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## Geographic information dream

### Abstract

The authors described their work on the project realized by the Department of European Ethnology, Faculty of Arts of Masaryk University in Brno, the Czech Republic, titled “Geographic information system<sup>1</sup> of tradition folk culture in Moravia (1750–1900) (GISTraLiK)”. The aim of the project is to create an information system which enables to connect an information concerning the Czech folk culture with maps; it is constructed in order to support academic research, education and cultural public work as well as the formation of identity processes. The author talked over sort of information the user would find, in which archive or ethnological literature the information would be available etc. Moreover, the text establishes the progress of the project and its specific methodology in general framework of applied anthropology.

**Keywords:** geographic information system, traditional culture, Moravia, archive research

### Aim of the Project

Geographic information system of traditional folk culture (hereinafter GISTraLiK)<sup>2</sup> is one of the present projects of Department of European Ethnology, Faculty of Arts, Masaryk University. The main goal is to create online informa-

<sup>1</sup> For more information see e.g. D.E. Davis, 2000 *Vytvářím mapy v GIS: prozkoumejte své okolí celý svět v geografickém informačním systému*, Praha; E. Chodějovská, 2011 *Přehledy bádání a historiografických studií. Geografické informační systémy v práci historika*, “Český časopis historický”, Vol. 109, p. 794–806; J. Kolář, 2003 *Geografické informační systémy = skriptum ČVUT*, Fakultastavební, Praha, M. Konečný, K. Rais, 1985 *Úvod do geografických informačních systémů = skriptum Univerzity J.E. Purkyně v Brně*, Praha; V. Voženílek, 1998 *Geografické informační systémy*, Olomouc; J. Tuček, 1998 *Geografické informační systémy: principy a praxe*. Praha. Or websites ESRI (<http://www.esri.com/>), Geoinformatics (<http://www.geoinformatics.com/>), Geoconnexion (<http://www.geoconnexion.com/>), Geobusiness (<http://www.geobusiness.cz/>), ArcdataPraha (<http://www.arcdata.cz/>).

<sup>2</sup> “GISTraLiK” is Czech abbreviation for the project.

tion system that will be able to connect traditional culture data with maps – with regard to Moravia and time limited from the half of 18<sup>th</sup> to the end of 19<sup>th</sup> century.<sup>3</sup>

Moravia historical territory has been chosen intentionally, due to historical, geographical, economic and cultural circumstances. Various cultural spheres (Moravian-Pannonian, Carpathian), which overlapped each other in this area, played an important part in forming local traditional culture. There are regions that were documented over a long period (Valašsko, Slovácko) and localities that were not focused in more detail. We can observe the influence of multiethnic environment on cultural and ethnical process as well, because in addition to Czechs, Moravians and Silesians another ethnic groups also occurred in this area – Germans, Jews, Frenchmen, Croatians and Romanies.

As mentioned before, the main goal of this project is a creation of a free accessible online system that is open to the professional and non-professional public. This system will offer the unique informational platform where material and immaterial folk culture data will be collected. Emphasis is placed on the collection of information from various source documents into one database and on interdisciplinarity through cooperation of branches ethnology, geography and information technology.

## Application of GISTraLiK

GISTraLiK will be useful for the expert and amateur public. By means of this system huge amount of professional knowledge from the field of ethnological studies will be accessible. The system have been planned to work with a specific locality (defined as a region, subregion, historical judicial district, church district, cadastre, dominion, village). This division comes from official cadastral research made by Habsburg Monarchy during the 18<sup>th</sup> and 19<sup>th</sup> century (Stable cadastre, Therezian cadastre and other administrative changes connected with the revolution in 1848 and further). A village cadastral area was used as a basic unit for imaging in GISTraLiK. The number of documented villages that are covered in the project reaches over 2500.

