghent, but we also have the intention to set up partnerships with the Hoover Institute in Stanford, the Union of International Associations and IISG.

Annex 1: Project description TIC-Belgium

TIC Belgium serves as a pilot project within the newly established international infrastructure, and integrates sources from primarily Belgian archives and libraries into the platform. The focus on The Low Countries is particularly relevant for both the methodological and thematic objectives:

- Thematic objective 1. Make an empirical contribution to the understanding of the transnational field of social and legal reform, and of long term dynamics of contention and framing processes. The international congresses of the 'long 19th century' can be seen as laboratories for the development and diffusion of reformist ideas. Two time periods will be researched separately: (1) the coming of age of a new circulatory regime in which new transnational organizational milieus (congresses and organizations) became important carriers of ideas and contention (1815-1880) and (2) the era between 1880 and 1914, when the Western world was shrouded in a reformist climate. By following the actors and tracing their entanglements through the multiple memberships of activist cohorts rooted in the Low Countries, we contribute to a better understanding of their impact and the cultural and intellectual framing of social problems.
- Thematic objective 2. The re-evaluation of successes and failures of the international intellectual dynamics in socio-legal reforms. The project will also identify and analyze the entire group of active Belgian contributors to international congresses and/or authors of periodicals of international organizations in the field of prison reform, police & military justice, colonial justice and social defense reform. We will focus on the interactions between administrative high functions in the new state and the role of international knowledge networks in supporting national power positions and/or individual careers. Special attention will be paid to the published contributions of intermediary actors (brokers) between transnational networks and national policy makers.
- Methodological objective 1. Apply and develop blueprints for the construction of virtual research environments in a Belgian research environment and state of the art scanning and OCR processing of documents. From the onset the multidisciplinary collaboration between legal and social historians, sociologists, digital research infrastructure specialists and archivists is user driven. Researchers are invited to get involved in selecting the sources, in choosing the

appropriate data and data structures, and in amending metadata with research oriented information.

- Methodological objective 2. Adopting graphical, linguistic and sociological tools for historical analysis of both structured (databases) and non-structured data (documents). The aggregation of existing digital content and the scanning operations performed by the State Archives will result in large quantities of semi- and non-structured documents. In the context of the TIC Belgium project, we want to go beyond full-text search and dependency on manual metadata creation by deploying Natural Language Processing (NLP) techniques and Named Entity Recognition (NER) more in particular to harvest meaningful information from unstructured data

It is only through collaborative research that we are able to assess transfers and framing processes across borders. The recently founded Virtual Research Environment (VRE) for the study of 19th and early 20th century international organizations and congresses, TIC (Transnational Intellectual Cooperation)-Collaborative, provides a shared database and online access to dispersed sources from archives and libraries across Europe and the rest of the world. Digitization provides opportunities to overcome some of the heuristic problems of transnational research. Beyond the history of social and legal reform and the attempt to bring particular collections and databases together, this project contributes to the use and assessment of methodologies from digital humanities. For this purpose we aim to maintain close relations with DARIAH (Digital Research Infrastructure for the Arts and Humanities), which aims to enhance and support digitally-enabled research across the humanities) and CENDARI (Collaborative European Digital Archive Infrastructure, which aims to integrate digital archives). TIC-Collaborative will be adjusted in a tailor-made way taking into account the particular needs of all the partners of the project, so that it encourages and facilitates collaborative research, including research conducted within the NWO-internationalisation project “the transnational dynamics of social reform” (2014-2016) and the IUAP “Justice and Populations”.