

Chapter 5

Landscapes, Their Exploration and Utilisation: Status and Trends of Landscape Research



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Abstract A new geological epoch has begun—the Anthropocene. Huge anthropogenic transformations of terrestrial landscapes over the past five decades have forced its declaration. Exploring of interaction of humans with nature in general, and with landscapes in particular, can be characterised properly by the terms ‘landscape research’ and ‘landscape science’. Landscape science has been a traditional scientific discipline of geography. This is the case in Russia, whilst the terms geo-ecology and landscape ecology have become established in the

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L. Müller and F. Eulenstein (eds.), *Current Trends in Landscape Research*,
Innovations in Landscape Research, https://doi.org/10.1007/978-3-030-30069-2_5

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where the term *landscape* is used figuratively, as in medical research. As all publications are in English, this analysis can provide a rough orientation only, not more.

It is noticeable that in these recent publications of 2018, the *landscape* term in the USA is mainly used in association with *landscape conservation*. In Germany, it is most closely related to *ecosystem services* and in regions of the former Roman Empire most frequently to *cultural landscapes*.

5.4 Landscapes in Permanent Transformation: The Case of Central Europe

A characteristic of landscapes is that they undergo continuous transformation due to natural processes as well as to the historical development of human society (Antrop 1998; Lipský 1995; Plit and Myga-Piatek 2014).

5.4.1 Neolithic to Medieval Times

The Neolithic Revolution, which started at the geological epoch of the Holocene around 12 thousand years ago, created settlements, agricultural fields, domesticated plants and animals and rural landscapes (Zeder 2008). Soil tillage and irrigation converted land around settlements to agricultural land. This process expanded slowly northwards from the Fertile Crescent and the Mediterranean area. From about 5 thousand years BC, equestrian nomads migrated from Central Asia and South-east Europe to Central Europe, for example, the Yamnaya culture (Mathieson et al. 2015; Bower 2017). Besides the Indo-European languages, they brought domesticated horses to Central Europe and promoted Bronze Age cultures (Bower 2017). The combination of sedentary arable farming with horse-based mobility became a successful basis for food production, trade and military activities (McNeill 1987).

A landscape structure consisting of forests, pastures, arable lands, open waters and interconnecting transport routes at community or regional levels was advantageous for the development of local rural cultures of Central Europe, for example, the Únětice culture (Meller and Michel 2018). They were largely confined to the few existing fertile forest steppe landscapes of Central Europe in the vicinity of the Hartz Mountains, cultivating fertile Loess and Alluvial soils.

Landscapes east of the Rhine River remained generally less cultivated than landscapes west of the Rhine. During the period of the Roman Empire at its largest extent about 117 AD (Kelly 2007), the *Limes Germanicus* (German frontier) divided two very differently cultivated regions in Central Europe along a line from Castra Regina (Regensburg) to Colonia and further north along the Rhine River. Landscapes located to the south and west were characterised by the Roman high