From the greater heat at the equator the mass of air there rises to a greater altitude than at the pole, and in consequence we have a current of air in the upper regions moving from the equator to the pole. But just as soon as this flow has commenced there is a decrease in the actual weight of the atmosphere at the equator, and a counter current sets in along the surface of the earth from the pole towards the equator. Vertical currents connect these two horizontal currents; the one at the equator being ascending and that in the region of the pole descending.

From the revolution of the earth on its axis, there is a force arising from this rotation which causes a free moving body to depart to the right of its original direction in the northern hemisphere, and to the left in the southern hemisphere. It is this condition which mainly gives to the existing circulation of the atmosphere its complex character. In the vertically moving air masses dynamic heating and cooling take place as a consequence of the compression and expansion of the air. We have in British Columbia and extending to the east slope of the Rocky Mountains a phenomenon—the Chinook wind—dependent on this property. The Chinook is similar to the Foehn of the Alps. Dry air in passing over a mountain range would not differ in temperature on the two sides of the range. As the air ascended it would be cooled dynamically. As it descended it would be warmed just as much. But if the air is moist, in ascending it cools, and the moisture is condensed and falls as rain or snow. The latent heat released by the condensation raises the temperature of the air, and in descending to other side of the mountain it is warmed up dynamically still more. This is the action of the Chinook wind and the explanation of its warmth and dryness, the moist warm winds from the Pacific being aspecially favorable for its creation.

Atmospheric disturbances are easily divided into two classes—cyclonic or low area storms, and anti- cyclonic or high