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## SCIENTIFIC ARTICLES

**Authors:** Karel MAIER, Daniel FRANKE
**Title:** Assessment of territorial benefits and efficiency from the construction of motorway and speed train networks: The Czech case
**pp. 140-154**
**Abstract:** The Czech Republic has been developing its motorway network since the 1970s, while efforts to upgrade its railway system from the 1990s have been limited to improvements of existing major lines. Only recently has the government decided to construct new "speed connection" rail lines. This article investigates the possible territorial benefits from the future development of planned motorways and of various speed connection railway options. The modelling is based on Huff´s gravity model that calculates the benefits from improved accessibility, to job and service centres for residents of each municipality. The modelling outcomes are used to compare planned motorway development and rail development options with respect to their efficiency, related to the investment and potential numbers of users.
**Article history:** Received 6 December 2018, Accepted 30 August 2019, Published 30 September 2019

**Authors:** Dagmar ŠTEFUNKOVÁ, Ján HANUŠIN
**Title:** Viticultural landscapes: Localised transformations over the past 150 years through an analysis of three case studies in Slovakia
**pp. 155-168**
**Abstract:** The transformation of vineyard landscapes is evaluated in this article by assessing the changes in land cover and landscape diversity in selected study areas in two time periods – from 1867 to 1949, and from then to 2016. The study areas are characterised by a long history of viticulture and with important occurrences of old and new agrarian relief forms. Fine-scale land cover and landscape diversity analysis, as well as the study of historical and strategic documents, enabled an accurate interpretation of the viticultural landscape trajectories and their drivers. Landscape diversity was computed using the Shannon diversity index for each 625 square metre grid unit, and applying other metrics for the entire study area. Our research established that the study areas oscillated during this period between extensification and agricultural intensification, and the general trend confirmed the disappearance of traditional vineyards and a decline in modernised vineyard areas after socialism. Although extensification and intensification are seemingly contradictory processes, it is established that these both increase landscape diversity. In addition, landscape diversity changes in the second period are influenced more by changes in quantitative landscape pattern characteristics via edge density than qualitative patterns, e.g. patch richness, which reflect land use diversity.
**Article history:** Received 28 January 2019, Accepted 10 September 2019, Published 30 September 2019

**Abstract:** Environmental fragility in a mining area is evaluated both in terms of its biophysical (natural) and socio-economic components and their anthropogenic interactions. We identified multiple criteria and indicators for this task, but then reduced these according to responses given by 60 experts in domains related to spatial planning. We used the selected criteria and indicators to develop environment fragility indices for each territorial administrative unit (LAU2) in Gorj County in south-western Romania. The resulting indices reveal quite large spatial variations in fragility and evidence that highly fragile human and physical environments are to some extent intertwined. In this respect, such environmental components as climate, soils, ecosystems, natural hazards and economic issues provide constraints on human activities, whilst humans themselves can, without sufficient care, increase fragility and adversely affect the quality of living environments for present and future generations. We also explore how such estimates of natural and anthropogenic fragility might enable better specific planning for local and regional development that aims to ameliorate both environmental and human adversity in an integrated way.
**Article history:** Received 3 January 2019, Accepted 25 June 2019, Published 30 September 2019

## SCIENTIFIC COMMUNICATION


**Abstract:** Geographical aspects of contemporary Czech religiosity are discussed in this paper. The main objective is to understand and approximate the spaces and places of faith which Czech believers inhabit, construct and reconstruct. An original focus on young believers was broadened to include priests, preachers and older members of several churches in Brno city, and the Přerov and Ústí nad Labem regions. Concepts of space and place, sacred spaces, and the imagery of post-mortem spaces are treated within the context of so-called secularisation and related phenomena. The methodology is based on an inductive qualitative approach using the Grounded Theory of Strauss and Corbin. The data are presented, discussed and ordered following the main themes originating from the research, including: (i) spaces of regular activities (related to the faith); (ii) spaces of dissemination and evangelisation of the faith; (iii) personal places linked with faith; and (iv) an introduction to the imagery of post-mortem spaces. The results document a long-term shift in the attitudes of believers, the change from rather public spaces of community gathering to personal places, influenced by specific secularisation tendencies. Also, the results represent the typical places of faith which are constructed and reconstructed by current Czech believers, and the current imagery of post-mortem spaces.
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