

CHAPTER VIII.

	PAGE
CLIMATIC CHANGES INDICATED BY THE GLACIERS OF NORTH AMERICA	146
Character of the evidence.—Records of recent recession in the glaciers of California, Oregon, and Washington.—British Columbia.—Alaska.—Greenland.—Weight of the evidence.—Climatic changes indicated by the glaciers of the Northern Hemisphere.	
THEORETICAL CONSIDERATIONS	156
Influence of débris on the advance and retreat of glaciers.	

CHAPTER IX.

HOW AND WHY GLACIERS MOVE	160
The nature of glacial flow.—Observations by Koch and Klocke.	
HYPOTHESES OF GLACIAL MOTION	163
The sliding hypothesis.—"De Saussure's theory."—The hypothesis of dilatation.—The hypothesis of plasticity.—The hypothesis of regelation.—The hypothesis of expansion and contraction.—The hypothesis of liquefaction under pressure.—The hypothesis of molecular change.—The hypothesis of granular change.—Observations by T. C. Chamberlin.	
AN ECLECTIC HYPOTHESIS	186
Summary of the properties of ice.—Summary of glacial phenomena.—Authors of the eclectic hypothesis.	

CHAPTER X.

THE LIFE HISTORY OF A GLACIER	190
Periods of growth and decline.—The snow line.—Spheroid of 32°.—Birth of a glacier.—Development.—Moraines.—Marginal lakes.—Ice cascades.—Widening and flattening of moraines.—Buried forests.—Forest-covered moraines.—Débris pyramids.—Stranded lateral moraines.—Polished and striated surfaces.—Terminal moraines.—Moraine-dammed lakes.—Rock-basin lakes.—Death of a glacier.—Climatic cycles.—Pleistocene ice sheets.	
CONCLUDING NOTE	200
INDEX	207