

“ There is, however, still one kind of evidence wanting, to remove all doubt that the greater extension of glaciers in former ages was connected with cosmic changes in the physical condition of our globe. Namely, all the phenomena relating to the glacial period must be found in the southern hemisphere, accompanied by the same characteristic features as in the north, but with this essential difference, — that everything must be reversed. The trend of the glacial abrasions must be from the south northward, the lee-side of abraded rocks must be on the north side of the hills and mountain ranges, and the boulders must have traveled from the south to their present position. Whether this be so or not, has not yet been ascertained by direct observation. I expect to find it so throughout the temperate and cold zones of the southern hemisphere, with the exception of the present glaciers of Terra del Fuego and Patagonia, which may have transported boulders in every direction. Even in Europe, geologists have not yet sufficiently discriminated between local glaciers and the phenomena connected with their different degrees of successive retreat on the one hand; and, on the other, the facts indicating the action of an extensive sheet of ice moving