

Named Entity Recognition and Linking on the Historical Dictionary of Switzerland

Semester project by Didier Dupertuis

Supervised by Dr. Maud Ehrmann and Pr. Frédéric Kaplan



Abstract

In this work, our aim is to create a cross-linked version of the Historical Dictionary of Switzerland (HDS), a trilingual online encyclopedia on the history of Switzerland in French, German and Italian. We carried out and evaluated named entity recognition and linking on the 36'000 articles of the HDS. For named entity recognition and linking we used the entity-fishing tool. Based on the results, we created a demonstration web interface for a cross-linked HDS in the three languages. The cross-linked HDS has an average of 6 HDS links per 1000 characters against 1 HDS link in the current version of the HDS. However, around 60% of entities present in the HDS cannot be linked with our approach as those entities are absent from entity-fishing's training set, Wikipedia. The cross-linked HDS demonstration interface allows for a more enticing exploration experience of the HDS.

Table of contents

[1. Introduction](#)

[2. The Historical Dictionary of Switzerland](#)

[3. Methodology](#)

[3.1 HDS articles extraction and pre-processing](#)

[Replacing articles initials](#)

[3.2 Named entity recognition and disambiguation with entity-fishing](#)

[Evaluation](#)

[3.3 From linked entities to embedded links](#)

[4. Results](#)

[4.1 Entity-fishing evaluation](#)

[4.2 Linked HDS corpus](#)

[4.3 Demonstration interface for a linked HDS](#)

[5. Conclusion and future works](#)

[A\) Bibliography](#)

[B\) Appendix](#)

[Code repositories](#)

[Annotation guidelines for evaluation](#)

[Additional figures](#)

[Example linked HDS Article](#)

[Example HDS Article](#)

1. Introduction

The [Historical Dictionary of Switzerland \(HDS\)](#) is an online encyclopedia on the history of Switzerland financed by the Swiss Confederation. It is the result of 30 years of dedicated work by historians. The result is a growing collection of more than 36'000 articles in French, German and Italian. It is a valuable source for historians and the general public on the history of Switzerland.

The HDS was at the forefront of the transition to the digital medium with its first partial online version in 1998. The originally planned HDS articles were officially completed in 2014, but new articles continue to be added. The HDS is actively participating in the push for linked data as part of the [metagrid.ch](#) consortium. Today, it serves as a source of authority for both Wikipedia and Wikidata, with Wikidata linking its entities to most of the HDS articles.

The Dictionary and its digital version have been designed in the early years of the internet and keep most of the conventions of a paper encyclopedia. As a result, its articles still lack some features that are hallmarks of born-digital encyclopedias. Notably, cross-linking is a defining feature of Wikipedia. In the text of a Wikipedia article, any mention of an entity that has its own Wikipedia article is directly linked to it, offering an easy and enticing exploration experience.

Cross-linking of articles is currently in the process of being implemented in HDS articles by the HDS team. This semester's project aims at making this process faster by automating it using NLP techniques.

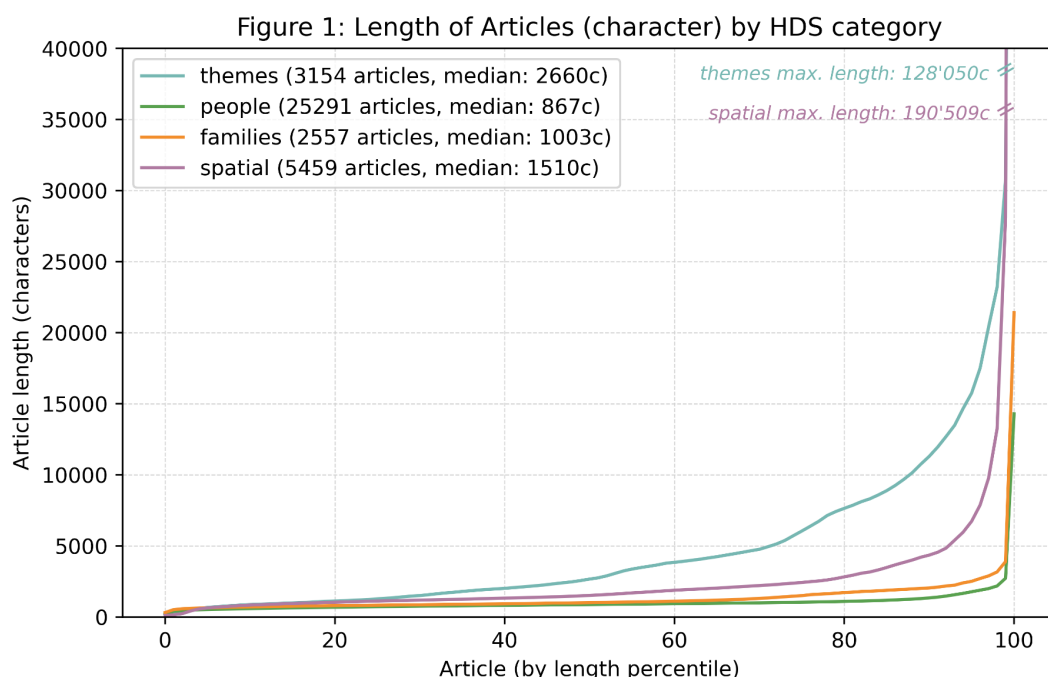
This project's objectives are to 1) apply named entity recognition and linking on the whole HDS in its three languages; 2) use the recognized entities to link the articles among themselves as well as to Wikipedia; 3) showcase the result in a demonstration interface for a linked HDS.

