mists which have been invoked as agencies to shield the snow from the sun. In North America the melting snow is ordinarily carried off as liquid water, or as invisible vapour, and the sky is usually clear when the snow is melting in spring. It is only when warm and moist winds are exceptionally thrown upon the snow-covered land that clouds are produced; and when this is the case, the warm rain that ensues promotes the melting of the snow. Thus there is no possibility of continued accumulations of snow on the lower parts of our continents, under any imaginable conditions of climate. It is only on elevated lands in high latitudes and near the ocean, like Greenland and the Antarctic continent, that such permanent snow-clad conditions can occur, except on mountain tops. Wallace and Wœickoff[1] very properly maintain, in connection with these facts, that permanent ice and snow cannot under any ordinary circumstances exist in low lands, and that high land and great precipitation are necessary conditions of glaciers. The former, however, attaches rather too much importance to snow and ice as cooling agents; for though it is true that they absorb a large amount of heat in passing from the solid to the liquid state, yet the quantity of snow or ice to be melted in spring is so small in comparison with the vast and continuous pouring of solar heat on the surface, that a very short time suffices for the liquefaction of a deep covering of snow. The testimony of Siberian travellers proves this, and the same fact is a matter of ordinary observation in North America.

Setting aside, then, these assumptions, which proceed from incorrect or insufficient information, we may now refer to a consideration of the utmost importance, and which Mr. Croll himself, though he adduces it only in aid of the astronomical theory of glacial periods, has treated in so masterly a manner, as

[1] Von Wœickoff has very strongly put these principles in a Review of Croll's recent book, "Climate and Cosmology"; *American Journal of Science*, March, 1886.