

## GENERAL ORDER.

HEAD-QUARTERS,  
CAMP LAPRAIRIE, July 12th, 1871.

## ORDER No. 1.

The Officer commanding the Camp at Laprairie desires to express to the officers, non-commissioned officers and men of the staff, and of the various corps composing it, his high appreciation of their good and soldierly conduct during the period of their encampment. He believes it is not too strong a statement to assert that no body of men of their numerical strength, (considerably over five thousand,) drawn together from so large an area of country, and composed of such a diversity of race and creed, ever encamped together with such an absence of crime and vice, or evidenced more amenability to discipline, and desire for instruction in soldiering.

The duties of the command, though, of course, arduous, were lightened by the unceasing exertions of the staff and of officers commanding corps, and it must be a source of gratification to them to know that by their aid one of the greatest difficulties, viz., that of the transport of the troops, not only to and from their respective headquarters to the Camp, but, on the occasion of the Review, from Laprairie to Montreal and back, was surmounted without a hitch or accident.

While thanking the officers of the permanent Militia Staff who attended the camp for their exertions, Lieut.-Col. Osborne Smith wishes also to record his sense of the valuable aid afforded him by those officers of the Active Militia Force who volunteered for duty on his personal Staff; to Lieut.-Col. Gillmor, of the 2nd "Queen's Own," and Lieut.-Col. McKay, of the Montreal Garrison Artillery, who respectively acted as Assistant Adjutant-General and Assistant Quartermaster-General to the Divisional Camp. his thanks for their valuable support are warmly tendered; Lieut.-Col. Moore, as Camp Quartermaster, and Capt. Kay and Lieut. Wicksteed, as Orderly Officers, were of the greatest assistance; whilst Major Dowker, as Supply Officer, has fairly earned not only the thanks of the Commanding Officer, but of the whole Camp, for his untiring exertions in carrying out his duties, rendered, on several occasions, by accidental circumstances, more than usually difficult.

It is much to be regretted that at an early period of the Camp severe and sudden illness deprived the Division of the valuable services of Lieut. Col. Harwood, Deputy Adjutant-General 6th District; the duties of his Brigade were, however, carried on in an energetic and soldierly manner by Lieut.-Col. D'Orsonnens, who succeeded to the command.

Although two fatal accidents (occurrences almost inseparable from large assemblages of troops) have to be deplored, it is a matter of much thankfulness, and of surprise, that there was not a single death from disease during the period of training, and that, with the exception of a few simple cases, sickness was almost entirely absent; this, in a great measure, must be ascribed to the assiduous conduct of the Medical Officers in carrying out sanitary measures for the prevention of epidemics.

In relieving the Officers and men from their duty at the Camp, the Commanding Officer desires to wish them most heartily farewell.

(Signed,) W. OSBORNE SMITH, Lt.-Col.  
Dep Adjt. Gen. Militia No. 5 Military  
District, Commanding Divisional  
Camp at Laprairie.

## CLIMATE OF THE LAKE REGION.

The climatic influences of vast bodies of salt water, like the Atlantic and Pacific oceans, have long been understood. The effect of small inland bodies of fresh-water in averting early autumnal frosts has also been generally remarked. But, as before intimated, meteorologists do not seem to have observed, till recently, that great lakes, like Lake Michigan and Lake Superior, exert an influence in deflecting the isothermal lines which is quite comparable with that exerted by the great oceans themselves.

These lakes, in truth, are no inconsiderable representatives of the ocean. Lake Superior is 460 miles long and 160 broad, with a mean depth of 988 feet. It has a superficial area of 32,000 square miles. The State of Massachusetts might stretch herself out at full length and bathe in its waters. Even then there would be room enough for Rhode Island at her feet and Connecticut at her head, with Vermont stretched along her right and New Hampshire on her left. You may take all New England, excepting Maine, and hide it bodily beneath the waters of this single lake. Lake Michigan is 360 miles long and 108 broad, with a mean depth of 900 feet and a superficial area of 20,000 square miles. You could sink in this lake the three states of New Jersey, Delaware, and Maryland. Lake Huron, with a length of 270 miles and a breadth equal to that of Lake Superior, has a mean depth of 300 feet, a superficial extent equal to that of Lake Michigan, and would swallow up the whole kingdom of Denmark, including the duchies.

