direct rays of the sun by its position under the face of the mountain, at a point where this fronts due north; and that besides, it is surrounded to the northwest by a high bank—a natural parapet—defending it from the sun's setting beams, and serving also as a funnel to direct into it the cold air descending from the declivity above. Again, the structure of the cave itself cuts it off from supplies of heat from the earth, and fits it to retain the low temperature with which winter impresses it. It is formed in the *debris* or ruins of the mountain; and here, the upper portion of the mountain consisting of a continuous and thick stratum of siliceous and porous limestone, and the lower, of this strata broken by fissures, and probably of slaty rock, it follows, that the disintegration or breaking into ruins must have proceeded from below, the slaty and slightly compacted parts first giving way, and being followed at length by the unsupported upper stratum in large masses. Hence the lower part of the *debris* consists of small rocky fragments, the upper, of large masses—great rocks piled one on another. The cave itself is simply an irregular hollow, which chance has left open beneath a pile of this sort. Standing in it, and it is so small that it is scarce possible to stand upright in it, one has immediately below him, probably for a considerable distance, a mass of loose stones with air interposed between them in the intervening interstices. Such a mass can but imperfectly conduct heat from below. Around and above him, he has a heap of great rocks cut off from the central heat, and on which the sun never shines, but which receive the full impression of the winter's cold. Now, as we know that in many parts of Canada the soil, at about a foot beneath the surface, is generally below the freezing point in the month of May, it need not surprise us that these blocks, in their least exposed points, retain a temperature below 32° through the months of June and July. In September and October, the portion of the summer's heat they receive having then had time to penetrate them, their temperature throughout must rise above this, and in the beginning of winter, it is probable that the *ice spring*, like other points under the earth's surface, has a temperature relatively high, and in consequence feels to one entering it positively warm. This will gradually fall with the continuance of the cold season, until in spring it is, as when I saw it, several degrees below the freezing point. In this way I think we can sufficiently account for the low average temperature of the *ice spring*.

It remains to see why ice is not met with in the winter season; how it forms as the weather gets warmer; and why the formation goes on directly in proportion to the heat of the atmosphere.

First, as to the non-appearance of ice in the winter season, I would observe, that there seems no cause to produce it then: snow apparently does not drift into the cave, and if, during a thaw, any water enter, it will escape through the numerous fissures in its floor. This must happen in the early part of the season, because then, and probably until the middle or end of January, the exterior is above the freezing point; and even in February and March, I apprehend that the temperature of the open substratum on which the floor rests, is above this, and the lowest points of the floor itself not under it. Consequently, if any water enters during a thaw, it will find an exit. I should not however be surprised, if a visit in March or April would, in particular seasons, detect portions of water congealed from the melting of the snow