

the Vermillion river, I reached the ford in time to meet the carts, and, crossing, encamped on its western side. The weather continued cool, the thermometer being this evening as low as 49° ; but the night was sufficiently clear for astronomical observations, which placed us in longitude $96^{\circ} 04' 07''$, and latitude $39^{\circ} 15' 19''$. At sunset, the barometer was at 28.845, thermometer 61° .

We breakfasted the next morning at half past five, and left our encampment early. The morning was cool, the thermometer being at 45° . Quitting the river bottom, the road ran along the uplands, over a rolling country, generally in view of the Knansas from eight to twelve miles distant. Many large boulders, of a very compact sandstone, of various shades of red, some of them four or five tons in weight, were scattered along the hills; and many beautiful plants in flower, among which the *amorpha canescens* was a characteristic, enlivened the green of the prairie. At the heads of the ravines I remarked, occasionally, thickets of *salix longifolia*, the most common willow of the country. We travelled nineteen miles, and pitched our tents at evening on the head waters of a small creek, now nearly dry, but having in its bed several fine springs. The barometer indicated a considerable rise in the country—here about fourteen hundred feet above the sea—and the increased elevation appeared already to have some slight influence upon the vegetation. The night was cool, with a heavy dew; the thermometer at 10 p. m. standing at 46° , barometer 28.483. Our position was in longitude $96^{\circ} 14' 49''$, and latitude $39^{\circ} 30' 40''$.

The morning of the 20th was fine, with a southerly breeze and a bright sky; and at seven o'clock we were on the march. The country to-day was rather more broken, rising still, and covered everywhere with fragments of siliceous limestone, particularly on the summits, where they were small, and thickly strewed as pebbles on the shore of the sea. In these exposed situations grew but few plants; though, whenever the soil was good and protected from the winds, in the creek bottoms and ravines, and on the slopes, they flourished abundantly; among them the *amorpha*, still retaining its characteristic place. We crossed at 10 a. m., the Big Vermillion, which has a rich bottom of about one mile in breadth, one-third of which is occupied by timber. Making our usual halt at noon, after a day's march of twenty-four miles, we reached the Big Blue, and encamped on the uplands of the western side, near a small creek, where was a fine large spring of very cold water. This is a clear and handsome stream, about one hundred and twenty feet wide, running, with a

rapid current, through a well-timbered valley. To-day antelope were seen running over the hills, and at evening Carson brought us a fine deer. Longitude of the camp $96^{\circ} 33' 35''$, latitude $39^{\circ} 45' 08''$. Thermometer at sunset 75° . A pleasant southerly breeze and fine morning had given place to a gale, with indications of bad weather; when, after a march of ten miles, we halted to noon on a small creek, where the water stood in deep pools. In the bank of the creek limestone made its appearance in a stratum about one foot thick. In the afternoon, the people seemed to suffer for want of water. The road led along a high dry ridge; dark lines of timber indicated the heads of streams in the plains below; but there was no water near, and the day was very oppressive, with a hot wind, and the thermometer at 80° . Along our route the *amorpha* has been in very abundant but variable bloom—in some places bending beneath the weight of purple clusters; in others without a flower. It seems to love best the sunny slopes, with a dark soil and southern exposure. Everywhere the rose is met with, and reminds us of cultivated gardens and civilisation. It is scattered over the prairies in small bouquets, and, when glittering in the dews and waving in the pleasant breeze of the early morning, is the most beautiful of the prairie flowers. The *artemisia*, absinthe, or prairie sage, as it is variously called, is increasing in size, and glitters like silver, as the southern breeze turns up its leaves to the sun. All these plants have their insect inhabitants, variously colored; taking generally the hue of the flower on which they live. The *artemisia* has its small fly accompanying it through every change of elevation and latitude; and wherever I have seen the *asclepias tuberosa*, I have always remarked, too, on the flower a large butterfly, so nearly resembling it in color as to be distinguishable at a little distance only by the motion of its wings. Travelling on, the fresh traces of the Oregon emigrants relieve a little the loneliness of the road; and to-night, after a march of twenty-two miles, we halted on a small creek, which had been one of their encampments. As we advance westward, the soil appears to be getting more sandy, and the surface rock, an erratic deposit of sand and gravel, rests here on a bed of coarse yellow and grey and very friable sandstone. Evening closed over with rain and its usual attendant hordes of mosquitoes, with which we were annoyed for the first time.

June 22.—We enjoyed at breakfast this morning a luxury, very unusual in this country, in a cup of excellent coffee, with cream from our cow. Being milked at night, cream was thus had in the morning.