For finding information about one's subject of interest a search form will be used in which a visitor will be able to set his requirements about a particular phenomenon, place and time. Each locality will contain notes of descriptive information on the theme, time or local level, with further reference to source documents. A visitor will be able to combine these levels according to his/her needs. In practice, the amount of information that will be displayed from the entered headword are: name of village in Czech and Germany, time identification, an abstract,

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<sup>3</sup> Information mentioned below comes from internal documents that were produced during the preparation of the project.

a scan or photo of a source document, reference to its placing (archive, book's or periodical's citation, bibliographic references etc.).<sup>4</sup>

Apart from an individual researchers' application mentioned above, GISTra-LiK could contribute to forcing and developing national, regional and local identity, e.g. in educational area (folk culture information integrated in teaching),<sup>5</sup> leisure activities (application of local tradition components among social activities),<sup>6</sup> or tourism (extend the offer of attractive places to be seen).<sup>7</sup>

## Methodical aspect

Due to project's content and different methodological attitudes, there were formed two working sections (according to professional knowledge): ethnology and IT section, that cooperates with each other.

Ethnology section is constituted by assistants and PhD students from Department of European Ethnology, and is further differentiated into two subgroups (for material and immaterial culture). These subgroups are both coordinated by guarantors who are mainly in charge of the definition of using methods, categorization and preparing specialized studies. Therefore Ethnology section secures the identification of source documents (mainly text materials, but also iconographic, archival and map materials), making a list of entries (by means of headwords), defining ethnographical areas and data passportization. Basic as well as applied research are the methods of Ethnology section: processing of archival and collection funds, abstract from source documents, building a system of publishing).

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<sup>4</sup> We can give an example to illustrate the practical use. Let's say that somebody is interested in miracles in the locality of Křtiny (the village near Brno) in the 18<sup>th</sup> century, so he/she would use **such headwords as Křtiny miracle and 18<sup>th</sup> century** in the searching form. The result would be the imaging of this village (Křtiny in Czech, Kiritein in German) on the map (north of Brno) and the specific timeline (1700–1799) and also its administrative districts classification as was mentioned above (church district: Křtiny, cadastre: Křtiny, dominion: Zábřovice, judicial district: Brno-okolí). In addition a bibliographical list would be displayed – on which archival documents and ethnological literature about a particular phenomenon would be put; and also references to archives or museum where some mentions of discussed issue are in nowadays or were in the past. Further, another thematically relevant information can appear like Virgin Mary, Saint, place of pilgrimage, devotional objects etc., which could help in looking for another connections and relations.

<sup>5</sup> Children from Kindergartens and Elementary schools could find information about traditional aspects of local festivities that are connected with a particular time of the year (Christmas, Carnival, Easter, Witch burning) and the way in which their ancestors celebrated these feasts in the past. Another area of interest could be local verbal art (narrations, legends), folk songs etc.

<sup>6</sup> Encouraging children and adults to take part in social life in village by organising traditional folk dance and folk music concerts or verbal art shows. On the basis of study of ethnographical literature, some vanished or declining traditions could be revitalized, e.g. by local dances, plays (Passion Plays), round walking (St. Nicholas, Twelfth Day), or folk theatre.

<sup>7</sup> The support of building tourist and bicycle paths that could lead to important places of scenery – to technical or agricultural buildings (bridges, wind and water mills), sacral architecture (way-side shrines, small chapels, crosses) etc.

IT section guarantees entire activities related with information technologies and GISTraLiK development (connection, installation and operation of working stations, map and database servers). Because of the need of coordination and as an informational centre of the whole project, the server called gistralik was set up within the informational system of Masaryk university. GISTraLiK is used for producing the key project materials available and also ensures simple accessibility to the bases for all members of the solving team (methodical materials, term definitions, data files, references to GISTraLiK applications etc.).

To deepen the knowledge of Ethnology and IT section, both sections took part in a workshop dedicated to Geographical informational system and its use in social sciences,<sup>8</sup> which was organized by Department of Anthropology, University of West Bohemia in Pilsen. The goal of this meeting was to become familiar with new technologies of geographical systems in scientific work, to discuss various attitudes and experiences of all the participants that came from their own field research and also to think about possible difficulties with using this system in practice. All the participants had agreed mainly on the advantage of visual presentation of the data on a map what leads to easier understanding and orientation in research results.

