

and one of these we ascended.

"Fourth— Coarse white pudding-stone, or conglomerate and sandstone of a deep red colour, alternating with each other and with beds of fine white sandstone, and resting against the granite in highly inclined position. This rock contains well preserved remains of *terebratula*, *productus*, and other bivalve shells. These are usually found on or near the surface of large nodules of a fine flinty stone, closely resembling petrosilex. The same rock also contains an extensive bed of iron ore, and from its eastern side flows a copious brine spring.

"About this spring, which had evidently been much frequented by animals, we saw the skulls of the male and female Big-horn*, the bones

Big-horn. This animal has been rudely figured by Venegas on his second plate, who informs us that it is known to the natives of California by the name of Taye; another figure, but also a bad one, was given by Mr. Geoffroy in the Ann. de Museum, under the name *Ovis montana*.

Two specimens, a male and female, were taken to Philadelphia by Lewis and Clark, which are set up in the museum of that city.

[Miguel Venegas' "Noticia de la California" was published at Madrid in 1767.— F. W. C.]

of elk, bisons, and other animals.

"The granite, which succeeds the sandstone last mentioned, is of a dark reddish-brown colour, containing a large proportion of feldspar of the flesh-coloured variety, and black mica. The crystalline grains or fragments of the feldspar are large and detached easily; consequently, the rock is in a state of rapid disintegration. This granite rises abruptly in immense mountain masses, and undoubtedly extends far to the west.

"The little river on which we [i.e., the small, detached party] encamped, pours down the side of this granitic mountain through a deep, inaccessible chasm, forming a continued cascade of several hundred feet. From an elevation of one or two thousand feet on the side of the mountain, we were able to overlook a great extent of secondary region at its base. The surface appeared broken for several miles, and in many of the vallies we could discern columnar and pyramidal masses of sandstone, sometimes entirely naked, and sometimes bearing little tufts of bushes about their summits." In a footnote, probably by Thomas Say, the zoologist of the party, it is observed, "A female bird was shot on the mountain, which closely resembles, both in size and figure, the female of the black-game (*Tetrao tetrix*). It is, however, of a darker colour, and the plumage is not so much banded; the tail seems to be longer, and the feathers of it do not exhibit any tendency to curve outward!.... (A detailed scientific description of the bird here follows, which we omit.) It may be distinguished by the name

Footnote

* That is, the small detached party, which
was second at usual in the mountain
country, to have found themselves. — F. W. C.

Footnote

of the dusky grouse (*Tetrao obscurus*). When this bird flew, it uttered a cackling note a little like that of a domestic fowl."

The expedition again resumed its way ~~on a morning which the narrative gives as the "11th", but~~ which there are some reasons for supposing was the 10th. In what follows, circumstantial as it may appear, there is in reality a conflict of evidence as to the date (if not even as to the time of day) to which some of the transactions ascribed here to the 11th, belong; and that, in view of some uncertainty remaining as to time, Doctor James narrative is, in that respect, ^{here} followed for convenience. A brief discussion of the discrepant evidence will be found further on, in connection with the arrival of the expedition at camp south of the main fork of Fountain creek, evening of the 11th.

Proceeding, from the camp on East Plum creek, "about twelve miles" in a direction "nearly south, and, crossing a small ridge dividing the waters of the Platte from those of the Arkansas" (probably only about a mile or two east of Palmer Lake), it ~~halted~~ "halted ~~mid-morning~~ to dine on a tributary [Monument creek] of the latter," at a point not far from the present town of Monument. It was probably from this ~~stopping place~~ ^{also}, that some of the party visited the now well-known Elephant Rock, which Doctor James has described under the name of "Castle Rock", and of which Mr. Seymour made a drawing, which is published in the Atlas of the expedition. This striking erosion-form is about a mile and a half southeast of Palmer Lake. Mr. Seymour's sketch of it, shows Phoebe's Arch in the south end of the rock, and is sufficiently characteristic to have been instantly recognized by Professor W.O. Crosby, of Boston, a few years since, on his being shown it.

"In an excursion from this place," says the narrative, "we collected a large species of columbine, somewhat resembling the common one of the gardens. It is heretofore unknown to the Flora of the United States, to which it forms a splendid addition." The beautiful Blue Columbine discovered on this occasion, was described by Doctor James as Aquilegia coerulea; it is now the Colorado State flower.

In the afternoon of the same day, ~~we~~ a few buffalo were seen at about a mile from the line of march, and three hunters were sent in pursuit, who returned in due time with their horses laden with meat.