The rest of this report is organized as follows: Section 2 gives an overview of the HDS with summary statistics; Section 3 introduces the methodology and technologies used; Section 4 presents the results, evaluation and demonstration interface; finally, Section 5 concludes and proposes future avenues to continue this work.

2. The Historical Dictionary of Switzerland

The [Historical Dictionary of Switzerland \(HDS\)](#) offers more than 36'000 encyclopedic articles in 3 languages, Italian, German and French. It offers a search interface and articles are classified in 4 main categories: people, families, spatial (municipalities, regions, etc.) and themes (communism, contemporary art, etc.). Most articles are about people (25'291 articles), then come spatial (5'459 articles), themes (3'154) and finally families (2'557).

Most articles are quite short, consisting of a single paragraph, while a few articles are much longer. As can be seen in Figure 1, articles about themes are longer on average, while the longest articles cover spatial topics.



An HDS article has the following components:

1. article text, including titles and paragraphs with some embedded links to other HDS articles;
2. media components (images, maps, data tables);
3. a list of historical and bibliographic sources;
4. a list of links to the same entity in other databases (metagrid, Swiss diplomatic documents, etc.)
5. some structured data (birth and death dates, alternative names, etc.)
6. thematic indexation (categories such as "Elites before 1800", "Cantonal parliaments", etc.)

Components "article text" (1), "sources" (3) and "thematic indexation" (6) are present in all articles. Component "links to other linked databases" (4) is present in most articles, while the presence of the components "media" (2) and "structured data" (5) is variable.

Two examples of articles with most of the above components are the [city of Zurich](#) and [Othon 1^{er} de Grandson](#). [Schneckenbundgericht](#) or [Schmerikon](#) are typical sparse articles, without external links, media or structured data. The article for Othon 1er is shown in the Appendix with its numbered components.

All articles are versioned, for example as of this report Bioley-Orjulaz just got updated from a [2004 version](#) to [a new one](#) with cross-linking. In Figure 2, the number of articles authored (or edited) per year is shown. In Figure 3, one can see the number of links per character per year. It clearly shows that the question of cross-linking is currently being addressed at the

HDS, with articles from 2021 having three times more links per character than 2019 ones. Note that at the current rate of edition, 502 German articles for 2021, it would take around 72 years to complete the HDS cross-linking.

