Virtual excursion Kleinwelka

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Abstract

Im Artikel wird am Beispiel der "Virtuellen Exkursion Kleinwelka" das Potential von VR-Modellen als Ankerpunkten für interdisziplinäre und internationale Lehre und Forschung beleuchtet. Nach 1) einer knappen Einführung auch zum 2) sozialgeschichtlichen Hintergrund der Herrnhuter Brüder-gemeine zeigen wir 3) ausgehend vom virtuellen Modell** des "Hauses der ledigen Schwester" Kleinwelka, wie 4) die technische Umsetzung eines solchen Modells realisiert wird, 5) wie und welche Ergebnisse aus Forschung und Lehre in einem solchen Modell präsentiert werden können und 6) wie sich am Beispiel eines solchen Modells die Relevanz der weltumspannenden Herrnhuter Brüdergemeine für die europäische Wissensgeschichte entfalten lässt.

In the article, the potential of VR models as anchor points for interdisciplinary and international teaching and research is demonstrated using the example of the "Virtual Excursion Kleinwelka". After 1) a brief introduction also on the 2) socio-historical background of the Moravian Church, we show 3) based on the virtual model** of the "Haus der ledigen Schwestern" Kleinwelka, how 4) the technical implementation of such a model is realized, 5) how some results from research and teaching can be presented in such a model and 6) how the relevance of the global Moravian Church for the European history of knowledge can be uncovered on the example of such a model.

*Corresponding author: alexander.lasch@tu-dresden.de ** Digitale Quellen sind im Text hinter "sprechenden Links" hinterlegt und nicht separat im Quellen- und Literaturverzeichnis ausgewiesen. Digital sources are placed behind "meaningful links" in the text and are not listed separately in the references.
1. Concern: virtual excursions

Kleinwelka is important as a local community from the mid-1750s (cf. [10] Mahling 2017, [11] Mahling 2019a: 40-50 and [12] 2019b) for the Moravian Church - a faith community founded in eastern Saxony at the beginning of the 18th century and spanning the globe in just a few decades (cf. inter alia [8] Lasch 2009/2021). The documents and traces of this community offer interdisciplinary research an incomparably rich archives of knowledge to trace and understand global effects of European mission culture (cf. exemplarily in the context of (post-)colonial linguistics [6] Lasch 2019). However, the paths into this knowledge archive in the context of the Digital Humanities (cf. in particular [3] Faull 2021) must first be laid out - a virtual excursion can be a first starting point for this. Virtual excursions are used, especially in subject contexts in which exploration plays a central role, precisely when 1) access to certain places and spaces is (considerably) impeded by barriers of various kinds, or 2) learners are to be motivated in a special way through the use of modern and specific AR and VR technology: Geo- and historical sciences or their didactics (see for instance [18] Schmidt, Lindau & Finger 2013). The adaptation of the concept for historical-linguistic oriented teaching and research is obvious for these and two further reasons. For one, 3) sources may be inaccessible. Second, 4) project-oriented and collaborative teaching and learning may be limited by the fact that learners, e.g. in international collaborations, cannot work together on a project in one place.

Virtual excursions are therefore being developed in the context of the DigitalHerrnhut project in virTUos (Virtual Teaching and Learning at the TU Dresden in an Open Source Context, [7] Lasch 2021) as an innovative virtual teaching and learning environment incorporating culturally relevant sites of the Moravian Church in Eastern Saxony, starting from a pilot of the "Haus der ledigen Schwestern Kleinwelka". The aim of this pilot is to present digitized sources and smaller contributions from teaching and research in a 'walkable' 3D model of the house and relevant outdoor spaces in order to open up experiential and learning spaces for exploration and to map out initial paths into a part of the Moravian knowledge archive.

The content already embedded in the 3D model in this paper was developed in two summer workshops and the seminar Digital Herrnhut in the winter semester 2021/2022 and serves as thematic starting points for follow-up work as well as for communication between science and the public (e.g. for the opening of the Summer visits 2022 in Kleinwelka).