"We moved on," says the narrative, "descending the little stream on which we had halted for dinner. Like the small branches of the Platte, it is inhabited by great numbers of beaver, but has more timber and a more fertile soil than any stream of similar magnitude we had

lately passed. Some light showers occurred in the middle of the day, and at evening a thunder storm was observed, in the same manner as on the preceding day, to collect in the east, and after we had listened to its thunders for some time it moved off in the direction of the Arkansas, but no rain fell where we were. In the course of the day several elk were seen, and at evening we killed an antelope. Robins are here frequent, and a Jerboa was seen resembling the Gerbillus canadensis. Many fine plants were collected, several of which are hitherto undescribed.

"Towards evening our guide discovered we had already passed considerably beyond the base of the Peak, near which it had been our intention to halt. As we were particularly desirous of visiting the mountains at the point designated in many maps as the "Highest Peak," we resolved to return upon our course, but as it was now near sunset we thought it advisable to encamp for the night."

Thus, perhaps aided by mid-day showers that veiled the mountains, they "performed", as Chittenden expresses it, "the remarkable feat of passing the base of Pike's Peak without knowing it."

It is ~~important~~^{desirable} to locate, as nearly as possible, this camp of the evening of July 11th, in connection with the question of the party's whereabouts on Monday the 10th, for which day the narrative neither gives separate dated entry nor other satisfactory account.

On the 12th, the party returned on its path — i.e., northeasterly from camp of 11th — to establish an observation camp, or headquarters, for the study of Pike's Peak. We find that such observation camp was located on Fountain creek, at the point where the latter is cut by a line running 23 degrees south of east from the Peak*. It was about

* Since the bearing of the Peak from camp (see page 1) was "north, 67° west."

This was the true, not the magnetic bearing. Declination was determined by the party ~~MM~~ at a number of points on their route, affording the proper corrections for magnetic bearings. On June 25th, two days' travel above the Forks of the Platte, the magnetic variation, equated from two sets of observations, was found to be 14° east.

two miles above the present town of Fountain, and its distance from the Peak was about 20 miles in a bee line, or 25 around by the Fountain and Ruxton creek route later pursued by Doctor James in going to the summit. It ~~MM~~ evidently required most of a forenoon of sinuous (and in some respects strenuous) northeasterly travel, to bring the party back to Monument creek and the ~~MM~~ place thereon which was to be headquarters from noon of the 12th until after the night of the 15th. The camp of the 11th must therefore have been amongst the foothills of upper Turkey creek, probably in the district northeast or north of the present postoffice of Lytle. Now the last camp prior to that of 11th, (other than a

noon halt "to dine"), described in the narrative, is that of 8th and 9th on East Plum creek, in latitude $39^{\circ} 23' 40''$; and from that camp in the Platte basin, to the camp on Turkey creek, Doctor James takes Long's party in a single day — July 11th, — although the distance is something like 55 miles. If the determination of latitude of the East Plum ^{was erroneous, and} creek camp ^{made} that camp appear several miles further north than it really was,* the distance to camp of 11th

Footnote

*This hypothesis might be advanced to account wholly or partly for the fact that the distance from ~~the~~ camp on East Plum creek in stated latitude, south to Monument creek, is about 20 miles, while the doctor calls it only about 12.

would still be well toward 50 miles. The usual day's journey, Doctor James tells us, was about 24 miles.

In view of the above facts, and the absence of other accounting for July 10th, we seem forced to the conclusions:

First, — that the expedition left East Plum creek camp on the morning of the 10th, instead of on that of the 11th;

Second, — that one-third to half of the travel, and most of the doings and observations ascribed to the 11th — including the ~~noon~~ noon halt on Monument creek, and the excursion in which the discovery of the Colorado State flower and ~~probably~~, the drawing of Elephant Rock were made — took place on the 10th;

Third, — that besides the noon halt of July 10th (called 11th), which was presumably not far below Elephant Rock, a regular over-night camp also was made on Monument creek a few miles farther down the stream, (as indicated on map in the Atlas of Doctor James' work), perhaps not long after the buffalo hunt on this stream;

Fourth, — that from this Monument creek camp, Long's party proceeded, on the 11th, down Monument creek, ~~and~~ past the site of a Colorado Springs and nearly ^{to} ~~to~~ a Fountain town that ^{was} ~~was~~ to be, and thence southwesterly to the Mesozoic hill region south of Cheyenne mountain, between Little Fountain creek and Turkey creek, and perhaps quite to the latter stream; ^{whence} on the 12th, was made the return to Monument creek.

It is possible that in crossing the Platte-Arkansas divide, a detour was made westward around by Palmer Lake; but that would seem hardly consistent with "travelling nearly south, and crossing a small ridge", and ~~and~~ with silence as to the lake itself, which was seen, described and mapped by Dodge's expedition fifteen years later; and it seems likely that as to the base of the mountains, the Expedition satisfied itself with the observations made by a detached party on a branch of East Plum creek farther north, and by parties at Platte canon.