Figure 2: Number of HDS articles whose last version is in year

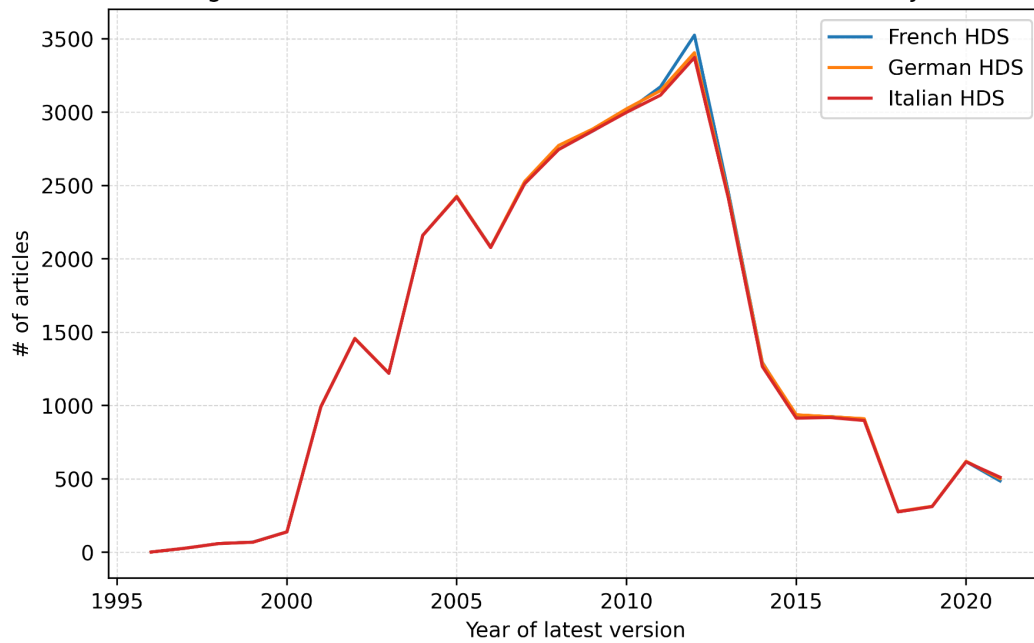
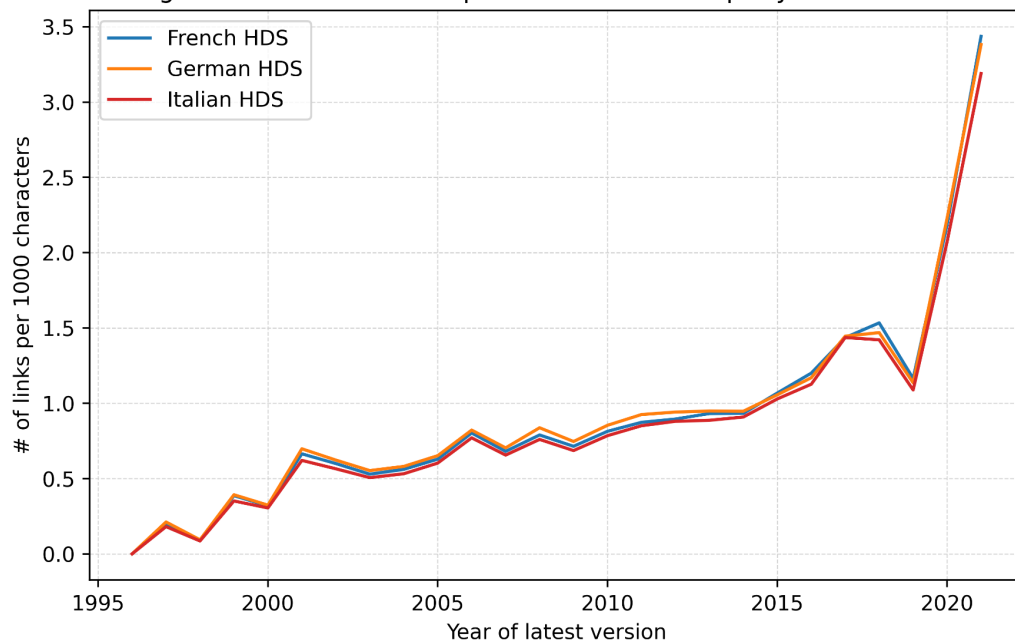
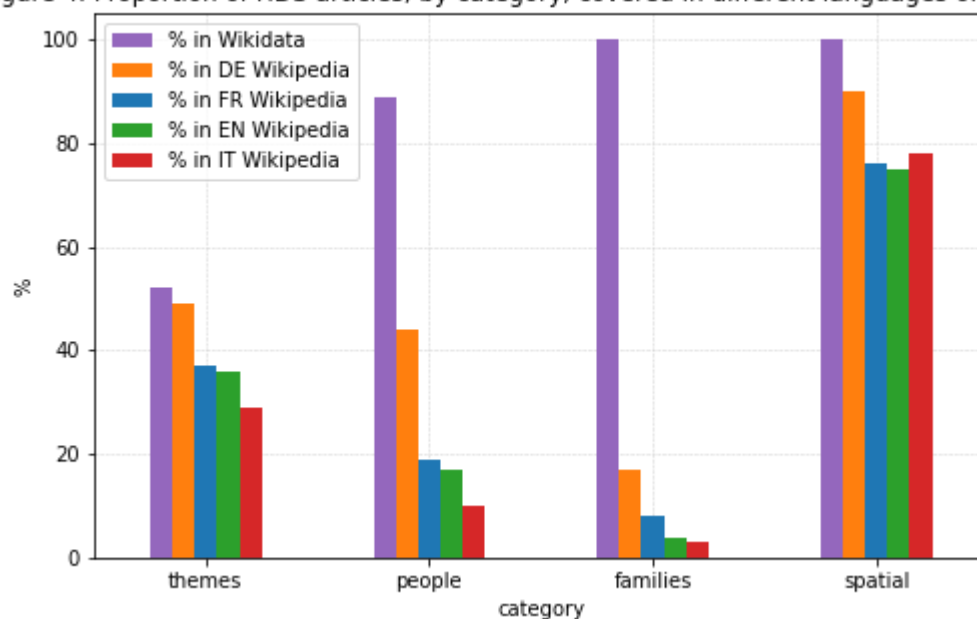


Figure 3: Number of links per 1000 characters per year in the HDS



The HDS is used as a source by Wikipedia and Wikidata. The coverage in Wikidata in particular is very good with 88% of HDS articles having a Wikidata entity linking to them with [Wikidata property P902 \(identifier in the HDS\)](#). Regarding Wikipedia, 49% of HDS articles have a corresponding article in the German Wikipedia; for French and Italian the coverage is 28% and 20% respectively. Breaking those statistics further by category as in Figure 4 yields new insights: spatial articles are very well covered in all Wikipedias; families and people are well covered in Wikidata but not so in Wikipedia; themes are somewhere in between with a medium coverage in both Wikidata and Wikipedia. One of the more interesting statistics for our work is the much better coverage of people in the German Wikipedia at 44%. This last number is probably due to the fact that people in the HDS are more likely to be German-speaking (and hence, covered in the German Wikipedia) given that around 60% of the Swiss population is German-speaking.

