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## Systematic analysis of trench maps to understand the Belgian World War One front zone landscape

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## ABSTRACT

At the end of 1914 the concept of World War One changed from one of mobility to a static trench warfare situation. From that moment onwards, it became necessary to obtain details of the landscape of the battle zones, the enemy's positions including the trenches, bunkers and observation posts, and the hinterland, where artillery batteries, rear defences, transport, and reserves were located. Both the German and British forces used aerial photographs, taken from the air by reconnaissance flights, to provide knowledge on the layout of the positions of their opponent. Techniques were developed to plot details from the aerial photographs on large-scale topographical maps that were used as a background for the overprinting of military features. Different Belgian, British and German forces produced maps of the battlefields and hinterland, using their own symbols, categorization, and place names added in red of blue (according to the German and British forces). The aim of this study is to analyse different trench maps from different archives to assess the information content added during the war period and to interpret the annotations in the understanding of the military activities and landscape dynamics during World War One.

First, special attention will go to the information (content and quality) represented on British, Belgian and German trench maps and their potentiality to study the landscape dynamics during the war period. What kind of military elements related with war activities (trenches, bunkers, additional roads, observation posts,...) were added on the maps, what kind of symbols are used to map the features, what are the differences between the series of trench maps? The assessment of the information content is done based on a systematic review of the maps using cartographic principles.

Second, several place names and other textual indications are plot. The toponyms range from names of farms, woods and villages, sometimes given a specific name by the mapmakers referring to specific landscape features or topographical aspects. This means that the place names are an additional layer on the trench maps, giving information that is related with the

World War One landscape. Some of the original French or Dutch place names on the topographical maps were translated into English or German, since they were easier to pronounce and recognize. In this way, the different armies became more familiar with the landscape of the Belgian front zone. Place names sometimes were even referring to places "back home". By creating a database and digitising the location of the toponyms, insight in the mental landscape of the soldiers during World War One can be achieved and the evolution of the toponyms over time can be researched. Place names can disappear, move from position, or be renamed between two trench maps of the same area. By looking to trench maps in detail and analyse place names a better understanding on how the landscape was seen and used during World War One is possible.

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