Visiting Vienna – digital approaches to the (semi-)automatic analysis and mapping of the arrival lists found in the "Wien[n]erisches Diarium"

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Introduction

While in present-day Vienna, passing the city limits and thus entering the city usually goes unnoticed, 'city' and 'country' seem to be much more separated in the early modern period: on the one hand, people entering a city had to use specific entry points at the city walls in the form of city gates, and on the other hand, their arrival was controlled and comprehensively documented by authorities. From a contemporary perspective, this practice can be deemed lost: “Today, the cultural practice and the experience of entering a city through a gate has become foreign to us, or even faded completely from memory” (Jütte 2014).

All the more valuable are textual witnesses of early modern arrival practices that have survived to the present day and allow researchers insight into the visitor history of specific cities – as, in the case of Vienna, the “Wien[n]erisches Diarium”: the periodical, which was founded in 1703 and renamed “Wiener Zeitung” in 1780, included a list of upper class arrivals (“Ankunfft derer Hoch= und niederen Stands=Personen”) in each of its bi-weekly issues until 1725. This section, whose contents the newspaper publishers received through an imperial privilege, was at the time followed with particular interest by readers (Fischer 2019: 142) and can still be considered highly relevant today. After all, each of the approximately 2250 arrival lists printed in the “Diarium” showcases a high information density and thus a high knowledge potential, as the following exemplary annotated and mapped list entry demonstrates:

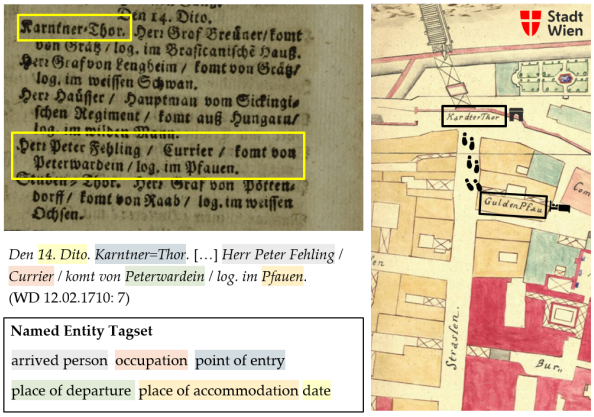

Figure 1: Exemplary arrival list entry, annotated for named entities and visualized on Schimmer's (1847) replication of the “Steinhausenplan” (1710)

Not only are readers informed about which high-ranking persons arrived in Vienna on a certain day, but they also learn – in addition to occupation and title details – about the city gate used by the arriving persons, their previous place of stay and their place of lodging. The aim of the City of Vienna funded project “Visiting Vienna” (2022–2023, PI: Nina C. Rastinger) which is presented here is to (semi-)automatically analyse this wealth of information with the help of digital methods.

Full text digitization

For this purpose, first, a high quality full text collection is created: in addition to the issues already available in the DIGITARIUM (Resch & Kampkaspar 2020, https://digitarium.acdh.oeaw.ac.at), all list facsimiles available in ANNO (AustriaN Newspapers Online, https://anno.onb.ac.at, cf. Kann & Hintersonnleitner 2015) are fed into Transkribus (https://readcoop.eu/de/transkribus), where they are subjected to an automatic layout analysis and transcribed via the AI model "German Fraktur 18th Century – WrDiarium_M9" (www.readcoop.eu/de/modelle/german-kurrent-18th-century), which was developed at the Austrian Centre for Digital Humanities and Cultural Heritage (ACDH-CH) especially for the historical “Wiener Zeitung”. Additionally, manual corrections are made where necessary.

Semantic Enrichment

Based on this first step, the high quality full texts are then semantically enriched by identifying and annotating the entities named in them (e.g. persons, points of entry, places of lodging). Due to the strong graphematic variation (e.g. “Kärnther=Thor”, “Cärntner=Thor”) but consistent (syntactic) structure of the textual material, a rule-based approach is taken for this task of Named Entity Recognition and Classification (NERC). In the context of the first ‘Vienna Time Machine’ project, this approach has already proven successful for the death lists of the “Diarium” (Resch, Rastinger & Kirchmair 2022).

Data Modeling and Visualization

Once the arrival lists are enriched with sufficient semantic mark-up, the data can be modelled as a knowledge graph using the W3C standard Resource Description Framework (RDF, https://www.w3.org/RDF) as well as the CIDOC Conceptual Reference Model (CRM, https://www.cidoc-crm.org) and transferred into a geographic information system (GIS), concretely ArcGIS. While the former aspect ensures the interoperability and complex searchability of the data, the latter step makes it possible to visualize the routes of those arriving in Vienna on historical city maps, like the so-called ‘Steinhausenplan’ (1710), which has already been geo-referenced by the City of Vienna:

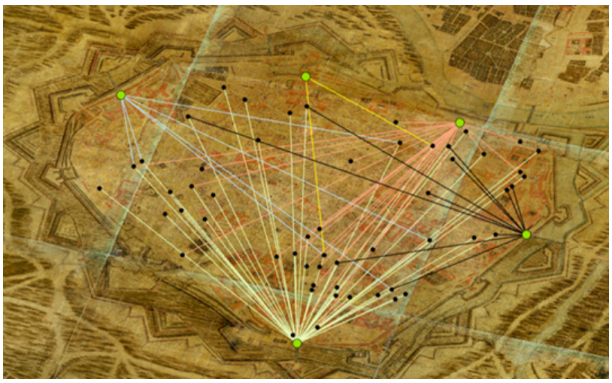

Figure 2: Exemplary visualization of Wednesday arrivals from 1710 on the city map

Conclusion

Following this approach, the paper and project title "Visiting Vienna" can be read in two ways: (Semi-)automatic transcription and NERC processes in combination with interactive maps (e.g. ArcGIS Story Maps) do not only make arrivals of historic persons traceable in time and space, but also enable interested time travellers from the present to enter early modern Vienna themselves. Hence, in line with the vision of the European initiative TIME MACHINE (https://www.timemachine.eu), new connections between events, people and places are established over time and the development of a local ‘Vienna Time Machine’ is significantly advanced.

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