Fig. 1: Kleinwelka near Bautzen in the Stichsammlung Herrnhutischer Gemeinen und Schulen by Abraham Louis Brand (1782).

2. Moravian Church

The Moravian Church or Herrnhuter Brüdergemeine (cf. on the chapter [14] Meyer 2021 and [20] Vogt 2022 in detail and in the context of Pietism overarching [2] Breul 2021) is a pietistic community foundation that goes back to Nikolaus Ludwig von Zinzendorf (1700-1760) (cf. [1] Atwood 2021). Starting in 1722, he enabled persecuted members of the Unitas Fratrum to settle in Berthelsdorf in eastern Saxony on 'des Herren Hut'; by 1727, the community was constituted (cf. [21] Zimmerling 2022). In contrast to the conception of faith of the pietistic Halle, Zinzendorf declares faith to be a "religion of the heart": the attachment of the heart to Christ is central, faith and trust in God are matters of the heart. In principle, all believers can...
be recognized and awakened by God, with faith and awakening as signs of God’s electing grace (predestination). If one thinks of community in this radical way, it seems consistent that all (awakened) members of the community are equal to each other (equality), in principle independent of gender, origin and property. Since the experience of revival is a prerequisite for acceptance into the community (exclusivity), members are urged to always examine themselves and reflect on their attitude toward themselves and their life in the community (reflexivity) (cf. [5] Lasch 2005: 4-23). The Christocentric model of faith as well as its design brought Zinzendorf and the young community into conflict with Lutheran orthodoxy soon after its founding, which in the meantime led to Zinzendorf’s expulsion several times and also to the ban of the community in (Electoral) Saxony. Zinzendorf himself understood the exile as a “pilgrimage” and his community as a “pilgrim community” (cf. [1] Atwood 2021: 189f.), which laid the foundation for the community’s worldwide missionary activities from the 1730s onward (cf. [15] Vogt 2021: 570-572). August Gottlieb Spangenberg (1704-1792) ([13] May C 2011) was given the task of institutionally stabilizing the community after Zinzendorf’s death in 1760. Until the end of the 18th century, this is the most important goal of the synods, in addition to clarifying how to deal with the financial challenges posed by the mission. Under Spangenberg’s leadership, the Unity professed the Confessio Augustana and rejected its own confession. He smoothed out Zinzendorf’s biography and, with Von der Arbeit der evangelischen Brüder unter den Heiden (1782) and Unterricht für die Brüder und Schwestern, welche unter den Heiden am Evangelio dienen (1784), laid a foundation for mission theology, the principles of which applied throughout the 19th century. In addition, the writing of one’s own history was initiated: The Historie von Grönland by David Cранz (1723-1777), the Geschichte der Mission der evangelischen Brüder auf den caralischen Inseln Christian Georg Andreas Oldendorps (1721-1787), the Geschichte der Mission der evangelischen Brüder unter den *Indianern in Nordamerika Georg Heinrich Loskiels (1740-1814) or the Alte und neue Brüder-Historie in three volumes, also by Cранz, are to be mentioned for example. In addition to these large-scale narratives, the Nachrichten contribute quite significantly to the portrayal of the community. These are printed from 1817 as Beiträge zur Erbauung aus der Brüder-Gemeine (BBG), from 1819 as Nachrichten aus der Brüder-Gemeine (NBG), and have handwritten predecessors from the middle of the 18th century. In England, however, the Periodical Accounts Relating to the Missions of the Church of the United Brethren established itself as one of the central organs for the English-speaking addressees (cf. [8] Lasch 2009/2021: 5-14).

These few examples are only a partial illustration of the important role played by the Moravian Church or Moravian Brüdergemeine in the 18th century as a mediator of knowledge from the worldwide mission fields (cf. [19] Vogt 2021): In just a few decades, the community spread throughout the world, cultivated its relations with international circles of scholars, published extensively and in several languages, thus helping to shape our European view of the world quite significantly.

