

Discovering the lost Great War heritage in the present-day landscape based on an interdisciplinary landscape change analysis

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The military impact of the First World War (1914-1918) on the landscape in Belgium was enormous. The environment changed in an abrupt way and formed a characteristic militarised landscape. Despite the spectacular post-war reconstruction, military relics are still present in the current landscape and form the last witnesses of this conflict. However, little attention has been given to the landscape context of these military relics. Moreover, the causes why Great War heritage is disappearing today is also not fully understood. Both are important to move towards a sustainable management of this typical heritage. This paper aims to characterize WWI relics with interdisciplinary non-invasive techniques and to identify the related underlying patterns of the changed landscape during the last 100 years in order to understand the lost Great War heritage through the last century. The challenge is to combine landscape and archaeological perspectives whereby, despite the same objectives, constructive (e.g. craters) and destructive (e.g. trenches) relics are approached from a different discourse and importance, with specific sub-questions in each discipline.

This research investigated Great War heritage based on historical and contemporary spatial data. In the first phase, aerial photographs from WWI, WWII and today were analysed, creating an extensive spatio-temporal database. Therefore, land use/land cover and linear structures were defined, forming military landscape character types. Using this database, two analyses were carried out with, on the one hand, the Landscape Change Trajectory Analysis (LCTA) that studied landscape dynamics through time. A possible presence of relics today could be appointed to each defined trajectory. On the other hand, the impact analysis was executed identifying the degree of disturbance during the war with also an associated probability of relics. Both techniques are complementary in order to define a general judgement about the probability. In the second phase, the integration of the spatio-temporal analysis

with an interpretation of Light Detection and Ranging (LiDAR) was performed. This remote sensing technique gives unique insights regarding the micro-topography of the present-day landscape, indicating (un)subtle the presence of WWI-relics today. LiDAR provided the validation for the probability of relics identified by the landscape analysis. In this way, the extent of the lost WWI heritage is known with the related underlying patterns of landscape changes indicated by the landscape trajectories.

Results show that WWI-heritage is still abundant in the present-day landscape but a lot disappeared due to the changed landscape during the last century. A significant correlation can be found between landscape trajectories and types of relics. By way of conclusion, we want to emphasize the usefulness and contribution of the historic aerial photographs in an interdisciplinary non-invasive landscape research method, combining landscape analyses and remote sensing archaeology.

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