Figure 4: Proportion of HDS articles, by category, covered in different languages of wikipedia



3. Methodology

3.1 HDS articles extraction and pre-processing

We developed a scraper to extract and structure the articles' content from the HDS. Of the 6 types of components mentioned in Section 1, the scraper gathers all of them except media components. Only the text and its embedded links are actually used for named entity recognition and linking.

The scraper keeps track of the structure of the text, saving of titles and paragraph sections and, so as to be able to rebuild the article with its original structure in the demonstration interface.

The scraper is written in python and is available in the following github repository: <https://github.com/dddpt/dhs-scraper>.

Replacing articles initials

The HDS has the peculiarity of using, for most articles of all categories, a single initial to refer to the article's subject in the text. People are referred to with their last name's initial. For example, Pierre de Champvent is referred to as "C." in his [HDS article](#). An initial in the text consists of an uppercase letter followed by a dot. As initials won't be recognized by the named entity recognition tool and might confuse it, all initials have been singled out and replaced by the article's full title.

Here is the algorithm we used to replace initials. We first find all the occurrences of initials in the article text, a single uppercase letter followed by a dot, and count the number of each different initial. There are 4 cases to cover:

1. No initial: there is no initial in the text that corresponds to a word in the article's title and no replacement is done. (17% of French articles, 27% of German articles)
2. One initial: there is a single initial in the text that corresponds to a word in the article's title (79% of French articles, 69% of German articles) and this initial is replaced by the full article title.
3. Multiple initials first case: there is more than one initial in the text, and only the most numerous or second most numerous initial corresponds to a word in the article's title. The one corresponding to a title word is the right one and is replaced. (4% of French articles, 4% of German articles).
4. Multiple initials second case: both the most numerous and second most numerous initials correspond to a word in the title. Those articles are all people and the correct initial is the last name one, which is the last word in the title. They are replaced. (~100-200 articles in each language)

The replacement of initials does not always result in grammatically or semantically correct sentences. It is possible that in a single article, the initial sometimes refers to the whole article title and sometimes just stands in for a single title word and not for the whole title. The [Pierre de Champvent article](#) is a typical example with "C." sometimes meaning "Pierre de Champvent" and sometimes just "Champvent". However, it does not make sense to replace the initial with just the corresponding title word. 70% of articles are about people and a person's full name (in this case "Pierre de Champvent") is much more informative for entity recognition than only its last name.

We know the effect on named entity recognition is positive as algorithms are not trained to recognize initials. However, we did not have the time to evaluate it systematically in a quantitative manner. An eye-ball check on a sample of articles showed positive results.

3.2 Named entity recognition and disambiguation with entity-fishing

The main tasks of this project are named entity recognition (NER) and named entity linking (NEL). NER is about identifying the positions in a text where there are named entities such as people, organisations, locations. NEL entails linking entity mentions found by NER to an actual entity id, in our case a Wikidata id. The process of doing both tasks one after the other is called end-to-end entity linking (EL), see [1] and [2] .

Based on the results of the [CLEF-HIPE 2020](#) challenge [3], which evaluates these tasks on articles from historical newspapers, the [entity-fishing](#) entity recognition and disambiguation framework was selected for this project [4] [5].

Entity-fishing provides relative ease of use with good linking results. It is trained on Wikipedia and links entities to Wikidata ids. It was originally created for a French corpus but provides pre-trained models in our three languages of interest: French, German and Italian.

Entity-fishing can only recognize entities that have an article on Wikipedia in the corresponding language. Hence, the coverage of HDS articles' subjects by Wikipedia is central to obtaining good linking scores. Given the Wikipedia coverage of HDS articles from Figure 4, it means that at least 60% of articles about people cannot be linked to from another article. This is a drawback of our approach of using entity-fishing out of the box without retraining on the HDS corpus. However, creating a training set on the HDS would be a huge effort, as one would need to annotate a large amount of articles with links.

Entity-fishing per se only does NEL. For NER, it uses [grobid-ner](#) [6] in the background, which is based on conditional random fields. Grobid-ner recognizes [27 classes of entities](#), which is much more than needed in this project.

We set up an entity-fishing server instance (and its accompanying grobid instance) to which we could send the HDS articles for parsing. The Entity-fishing API gives, for each linked entity, its position in the text, its Wikidata id (if any), and its Wikipedia page in corresponding language (if any). It sometimes gives a grobid-ner class for a recognized entity, but it is not systematic, making an evaluation of the grobid NER results impossible.

Evaluation

The entities of interest for this project are entities that deserve an article in the HDS or Wikipedia. The relevant annotation classes include people (including families and organisations), locations, and events. Those classes had to be mapped to the grobid-ner classes, which yields a subset of 12 classes from the 27 original ones. See the Appendix for the complete annotation guidelines.

For the evaluation, 16 randomly selected HDS articles in both French and German (hence 32 in total) have been manually annotated and linked towards Wikidata using the INCEpTION annotation tool. Note that given that entity-fishing and grobid-ner recognize more entity classes than we aim for, this will negatively impact the model's precision but not the recall.