3. Das “Haus der ledigen Schwestern” Kleinwelka as an anchor point for a virtual excursion

Kleinwelka (cf. on the whole chapter [10] Mahling 2017) as one of the local moravian congregations near Bautzen plays a special role for the rapidly expanding community in two ways. On the one hand, Kleinwelka is a "spiritual center" for the "work among the Sorbs" ([14] Meyer 2021: 236). On the other hand, Kleinwelka is one of the central places of education of the (missionary) community for more than 150 years. After the first settlements, the characteristic prayer hall is already built in 1757/58 at the central Zinzendorfplatz; choir houses and the graveyard (1756) as the community’s cemetery identify the place as Herrnhutian. In 1764 the Brothers’ House is occupied, in 1770 the Sisters’ House is consecrated, in 1778 the first house of the Boys’ Institution and the Diaspora House are opened and soon extended by the first house of the Girls’ Institution (1781). In the following years, the schools in Kleinwelka become a hub of the worldwide mission: parents working in the mission send their children to Kleinwelka’s schools for education before they attend (e.g.) the Pädagogium Niesky: Since “immer wieder die Eltern...”
ihre Kinder nach Kleinwelka schickten und die Kinder dann wieder ihre Kinder [...]', one has to ask, who "hier nicht zur Schule gegangen [ist.] Also fast alle Missionarsfamilien waren über Generationen hier", as Marleen Schindler, in an interview with Andreas Tasche elaborates as a study achievement. The interview is published on the project blog [DigitalHerrnhut](https://digitalherrnhut.org), as an episode of the student podcast [lasch not least](https://soundcloud.com/laschnotleast) as well as in the Virtual Excursion Kleinwelka ([17] Schindler 2022). Representing the internationally networked "spiritual center" Kleinwelka, the multi-part building complex of the sisters' houses becomes the focus of our interest for the design of a virtual excursion.

The "Schwesternhäuser" are located between the prayer hall and the churchyard and have been largely preserved in their historical state, so that the gradual expansion until 1896 can still be reconstructed today: The sisters' house from 1770 quickly became too small; a large annex, the sisters' choir house, has been in use since 1787. This section of the ensemble - the sisters' house and the sisters' choir house as well as the sisters' garden (in the center of Fig. 2) - form the core of a virtual excursion.

4. Technical aspects of modeling

The 3D model of the Sisters' House and the Sisters' Choir House (not yet publicly accessible) was created by agreement between Brüderun- nität, Schwesternhäuser Kleinwelka e.V. and TU Dresden using the commercial service Matterport. Matterport is a platform that, according to its own description, allows 'real-world objects to be transformed into immersive, digital twins'. By this, it means creating 3D models of objects and especially interiors that can then be explored in AR and VR environments or simply in a browser app. For this purpose, Matterport provides a dedicated cloud environment that allows collaborative editing of the models and enables a browser-based 'visit' and exploration of the model from any network-enabled device. The accessibility, the simplicity of the technical implementation and the remarkable level of detail of the modeling speak in favor of the use of this offering, which was originally conceived for the real estate trade, but is gradually being used, also driven by pandemics, more and more by cultural institutions such as museums or for digital teaching and learning environments.

