

The mistake of overestimating the possibilities of Persia is very common among travelers. For instance, O'Donovan (I, pp. 426-427) describes the country between Abasabad and Mazinan, a few miles west of Sabzawar, on the road from Meshed to Teheran, as "a dreary flat, entirely uncultivated, though plentifully supplied with water from the Kal Mura River, which has left marks of extensive inundations in numerous white deposits of salt. This plain would undoubtedly produce abundant crops of rice if properly cultivated." After passing numerous ruins of fortifications, reservoirs, tanks, and other structures, "we crossed the Kal Mura, a river about 40 yards wide here and tolerably deep, though on the maps it is usually marked as dry in summer. The country around was once extensively cultivated, as the traces of the irrigating ditches show. . . . Nowadays, cultivation is only attempted immediately around the towns, and even there . . . the crops are miserably poor." In June, 1880, when O'Donovan traversed this region, the Kal Mura River must have been phenomenally high, for when Smith (p. 376) passed this way in May, 1872, a year of very fair rainfall, with unusually good crops, he found the Kal Mura at the same place "a narrow rivulet of salt water." Apparently it was lack of water, not lack of energy, which prevented the Persians from raising O'Donovan's "abundant crops of rice."

Only a year previous to Smith's journey this very region suffered from a famine of such frightful severity that he found (p. 367ff.) skeletons of men along the road where they had died of hunger, skulls of children in the very houses, 450 out of 600 shops in Nishapur closed and the others barely able to subsist. Sebzewar (p. 373) was reduced from a population of 30,000 to scarcely 10,000. Everywhere death ran riot and frequently half the people of a village perished. The famine extended with great severity over all Persia except the northwest, and is described by Goldsmid, Bellew, Smith, and St. John. For six years the rainfall was scanty and there was much suffering. Then came a season when the crops in many places failed almost entirely, and thousands of people perished in every province. In view of the periodic return of such famines it does not seem probable that Persia is capable of supporting permanently a population greatly in excess of that of to-day.

(c) *Independent evidence as to the climate of antiquity.*—Independent evidence as to the climate of antiquity is hard to find. It must be looked for chiefly in the forms of historical or written record, archeological record, legend, and physiographic record. The written accounts which afford evidence as to the ancient climate are scattered in numerous inaccessible volumes and have not been investigated. A few of the more prominent, such as Alexander's march and the statement of Istakhri that in the tenth century the God-i-Zirrah was 100 miles long, have been mentioned. In general it is well known that ancient authors down to Mohammedan times speak of Persia in a way which implies a much greater productiveness and beauty and a much more abundant growth of trees than at present, but their statements lack the quantitative element which is necessary for a convincing solution of the question. Archeological evidence is more abundant and exact. The dams of Baluchistan, the ancient fort of Shah Duzd, the oasis of Merv, and the village of Bal Kuwi are cases where it seems as though there had been more water in earlier times. Probably a more complete study of Persian archeology will go far toward solving the problem.