3.3 From linked entities to embedded links

To transform entities recognized by entity-fishing to embedded links in HDS articles, there are 3 cases:

- 1) No Wikidata entity: an entity has been identified by grobid-ner but entity-fishing didn't find corresponding wikidata entity.
- 2) Wikidata entity with a Wikipedia page and a HDS id: an entity has been recognized and linked to a Wikidata id, a Wikipedia page and the Wikidata entity links to a HDS article.
- 3) Wikidata entity with a Wikipedia page: an entity has been recognized and linked to a Wikidata id and Wikipedia page.

Case 1) isn't a link. In case 2), the HDS link will be used. In case 3) the Wikipedia page will be used as it is the most interesting link to display.

At the end of the processing, each article is saved as a JSON file, including text, text structure, the original HDS embedded links and all the entities provided by entity-fishing.

4. Results

4.1 Entity-fishing evaluation

As entity-fishing does not give access to the intermediary results of grobid-ner for the NER, only EL can be evaluated: combining both NER (recognition but not classification) and NEL in a single score. Thus, the EL scores given here are a lower bound for each subtask (we used the [CLEF-HIPE-2020 scorer](#)).

Since only a subset of the grobid-ner classes are considered, it hampers the precision of the result as unwanted entities are recognized and linked by entity-fishing.

		Precision	Recall	F1	True Positives	False Positives	False Negatives
French	Micro	0.749	0.737	0.743	606	203	216
	Macro	0.748	0.721	0.729			
German	Micro	0.671	0.69	0.681	602	295	270
	Macro	0.661	0.66	0.653			

In this severe setting, around two thirds of the found links are correct and two thirds of the entities present in the text are found. This is a bit lower than the benchmark scores presented by entity-fishing. This is probably due to the differences between the HDS and entity-fishing's training set, Wikipedia. The HDS has a narrower scope (Switzerland and its History) than Wikipedia and most articles are about people.

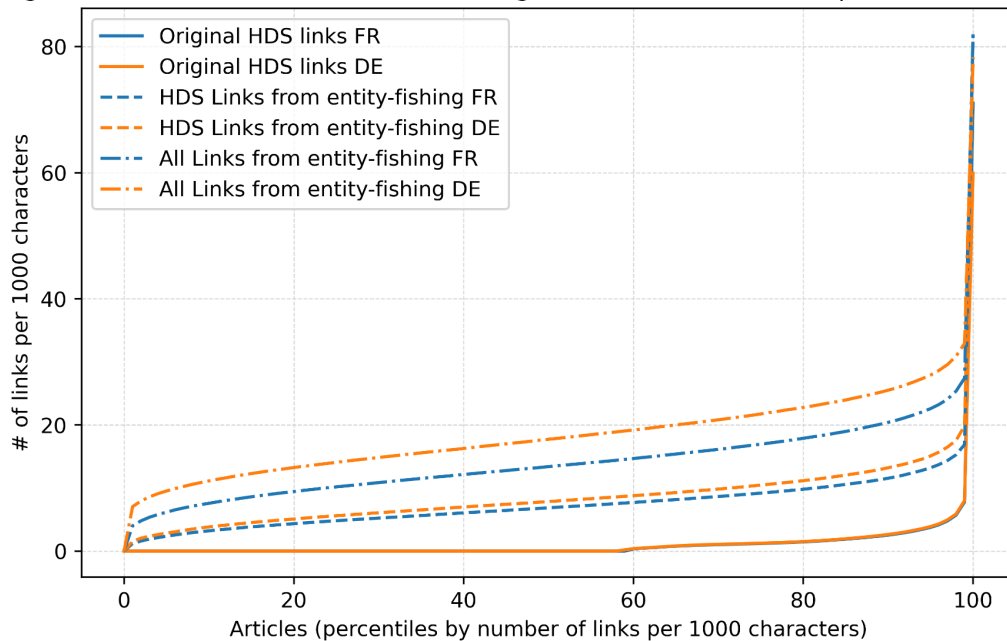
4.2 Linked HDS corpus

For all the following statistics we only count distinct links. If entity-fishing recognizes the same entity multiple times in an article, the entity is counted only once.

The original HDS corpus has an average of 1 link per thousand characters. The linked HDS corpus has an average of 6 HDS links per thousand characters. If we also count links to Wikipedia only, the number goes up to 11 links per thousand characters for the French HDS, and even 15 links per thousand characters for the German version.