In addition to the model, so-called (paid) "Add Ons" can be used to directly obtain and further process the data of the model. According to the company's own description, the Matterpak, for example, is 'intended for architects, engineers and people working in the construction industry who can import these assets into third-party programs (such as 3ds max, ReCap, Revit or AutoCAD), make additional changes'. But it is of course also possible, and we plan to let students use this data creatively in the context of the digital humanities in the near future. For the time being, however, we are only using the 3D model to enrich it with various types of digital material and, as a first step, to expand it into a virtual excursion.
5. Enrichment of the model with digitized data and results from research and teaching

Such models are of particular value if they can be enriched with digitized material and results from research and teaching, and thus enable students in teaching or citizen scientists and the interested public not only an exploration possibility of a culturally-historically relevant place in digital environments, but the enrichment of the 3D model can be controlled collaboratively in different teaching and learning contexts, whereby there are no restrictions regarding the complexity - textual single documents can be created just as well as multimedia tours lasting several hours. One example was the integration of an interview (see section 3), implementations of collaboratively created digital transcriptions and editions have also been done. In addition, interim work statuses can be documented, presentations can be posted, video tours can be created, and interviews and image digitizations of sources from a wide variety of sources can be exhibited. Since the Moravian knowledge archives are not only of interest for historical linguistics, but also for geo-informatics, cultural and regional history, landscape architecture history and botany - as will be briefly illustrated in the outlook (section 7) - as well as theology, to name but a few, 3D models also offer starting points for interdisciplinary and necessary cooperation, which can also be organized internationally due to the low-threshold accessibility of the models. Fig. 4 shows an example of the integration of heterogeneous (linguistically relevant) content into the 3D model of the nurses' home. From left to right, in this example, these are 1) an episode of the freely accessible podcast Old Writings, for which readers read in handwritten Herrnhutian sources for further processing (in the linked example, our student Marlene Wolf read). Then 2) reference is made to the project blog DigitalHerrnhut. 3) The excerpts of the printed biographies of Cornelius Adolf Römer (1805-1867) and Hermine Henriette Römer, née Weiß (1823-1868), are placed side by side; the digital copy is linked: Hermine Römer, it reads, moved into the sisters' home in 1837 and worked as a teacher first in Niesky and then in Berlin before marrying Cornelius Adolf Römer. In 1857 they moved to Kleinwelka to take over the inspection of the missionary institutions already mentioned above. The (printed) biographies in the Nachrichten aus der Brüder-Gemeine (NBG), cf. section 2,
are, on the one hand, a central source for the development of personal networks in the Moravian Church. In addition, they are not an expression of individual biographies like today's curricula vitae. In these texts, the individual members position themselves within the community's horizon of values. Thus, on the other hand, biographies are a special resource for accessing the (linguistically constructed and processed) value system of the faith community (cf. [15] Roth 2021 and [5] Lasch 2005). Not only audio sources such as individual podcast episodes, but also 4) video content can be directly integrated into the model - in Fig. 4, this is both an introduction to the Kleinwelka Virtual Excursion for exploration and a tutorial for embedding media content to provide orientation in the Matterport editing interface. Hosting on video portals (e.g. Vimeo or as in the example on Youtube) is a prerequisite, but the content does not have to be made public, which is essential during the editing phases of the model in contexts of academic teaching. To conclude 5), the digital copy of a manuscript is embedded on the far right. This is an excerpt from the precursors of the printed news copied in the writing rooms of the community, which are currently being digitally indexed from the Herrnhut Archive in cooperation between the Herrnhut Archive and the Saxon State Library - Dresden State and University Library (SLUB) from the year 1765 ([4] Hermann 2022). Details about this indexing and evaluation are disclosed on the already mentioned project blog. Specifically, it concerns the report "Von Kleinwelcke, vom Nov. 1770" from the handwritten Nachrichten 1770, which is remarkable for its length of ten pages alone, which in the case of handwritten copied sources can always be an indication of special content, such as this: "Eine Materie des Lobens und dankens war die Beziehung und Einweyhung des neuen ledigen Schwestern=Hauses. Unsre lieben Geschwiester Spangenberg=kamen zu dem Ende am 8ten zu uns. Am 10ten geschah Nach=mittags um 2 Uhr der Einzug der Schwestern aus dem alten Hause ins neue Chorhaus, wo sie sich zum Liebesmahl auf dem neuen Saal versammelten." (418) Addressed here is precisely Spangenberg ([13] May C 2011), who consolidated the community after Zinzendorf's death as bishop of the Moravian Church, which emphasizes the significance of the consecration of the sisters' house in Kleinwelka in a special way. The text was made accessible in the context of the Digital Herrnhut seminar and integrated into the Virtual Excursion Kleinwelka.