~~the~~ ~~old~~ ~~greatest~~ ~~which~~ ~~the~~ ~~original~~ ~~tributary~~ ~~with~~ ~~the~~ ~~original~~ ~~tributary~~
~~was~~ ~~the~~ ~~most~~ ~~valuable~~ ~~tributary~~

With the aid of Dr. James' narrative, and bearing in mind that the northeastern terminus was but little above the present town of ~~Minnehaha~~ Fountain, a person thoroughly familiar with the topographical details of the district between the two streams, might ~~Minnehaha~~ perhaps be able to retrace almost the exact course of the old bison-path route followed by the party, ^{a considerable portion of the way, at least,} both going and coming, in its travels 'twixt Fountain ~~and~~ and Turkey creeks.

Of the ~~Minnehaha~~ forward journey over this course, he says:

"Our journey had been pursued in a bison path, and although not in the direction of our proper course, serving only to prolong our march without advancing us towards the end of our pilgrimage, yet brought us nearer to that romantic scenery which for many days we had chiefly contemplated with a distant eye. We entered the secondary range along the margin of a deep ravine, which wound with a serpentine course towards the base of the mountain. Our progress was sometimes impeded by huge rocky masses which had been precipitated from some neighbouring height, and sometimes ^{by} a dense forest of very limited extent, or an immense impending wall, or oblique buttress of rock, which by its proximity to the eye, vied with the grandeur of the ascending piles beyond."

Not improbably, this "deep ravine, which wound with serpentine course towards the base of the mountain", was the canon of Little Fountain creek, continued beyond by that of its southern branch, known ~~now~~ as Dead-Man's canon*, through which passes the regular highway between

^{Footnote} *Prior to the murder of "Uncle" H. Harkens, March 19, 1853, by the Espinosa brothers, Mexican guerrillas, in this ~~Minnehaha~~ pass, Dead Man's canon was known as Red canon. Harkens was killed in the southern or ~~Minnehaha~~ red-rock limb of the pass, and to this the name is more especially applicable, but ~~Minnehaha~~ is ~~more~~ commonly applied to both the southern and the more precipitously bounded eastern ~~Minnehaha~~ ravine conjointly.

Colorado Springs and Canon City. The "Map of the Eastern Base of the Rocky Mountains Colorado," in Hayden's 1874 Annual Report of the United States Geological and Geographical Survey of the Territories, shows a road leading from Fountain village west-southwesterly to Turkey creek. On reaching Little Fountain creek, this road forks, the right hand branch going up Little Fountain and through Dead Man's canon, the left-hand branch reaching Turkey creek by a more direct continuation across the hills. The main trend of this old road is toward and away from a point on Fountain creek a little above Fountain village, only a little more than a mile of its eastern end (which fol-

lows down a small stream, creek, to the village) having a south-easterly deflection. Its general east-northeastward direction, continued to Fountain creek, would reach the latter at about the alleged position of Long's camp of July 11th. It is probable that this old road and one of its western branches to Turkey creek, represents roughly the course of the ancient buffalo trail thrice travelled, in part at least, by Long's ~~party~~ ^{party} in the summer of 1820. It is, however, possible that the expedition crossed Little Fountain and the Turkey creek ridge on a somewhat more southerly route. The ridge east of Turkey creek has ~~two~~ or ~~three~~ more southerly gaps or passes; but these seem hardly rugged and wild enough to correspond with ~~described~~ ^{described} the expedition narrative.

on the forenoon of the 12th Doctor James' account of the return journey to Fountain creek, is as follows;

"We retraced our path of the preceding day until a small stream running towards the northeast offered us a change of scenery and a course more in the direction we wished to pursue.* The great

*It is possible that the return to Fountain creek was to a more southerly point on the stream than that from which the advance had been, but it is plain that all the western and rougher, or foothills, portion of the journeys of Tuesday afternoon and Wednesday forenoon, was pursued ~~was~~ in the bison trail.

inequalities of the surface and the precipitous character of several of the passes, thoroughly tested our confidence in our sube-footed Indian horses and mules. The rude pathway skirted along the base of a high cliff, on whose side, far above our heads, projected a narrow ledge of rocks, frowning defiance to all attempts to ascend. This ledge declined gradually as we proceeded, until it terminated abruptly on the edge of a profound gulf. Here appeared to be the only spot at which the ridge could be ascended. On the brow of the cliff a fragment ^{of} rock and a small portion of earth were suspended by the binding roots of a solitary pine, offering a frail and precarious foothold. This we chose to ascend, startling and hazardous as the attempt appeared, rather than retrace our steps for several miles, and search for a passage in some other direction. The projecting ledge by which we ascended, had barely sufficient width to admit the passage of a single individual at a time. When we had gained the summit, we allowed our horses a moment's rest in the partial shade of some straggling oaks, and contemplated, not without a feeling of terror, the danger we had passed. We thus pursued the route marked out for us by the bisons, which always trace the most direct and beat course,