to nourish the grasses of a semi-arid region. In Mongolia, where the intercepting mountains are low, the zone is broad. In Turkestan it is narrow or in places now almost wanting. During the cold glacial period it was wide.

I will ask the reader now to consider this central region as an organic whole. Let him imagine himself looking down over this great expanse and, foreshortening space and the vista back through untold centuries, able to view the successive phases of its life during a short period of geological time.

First, we are in the glacial period; on the south we see the giant mountains from the Caucasus to China covered with snow and, on the higher masses, great domes of ice and far-reaching glaciers. Far away in the northwest is the cap of continental ice spread thousands of feet thick over nearly all of European Russia. Between these limits our sight wanders over the blue waters of a sea greater than the Mediterranean and fed by the larger rivers that flow from the snow and ice-capped regions. The rivers are building great deltas where they enter the sea, while above these they spread their silts far and wide over the aggrading plains.

Remember that while we look, in our time-perspective, millenniums are as seconds. Even now the glacial period has passed, and the reaction has begun; and we look down upon the beginning of a general trend toward desolation. The ice-cap is gone from Russia and the great glaciers on the southern mountains are diminishing in extent. Evaporation is now more rapid than inflow of water, and the sea is shrinking and breaking up into smaller basins. With each lapse of thousands of years, we see the larger rivers grow smaller, while many of those coming from the southern mountains fail to reach the receding sea. Those great gyrating columns that are coursing across the surface of the earth show that the dried silts have become the prey of the winds. And now, looking closer, we see at their work all the controlling agencies that are the life of the great geographic organism that we call an arid inner-continental region. We can see that the flood-plains and deltas and the drying beds of seas are covered with dried silts of clay, sands, and gravels. The winds are working these over and classifying them according to size of grain. The finest material is easily lifted and carried afar; and it is this that forms those massive yellow clouds that are darkening these plains in their progress, and those gyrating columns—vortices in the heart of the sweeping whirlwind. Of the coarser silts the winds move only the sands, and these only slowly, along the surface of the plain, where we see them forming great seas of sand-waves or dunes, in places more than 100 feet high. These waves progress as each high wind, lifting sand from the windward side, deposits it on the lee side. As the winds vary in direction during the seasons, so does the progress of the dust and of dune-waves. But it is an important fact for us that both dust and dunes make an absolute progress during the year in the direction of the predominant winds. Watch those columns and clouds of dust. As the wind falls they dissipate, settling on the surface to wait to be borne on the wings of the next windstorm. Look now towards the grass-covered plains bordering the deserts. No clouds rise from these; on the contrary, the volumes of dust that fall remain under the protecting vegetation; the grass is nourished perennially by the dust, and under this reciprocal