

and its necessities, he learned to plant the seeds, thus making, by conscious or unconscious selection, the first step in the evolution of the whole series of cereals.

For a long time the rainfall was doubtless sufficient to ripen grains, as it still is in some of the valleys of Fergana, and in some years even at Samarkand. Later, experience taught the need, and some simple method, of artificial watering, and with this acquisition began the broader development of agriculture and the conquest of the arid regions of the globe. In Asia it rendered possible the civilizations of Elam and Mesopotamia. All the really great prehistoric cultures were developed in arid regions—all of those of which we have knowledge, and perhaps others of which we have not yet found the remains—in Mongolia, Arabia, and the Sahara. The generous soil of the delta-oasis, responding to man's necessitated labor, was the foundation on which the independent cultures of village communities were built up. Only later, when the knowledge thus obtained could be applied to the utilization of great rivers in turning wide deserts into gardens, was it possible to render populous great countries, first under feudal conditions, and later under the centralized power that constituted empire. This later stage was never fully reached in Central Asia and northern Persia. The countless isolated oases, even under Chaldean, Persian, and Arab dominion, never advanced really much more than nominally beyond the stage of local independence.

If the hypothesis previously outlined be well-founded in its essentials, it follows that where we find among the acquisitions of the earliest of the cultures at Anau resemblance to those of neolithic cultures in the west, such similarity can not be due to importation from the western spheres. If they are not due to coincidence, these acquisitions must be considered as having originated in our oasis-world, and to have been transported beyond its limits after the domestication of the horse, or of the horse and camel, rendered extended intercourse possible. Among such native acquisitions we must include a knowledge of copper and lead and the art of spinning, the domestication of animals, agriculture, and probably the art of painting on pottery.

We have seen the birth of the great inner-continental region of the Eurasian Continent. We have seen that from the very condition of its birth it was predestined to a definite course of life-history peculiar to its kind; and treating it as an organic whole, we have seen this course towards ultimate desolation temporarily modified by the climate of the glacial period. What I wish particularly to emphasize is the conception that in the intervention of the glacial period and its reaction on the inner-continental conditions, we must see the initial—the motivating—factors in the evolution of the intellectual and social life of man. Shut off from the periphery of Asia and from the other continents, while still in a low stage of savagery, we see him gradually broken up into smaller groups which are forced into isolation on habitable oases, which are in the main continually diminishing; and we see on these the growth of differentiated, but fundamentally related, cultures. Lastly, and most important of all to us, we see here man under the spur of Necessity, the relentless goddess of evolution, building in village communities, in agriculture, and in the essential industries, the foundations of civilizations, to the reaction of which, upon each other, and upon cultures evolved later on the Nile, and in Mesopotamia, and on the Mediterranean, we owe the understructure of modern western civilization.