Chapter 13

TERRAIN AND ITS AFFECT ON THE USE OF ARTILLERY IN THE AMERICAN CIVIL WAR
The Battle of Perryville 8 October 1862

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Abstract: The affects of dissected limestone terrain on the use and effectiveness of field artillery during the American Civil War are shown using examples taken from the Battle of Perryville, KY, a duel between artillery batteries and for artillery positions. Smoothbore weapons were more effective over shorter wavelength, more dissected terrain, whereas modern rifled cannon proved to be more advantageous over longer wavelength, more open terrain. Terrain-based optical illusions also had a significant affect on the outcome of the battle. These influences are illustrated using different methods of visualization and analysis based on a 30-ft-resolution raster digital elevation model.

Key words: American Civil War, Battle of Perryville, field artillery, battlefield terrain, military history

1. INTRODUCTION

The Battle of Perryville was fought between General Braxton Bragg’s Confederate Army of the Mississippi and Major General Don Carlos Buell’s Union Army of the Ohio. The two armies met on 7/8 October 1862 in the rolling hills just west of the small town of Perryville in the Bluegrass Region of Kentucky (Fig. 1). Kentucky, although a border state and neutral, was considered to have southern sympathies and it was believed that the presence of Bragg’s army in the state would incite its citizens to rise in support of the Confederacy, that recruits would flock to join the Confederate armies, and that numerous weapons would be provided. To gain control of the state was thus the strategic objective of Bragg’s Kentucky Campaign. For well-
documented accounts of the campaign see Connelly (1967) and McDonough (1994).

Perryville was a small market town with a population of about 500 (McDonough, 1994). The center of a rich agricultural region, the town sits astride the Chaplin River in Boyle County, KY (Fig. 1). Under normal conditions, there is an abundant supply of surface water with numerous creeks in addition to the Chaplin River. However, at the time of the battle, the region was suffering from a severe drought (OR, 1886). The Chaplin River and its major tributary, Doctor’s Creek, were the only sources of water available over a large region and it was the need for water that attracted the two armies to this location (OR, 1886).