## Where we are right now?

Our team successfully finished first year after the implementation of the project. We started with basic documents that are needed for the preparation of the data before entering them into the system.

The biggest challenge was the preparation of the list of entries. It will be used to search in the database of folklore phenomenon. It does not rise from an ethnology taxonomy. It is built on the basis of the needs of GIS and expectations of the users. Firstly, there is a common field of ethnology (systematic headwords as folk architecture, folk costume, food, social norms and relations, dance, narrative folklore, etc.). In the next two ranks, there are more specified notions (analytic headwords – folk architecture –material, construction, roof etc.; material – wood, stone, clay etc.)

Table 1

Systematic headword	Analytic headwords	Analytic headwords
stavitelstvílidové	dispozicedomu	brána
		černákuchyň
		chlév

<sup>8</sup> Workshop was held from 20<sup>th</sup> to 21<sup>th</sup> of February in 2013.

		jizba
		komora
		kuchyně
		podsíň
		průjezd
		půda
		síň
		světnice
		žudr
	interiér	vybaveníkuchyně
	stavebnímateriál	cihla
		cihlanepálená
		dřevo
		hlína
		kámen

There were two principle problems. How many ranks should we follow? The taxonomy of ethnology is more complex but we had to apply a three-rank concept in order to keep the application user-friendly. Headwords were another problem because they can occur in more than one categories in more categories because they have more interrelationships in traditional folk culture. For example an egg – it is food but it is used in some rituals and ceremonies, too, and also is an object of folk art as a painted eastern egg. Therefore, some headwords appear in the list of entries twice or thrice. This is the reason why the headwords will not be connected together on tree or pyramid scheme (in GIS search). All of the headwords will have equal position. As it was mentioned before, the creation of the list of entries was a task for our assistants. Each of them prepared one part according to her or his ethnologic specialization. Up to this point the list of entries had five versions. The last one has 1084 items and right now (March 2013) is reviewed by an independent science commission.

Next important step was to prepare accommodating tables for different types of documents. Each document had various information about itself – parochial chronicle is not the same document as an article in a science journal. Then we made a special table for notes. What was problematic was that sometimes we did not find all demanded information (most frequently a concrete localization – village) for the whole inquiry. Therefore we had to define one type of information which would be included in all the notes. More specifically, the time – a year or two-year time frame. The ethnology and the IT group cooperated on this part together. We had to find a compromise between the possibility of providing the complete entry and the necessary content of the entry to be included in the database.

During the first year we prepared a list of Moravian villages and towns. To one settlement we assigned data about an average number of inhabitants, national and religious identity of inhabitants and a number of houses in village in years 1850/1854, 1869, 1880, 1900. We borrowed the statistical information of the historical names of Moravia and Silesia in years 1848–1960 (Bartoš 1972–1994). The list of settlements is important for connecting information with the map. Other statistic information is useful for eventual users' researches. But we had to deal with the next important complication. During the archive researches we often find documents of traditional culture that are tied to region, subregion, locality, or that are defined geographically (behind mountains). Therefore, we had to choose fixed smaller political, cultural or geographical areas to specify which villages were part of them, fix where this areas had borders and in what time. We worked with available sources and used specific political and Roman Catholic Church administrative units that were used in the past. The more complicated problem which still exists is drawing the borders of the ethnographic region. It is an old problem which Moravian and Czech ethnologists have been trying to solve for one hundred years at least. The folk borders are not the same when considering different cultural aspect (for example between folk architecture and folk costumes). Therefore, it was and it is hard to define where the border between Haná and Slovácko is. It is the same with most ethnological regions and subregions. This problem is still open and maybe only GISTraLiK will be able to solve it.

A list of institutions which we would visit and process their archive documents was prepared. The list contains 213 points that include the Moravian museums (district, regional, local), the archives (district and local), the Institute of Ethnology of the Academy of Sciences of The Czech Republic, the National Heritage Institution, the Czech Ethnographic Association and two Austrian institutions – The Austrian Museum of Folk Life and Folk Art, The Austrian National Library – both have residence in Wien.