Fig. 4: Floor plan of the first floor of the model of the sisters' house with embedded digital copies.
6. An example: Georg Heinrich Loskiel (1740-1814)

Just as in this example relationships between the central actors and places of the fraternity appear in miniature, which historically can be directly connected to the virtualized place of the sisters' houses, relationships can also be reconstructed that reach far into the world. One of these relationships can be built from the biography of Marie Magdalene Hastings, née Schneider (1770-1851). The text is freely available in digital edition by Lubina Mahling as one of more than 100 Herrnhut life descriptions in the Sorabicon, which presents 'scientifically based knowledge about the Sorbian language, history and culture.'

On the other hand, as can also be seen in Fig. 5, it is also printed in the Nachrichten (NBG) of the congregation, which, without being able to open the discussion too wide here, is on the one hand an indication of the extremely rich Herrnhut tradition and on the other hand of different circles of addressees as well as contexts of use of the biographies (in detail [15] Roth 2021). Both texts are exhibited side by side in the Virtual Excursion.

Maria Hasting was "geboren den 6ten März 1770. in Kleinwelke", the 'Sorbian Niesky', and remembers the "damalige[n] Gemeinhelper und Prediger [...] Bruder Loskiel dem das Gedehen der Kinder sehr am Herzen lag". Georg Heinrich Loskiel (1740-1814) passed through various educational and training institutions of the Brüdergemeinde, until in 1801 he was first "Präses der Direction der pennsylvaniaischen Gemeinden und Prediger der Gemeinde Bethlehem in Nordamerika" and in 1802 was ordained bishop of the Moravian church. Maria Hasting got to know him when, after theological training in Barby, he was not only active in "verschiedenen theologischen Aemtern in herrnhutischen Gemeinden thätig war" from 1765, but also founded the "Erziehungsanstalten in Kleinwelke und [im schlesischen] Gnadnfrei" which were central to the missionary community (ADB). The Baltic Biographical Dictionary digital (BBLD) fans out the places of his activity in much more detail, which gives a better impression of his mobility as a Moravian, especially his role in Eastern Europe and the importance with the appointment to the Unity Elders' Conference within the community: “Pastor d. Brüdergemeinde in Amsterdam, dann in Kl.-Welke b. Bautzen. 1782 in Livland. Gehilfe d. Vorsitz. d. Brüdergem. in Liv- u. Estland, lebte in Strikenhof b. Wenden. 1789 Gemeinhelper u. 1. Prediger in Gnadenfrey (Schles.). 1794 Gemeinhelper d. herrnhutischen Gem. in Niesky (OL), 1798 in Herrnhut. 1801 Präses d. Direktion d. pennsylvaniaischen Gemeinden, Prediger u. Gemeinhelper zu Bethlehem (USA). 1802 Bischof. Zum Mitgl. d. Unitäts-Ältesten-Konferenz berufen, † aber vor Beginn d. Reise nach Europa."

In 1789 he published in Barby the influential and already mentioned History of the North American Mission. This history, along with others - which would go beyond the scope of this article - is one of the most important and comprehensive German-language sources on the

7. Prospects

For teaching and research contexts, the Virtual Excursion Kleinwelka forms an important starting and gathering point. Not only does it provide an occasion to reflect on sources of different kinds and the networking of the members of the Moravian Church 'at the historical site' on the current technical state of the art of modeling AR and VR environments, but it also enables international collaboration, e.g. with students who will most likely never have the opportunity to visit the historical sites of the Moravian Church in Eastern Saxony during their studies. The same is true in reverse for students in Germany, who cannot easily take a field trip to Bethlehem, Pennsylvania, among other places, the place where Loskiel worked and where the Moravian Archives is now located - a corresponding expansion of the virtual field trips to include historical sites in the present-day United States is in preparation.