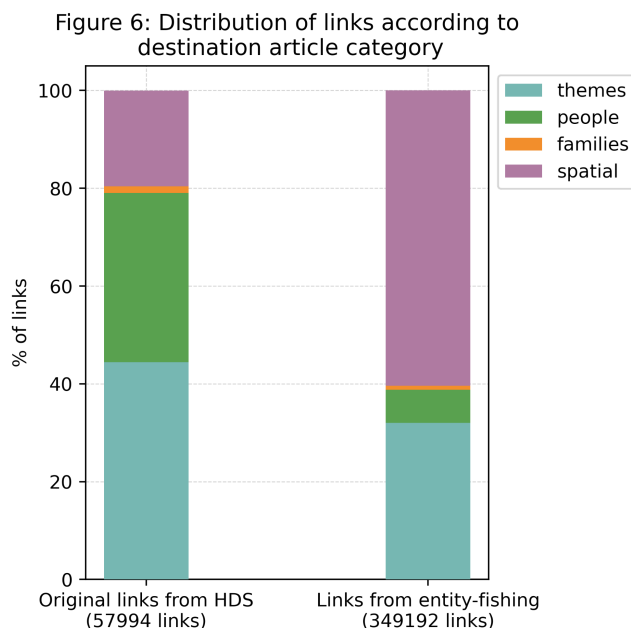
Figure 5 shows the distribution of the number of links per 1000 characters across articles. The distribution for Italian has been hidden for readability, it is similar to the one for French. Whereas the original HDS has almost 60% of articles without any links, the linked HDS corpus provides links for almost all articles. One can also see that the German corpus has higher numbers of links per character, especially when including links to Wikipedia. This is directly due to the higher proportion of people in the HDS also having an article in the German Wikipedia, as discussed in Sections 2 and 3.2.

Figure 5: Distribution of articles according to number of HDS links per 1000 characters



Another interesting aspect of the corpus is the number of articles linking to a given destination article. As can be seen in Figure 7 (in Appendix), this distribution is extremely unequal, with the top destination articles garnering an outsized proportion of links. The most linked-to articles are unsurprisingly those of countries (Switzerland, France, Germany) and cities (Zurich, Bern, Basel, Paris), as well as those of themes such as religions or agriculture.

Figure 6 shows the distribution of links according to their destination's category. In the original HDS, 44% of links point to a theme article, 35% to a person, 20% to a spatial article and just 1% to families, whereas the respective numbers for entity-fishing are 32%, 7%, 60% and 1%.



Entity-fishing has a big emphasis on spatial entities compared to the original HDS links. It recognizes about the same number of people as there are links to people articles in the original HDS despite finding 6 times more links. Where does the discrepancy come from? There are a number of possible explanatory factors. The 60% of uncovered entities in Wikipedia certainly have a huge impact here, given that entity-fishing is dependent on it, notably considering that spatial entities have the best Wikipedia presence. The linking policy at the HDS, giving an emphasis on a certain

category or not, might also influence this difference. It is also probable that spatial entities are inherently more present in HDS articles than entities from other categories.

4.3 Demonstration interface for a linked HDS

The demonstration interface was developed in Javascript, using the React and Bootstrap frameworks. At the time of writing, it is available on the EPFL intranet at <http://128.178.21.4:3001>. An example article screenshot is shown in the Appendix.

The interface is in English while the articles are available in the three languages of the original HDS. A simple exact match search for article titles is provided. If an article has a corresponding Wikidata id and Wikipedia page, links to it are provided. The original article text and embedded links are shown. For the sake of simplicity, the other components discussed in Section 2 are omitted as they are not the focus of this work. Of course, they are desirable in a fully fledged linked HDS. Initials' replacements as discussed in Section 3.1 are removed. The original initials are shown. If a replacement has been identified as a link, the link is available on the initial.

Three types of embedded links are distinctly visible: links to the HDS found by entity-fishing in blue underlined with a solid line, original HDS embedded links in blue underlined with dashes, links to wikipedia found by entity-fishing in green. If a link found by entity-fishing overlaps with an original HDS link, the original link is given precedence.

Entities that have been recognized but not linked to a Wikidata entity are not directly shown. They are highlighted when the mouse is hovering over them.

5. Conclusion and future works

In this work, we carried out and evaluated named entity recognition and linking on the 36'000 HDS articles in French, German and Italian using the entity-fishing tool. Based on the results, we created a demonstration web interface for a cross-linked HDS. The cross-linked HDS has an average of 6 HDS links per 1000 characters against 1 HDS link in the current version of the HDS. The cross-linked HDS demonstration allows for a more enticing exploration experience of the HDS.

There are still some exploration avenues to further this work. The biggest drawback is that at the moment, entities without a Wikipedia page cannot be recognized, excluding 80% of articles about people and 50% of themes' articles from the linking. Training a named entity recognition and linking model based on a training set with links to the HDS, although costly in annotation time, would allow a better coverage of entities only present in the HDS.

An important possibility to validate our results would be to create a feedback option on the cross-linked HDS demonstrator to allow users, or chosen curators, to validate, remove or add links. This would be necessary to have a fully human-validated cross-linked HDS corpus.

There still are some smaller options to improve this work that haven't been done mainly due to a lack of time. Further comparing the detected links with existing HDS links would be an interesting way to have a qualitative measure of the cross-linking. Evaluating the effect of the initials replacement on the named entity recognition and linking would also be interesting to evaluate it and propose better ways to do it.