All these parts of our work were tested by the first archives research. We made it in National District Archives in Uherské Hradiště, Vsetín, Znojmo and Žďárnad Sázavou. Four PhD students processed the school chronicles (129 chronicles were processed till the end of 2012), were searching for imperfections of methodology, basic documents (tables for notice) and especially for the list of entries. This research provided the material used for writing two articles that will be published in ethnologist journals this year. The first one is about new festivities in villages in the end of 19<sup>th</sup> century (V. Kuthánová, B. Valešová, *Festivities in the social collective of the village from the perspective of school chronicles. Probes into the records of school chronicles of selected locations from the late 19<sup>th</sup> century*). The other one is about a social position of teachers in a rural society (B. Machová, E. Šipöczová: "A school visit was found to be fairly decent according to the local situation...". A reflection on a relationship between a rural teacher and local society illustrative of affairs noticed in school chronicles). Next two articles did not originate from school chronicles. Alena Křížová, Mar-

tina Pavlicová with Daniel Drápala<sup>9</sup> prepared together an article entitled “The ethnography district as a base of classification of local folk culture during the 19<sup>th</sup> and 20<sup>th</sup> centuries”. All four articles will be published in the year 2013.

## Other steps in the future

Our work on the GISTraLiK is still continued and now we enter the next part of the project. We start with small personal changes – we have three new co-workers in ethnology section. Each of them is specialised in a different field. One colleague will begin with processing material artefacts from Museum of Moravský Krumlov. She will document the local ethnology fond and test the possibilities of GISTraLiK for processing material items. The second colleague will start with connecting villages with historical politics jurisdiction according to the cadastre from 1748. We have these maps from Science Library in Olomouc. The last one will help with determining the borders of ethnological regions and processing material artefacts from Museum of Boskovice’s region.

We will collect and prepare the data from source documents gained as a result of intensive researches in Moravian archives, ethnology institutions and museums. In the initial phase we will continue with school chronicles and we will start to process our department’s library. Ethnology section should handle the final version of the list of entries and create the last database of source documents intended for data passportization until the end of 2013. In the next phase (probably during 2014), the IT section should start to transfer the passportization results into the system and the testing operation should be consequently activated. The main target for this year is just to start test works for students of Department of European Ethnology and some selected research workers from other institutions. The test works of GISTraLiK will lead to the definition of users’ needs and will apply them into the system. Inseparable part of this step is to build a website. We discussed the website design together with the IT team, consulting our requirements and technical possibilities. We compiled a list of claims for a web designer and realised a selection process (April 2013). Also, we have to prepare users’ manual, information about project and other texts which will be a content of the website.

The end of the project will be in 2015. Until that time we have to process the source documents and solve all the issues that are damaging user-friendliness of GISTraLiK. A promotion of GISTraLiK is and will be an important part of our work. In this part of the project we are to prepare a workshop for interested persons and also to publish two articles in an impact journal and seven in a nonimpact journal and one book publication in a foreign language (it will be in English).

Next possible steps in the future are obvious – after verification of smooth running of GISTraLiK, the system should be used further for other historical territories (Bohemia, Silesia) or time lines (1900–1950).

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<sup>9</sup> A contribution of watercolours by Franz Richter to perception of folk costume in Moravia.

## Conclusion

The geographic information system of tradition folk culture in Moravia (1750–1900) is a large ethnographic project and its goal is to provide scientists, students and non-specialist users with general knowledge about an occurrence of folk culture phenomenon, especially about historical documents and science literature to study folk culture. It will be the basic step for study and research of traditional culture, its presentation and preservation of national, regional and local heritage and identity.

GISTraLik project has high potential for growth and development. The first step would be to extend the database to Bohemian and Silesian part of Czech Republic. It will provide a possibility of using GIS by many others experts or amateurs; it will be one of the steps to comparative study of traditional culture of the republic, put national Czech culture in context of Europe and save and present Czech national heritage to next generations. Other options of GISTraLik include: using the system for science analysis, bringing new methods to ethnology, applying new procedures to researches and asking new questions. It has a potential to be a new way of ethnological and other culture science.

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