Furthermore, we demonstrate the relevance of Digital Humanities working practices when we bring together sources such as those exemplified here into text collections for corpus linguistic study. The DigitalHerrnhut GERMAN corpus is part of a next-generation agile, multimodal, and multilingual reference corpus (NexGen Agile Reference Corpus, N-ARC) being built in collaboration with the Sächsische Landesbibliothek - Staats- und Universitätsbibliothek Dresden (SLUB). DigitalHerrnhut GERMAN compiles previously mentioned biographies (LB) from 1750 onwards, German-language narratives on mission history (NAR), and the printed NBG (1819-1894).

Fig. 7: The multi-word unit "Bruder Loskiel" in the DigitalHerrnhut GERMAN corpus. Highlighted are the two variants of the biography of Hastings in the Sorabicon and in the NBG.
Multi-word units, such as the close apposition “Brother Loskiel” (Fig. 6) can be reliably identified, for example, in SketchEngine (Fig. 7), which we use for teaching and research contexts.

It becomes more interesting, however, when, for example, in mission narratives from North America such as that of Loskiel (1789), one measures the relationship between Native Americans and the Europeans, whom Loskiel, distancing himself as a Moravian, calls "white people". Aspects like this, the use of pejorative terms in the North American corpus in DigitalHerrnhut GERMAN, are the focus of (post-)colonial linguistic studies ([9] Lasch (accepted)), for which machine evaluations of our sources become necessary in order to be able to subject them to linguistic analyses and provide interpretations. (Fig. 8) For by making visible specific linguistic patterns and collocations, i.e., solidified multi-word units such as "white people" (Fig. 8), not only can particular linguistic usages be studied, but also the relationships between people, places, and bodies of knowledge can be unlocked and traced coming from a virtual model. Students of historical linguistics thus not only learn about a special cultural-historical place and its community in the Virtual Excursion Kleinwelka, but are also introduced to the working practices and methods of the Digital Humanities. For they not only explore a model, but collaborate on it, creating machine-readable texts from image digitizations, which they can in turn examine corpus linguistically, revealing connections that invite interdisciplinary cooperation, for which, in conclusion, this herbarium record of a basil (Fig. 9, entry [ACQ]) can stand.

Fig. 8: Adjectival attributes of and prepositional groups with “people” as examples for the study of consolidated multi-word units (collocations) to reveal specific patterns of language use.

Fig. 9: Basil herbarium specimen of moravian provenance in the virtual model of the sisters' garden.
The specimen grew "in horto Botanico" of the Barby Seminary and was collected either by Friedrich Adam Scholler (1718-1785), Johann Jakob Bossart (1721-1789) or by one of their students, among whom was Georg Heinrich Loskiel, and described by Scholler in the highly influential *Flora Barbiensis* (1775) (cf. on the connections in international scholarly circles [16] Ruhland 2017). Today, the voucher belongs to the Herbarium Dresdense in the collection part of Moravian provenance, which is currently being indexed (also digitally) and integrated into the virtual model of the Sisters’ Garden, before it may one day return, even if only virtually, to its historical place. But that is another story, which will be told above all by the botanists in the DigitalHerrnhut research hub.

The Virtual Excursion Kleinwelka is not yet used as a teaching tool to explore the Moravian knowledge archives, as the enrichment phase and especially the creation of tours through the house have not yet been completed and released by the Moravian Church. The examples used in this paper were created in teaching contexts, reflect indexing projects with partner institutions, and are contributions from research - so for now, the Virtual Excursion Kleinwelka is still more of a Virtual Sisters’ House that will be prepared for exploration in the near future. An important step in this direction will be the Cultural Summer 2022 with the contribution from Kleinwelka, which will relate the model and the results on site.

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### References