A) Bibliography

1. Nadeau, David, and Satoshi Sekine. "A Survey of Named Entity Recognition and Classification." *Linguisticae Investigationes* 30, no. 1 (2007): 3–26. <https://doi.org/10.1075/li.30.1.03nad>.
2. Maud Ehrmann, Ahmed Hamdi, Elvys Linhares Pontes, Matteo Romanello, Antoine Doucet. "Named Entity Recognition and Classification on Historical Documents: A Survey" arXiv preprint (accessed 18.01.2022) <https://arxiv.org/abs/2109.11406>.
3. Ehrmann, Maud, Matteo Romanello, Alex Flückiger, and Simon Clematide. "Extended Overview of CLEF HIPE 2020: Named Entity Processing on Historical Newspapers." In *Working Notes of CLEF 2020 - Conference and Labs of the Evaluation Forum*, edited by Linda Cappellato, Carsten Eickhoff, Nicola Ferro, and Aurélie Névél, 2696:38. Thessaloniki, Greece: CEUR-WS, 2020. <https://doi.org/10.5281/zenodo.4117566>.
4. Kristanti, Tanti, and Laurent Romary. "DeLFT and Entity-Fishing: Tools for CLEF HIPE 2020 Shared Task." In *Working Notes of CLEF 2020 - Conference and Labs of the Evaluation Forum*, edited by Linda Cappellato, Carsten Eickhoff, Nicola Ferro, and Aurélie Névél, 2696:1–10. Thessaloniki, Greece: CEUR-WS, 2020. http://ceur-ws.org/Vol-2696/paper_266.pdf.

5. entity-fishing: <https://github.com/kermitt2/entity-fishing/>
6. grobid-ner: <https://github.com/kermitt2/grobid-ner>

B) Appendix

Code repositories

Here are the links to the repositories containing the code for this project:

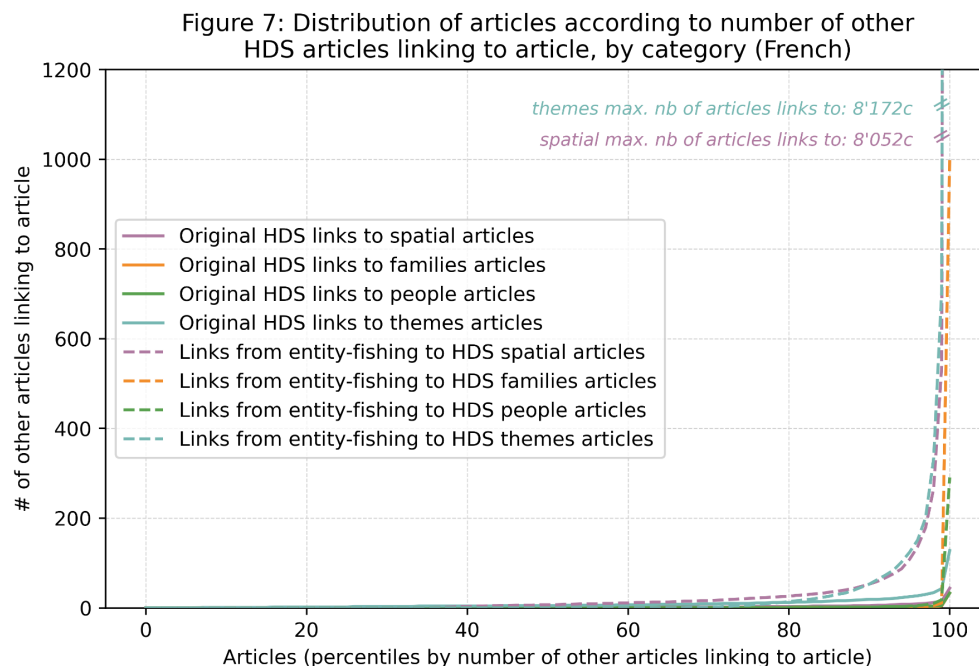
- **dhs-nerd**: <https://github.com/dddpt-epfl-phd/dhs-nerd/> main code repository with the glue and analysis. (other repositories mentioned below are git submodule of this one, to download all of them, clone this one and do `git submodule update --init`, this will pull all the repositories in the right place)
- **dhs-scraper**: <https://github.com/dddpt/dhs-scraper> the scraper to download DHS articles, with accompanying DhsArticle data-structure
- **Inception-fishing**: <https://github.com/dddpt/inception-fishing/> Corpus-Document-Annotation data-structure to transform any annotated documents to/from the specific formats of entity-fishing, INCEpTION annotation tool, dhs-scraper, CLEF-HIPE scorer and even spacy. Also has the code to send the document to entity-fishing for linking.
- **nlp-pred-true-comparator**: https://github.com/dddpt/nlp_pred_true_comparator small jupyter utility to visually compare NLP predictions vs ground truth.

Annotation guidelines for evaluation

The annotation guidelines are as follows:

- BUSINESS: commercial organisation.
- EVENT: historical event.
- INSTITUTION: organisation of people or structure linked to a territory.
- MEDIA: media organisation.
- LOCATION: physical location, including countries, rivers and continents.
- ORGANISATION: organisation that doesn't fall in the business, institution or media class.
- PERSON: people, including standalone family names.
- INSTALLATION: built structures such as "castle of Chillon".
- LEGAL: international treaties/declaration, such as "treaty of Lausanne".
- TITLE: precise title of authority, such as "prince-bishop of Basel" (and not just "prince-bishop").
- SUBSTANCE: raw/transformed material, when sufficiently important to have a dedicated Wikipedia/HDS article (iron, salt, ceramic, etc).
- NATIONAL: relating to a location or an historic population (Alamanni, Romans).