You may embark upon a sea-worthy steamer at Chicago and travel for thirty hours without a sight of land; and after having passed the Straits of Mackinac, and entered Lake Superior, you may steam for two days more without reaching Superior City or Duluth. The voyage from Buffalo to Chicago around the lake is a thousand miles; from Buffalo to Duluth is eleven hundred miles, or three-fifths the distance from Newfoundland to Ireland.

The majesty of the tempest is little less on the lakes than on the Atlantic, and the low perpetual moan of the breaking waves along the beach transports the imaginative listener to Long Branch or Nahant. During a summer day they breathe, like the ocean, a cooling atmosphere on every shore, while at night the direction of the breeze is frequently reversed. These are our interior land and sea breezes. To complete the analogy, our great inland seas exhibit the fluctuations of a diminutive but genuine lunar tide.

It is impossible that such enormous masses of water should be materially elevated above the mean temperature of the year by three months of summer weather, or depressed materially below it by three months of winter. The land surfaces in the same latitudes attain far greater extremes of cold and heat than the lakes. Two reasons exist for this: First, watery surfaces absorb and radiate more slowly; and secondly, the continued stirring of the waters by the winds mixes the surface temperature through a depth of several hundred feet, while, on the land, the entire effect is confined to a superficial zone of about seventy to ninety feet. The normal mean annual temperature of the land in the neighborhood of Milwaukee is 44°, and this should be about the mean temperature of the water of Lake Michigan. In summer the Milwaukee mean rises to 57°, while in winter it sinks to 22°. The water of the lake, meanwhile, rises

in summer only to 46°, and sinks in winter only to 40°. Winds from the lake, therefore, partaking largely of the temperature of the water, must exert a material influence in equalizing the temperatures of summer and winter. Still more, in cases of extreme weather, when the land temperature rises to 95° or sinks to 30° below zero, must the ameliorating influence of such a vast body of water, holding itself steadily at a somewhat uniform temperature, be most conspicuously and most beneficently experienced.

There is one cause of the mild temperature of deep lake waters during the cold season, which probably has been very little considered. Lakes Michigan and Superior are nearly a thousand feet in depth. They reach down toward the internal fires a distance which, if measured through the solid crust of the earth, would bring us a very considerable increase of warmth. Upon the land the influence of climate changes does not extend, on the average, to a greater depth than eighty feet. Beneath this we experience an increase of temperature amounting to one degree for every forty-five feet of descent. According to this law the terrestrial temperature at the bottom of Lake Michigan should be increased eighteen degrees. Were there no mingling of the deeper and shallower strata of the water this increase would exist. This amount of heat, nevertheless—with some abatement to which it is not necessary to refer—distributed through the entire depth of the water, must produce no inconsiderable elevation of temperature in the general mass.

During the winter, therefore, Lake Michigan may be regarded as a great natural stove holding and radiating the heat absorbed during summer from the solar fires, eked out by an unflinching accession of heat from beneath yielded by the reservoir of igneous force imprisoned within the earth. When, on a stinging wintry morning, we behold the steam ascending from the whole surface of the placid lake, we witness an analogy to the vessel of water steaming over our household fires, which is more literal and more striking than we had dared to imagine.

Such vast and efficient compensators of climatic extremes, situated in the interior of continents, rescuing broad areas from the waste supremacy of summer heats and wintry frosts, seem like interpositions of Providence to adapt the world to the bodily necessities of its inhabitants. Such beneficent equalizers are all great lakes; and such, most strikingly, are those vast seas strewn through the midst of the lands which were the home of the earliest representatives of our race—the Mediterranean, the Black, and Caspian seas.—Prof. A. Winchell, in *Harper's Magazine* for July.

The great work undertaken by the city of Chicago some three years since of deepening the summit line of the Illinois and Lake Michigan Canal is nearly completed, and the water of Lake Michigan will soon run into the Chicago river, thence into the Illinois river, and so down the Mississippi to the Gulf of Mexico. One result of this improvement will be, a constant renovation of the Chicago river, heretofore so foul and unsavory, by a current of pure water from Lake Michigan. A further advantage will be an increased facility of navigating the canal. It is not expected that any perceptible lowering of the level of the great lakes will be effected the new outlet being of insignificant capacity compared with the Niagara river, which has never as yet sufficed to drain off the Lakes faster than they are filled.