Additional figures



Example linked HDS Article

<http://128.178.21.4:3001/fr/articles/017791>

[Les liens bleus](#) pointent vers d'autres articles du DHS.

[Les liens verts](#) pointent vers Wikipedia.

[Les liens bleus souligné en traitillé](#) sont des liens provenant du DHS original.

Grandson, Othon Ier de



vers 1238, avril 1328 . Fils de Pierre (->). Frère de Guillemette (->). Sans épouse ni postérité. Cousin de [Guillaume de Champvent](#), [Othon de Champvent](#) et [Pierre de Champvent](#). C'est à sa carrière à la cour d'[Angleterre](#), initiée grâce à ce dernier et à son père, que [G.](#) doit sa célébrité. Dès 1265, il est attesté dans l'entourage du roi [Edouard Ier](#), qu'il représente lors d'importantes missions diplomatiques auprès des cours [française](#) et pontificale. Gouverneur des [îles de la Manche](#) (1277), justicier du [pays de Galles](#) (1284), [G.](#) est l'un des commandants croisés lors de la [chute de Saint-Jean d'Acre](#) (1291). Après la mort d'[Edouard Ier](#) (1307), il est beaucoup plus présent en [Pays de Vaud](#). L'importance de sa famille, mais surtout son immense fortune acquise à la cour d'[Angleterre](#) et son réseau de [relations internationales](#) lui permettent de jouer un rôle essentiel au sein des élites vaudoises. Il contribue à insérer celles-ci dans la mouvance des Savoie, dont il est par ailleurs le créancier. Il fait procéder à d'importantes transformations au château de [G.](#) et à la priorale Saint-Jean-Baptiste. [G.](#) dote richement cette dernière et fonde également un couvent de [franciscains](#) (1289-1298), ainsi que la [chartreuse de La Lance](#), près de Concise (1317). Donateur d'un parement d'autel à la [cathédrale de Lausanne](#) (auj. à [Berne](#)), où il prévoyait de se faire enterrer lors d'une grandiose cérémonie funèbre; son [gisant](#) s'y voit encore.

Example HDS Article

Colored boxes correspond to the numbered HDS articles' components described in Section 2. <https://hls-dhs-dss.ch/fr/articles/017791/2008-01-21/> extracted on 18th January 2022.

(1)


Othon Ier de Grandson

Version du: 21.01.2008

Auteurs/Auteur: Bernard Andenmatten

* vers 1238, † avril 1328. Fils de Pierre ([↗](#)). Frère de Guillemette ([↗](#)). Sans épouse ni postérité. Cousin de [Guillaume de Champvent](#), [Othon de Champvent](#) et [Pierre de Champvent](#). C'est à sa carrière à la cour d'Angleterre, initiée grâce à ce dernier et à son père, que G. doit sa célébrité. Dès 1265, il est attesté dans l'entourage du roi Edouard I^{er}, qu'il représente lors d'importantes missions diplomatiques auprès des cours française et pontificale. Gouverneur des îles de la Manche (1277), justicier du pays de Galles (1284), G. est l'un des commandants croisés lors de la chute de Saint-Jean d'Acre (1291). Après la mort d'Edouard I^{er} (1307), il est beaucoup plus présent en Pays de Vaud. L'importance de sa famille, mais surtout son immense fortune acquise à la cour d'Angleterre et son réseau de relations internationales lui permettent de jouer un rôle essentiel au sein des élites vaudoises. Il contribue à insérer celles-ci dans la mouvance des Savoie, dont il est par ailleurs le créancier. Il fait procéder à d'importantes transformations au château de G. et à la priorale Saint-Jean-Baptiste. G. dote richement cette dernière et fonde également un couvent de franciscains (1289-1298), ainsi que la chartreuse de La Lance, près de Concise (1317). Donateur d'un parement d'autel à la cathédrale de Lausanne (auj. à Berne), où il prévoyait de se faire enterrer lors d'une grandiose cérémonie funèbre; son gisant s'y voit encore.

(2)



Gisant dans le cœur de la cathédrale de Lausanne (Photographie Claude Bornand). [...]

(3)

Sources et bibliographie

Bibliographie [↕](#)

(4)

Liens

Powered by Metagrid

[Bibliographie de l'histoire suisse](#) [↗](#)

Notices d'autorité

[GND](#) [↗](#)

[VIAP](#) [↗](#)

(5)

En bref

Appartenance familiale [Grandson, de](#)

Dates biographiques * vers 1238 † avril 1328

(6)

Indexation thématique

[Politique / Société \(1250-1800\) / Politique étrangère / Dynasties](#)

[Politique / Société \(1250-1800\)](#)