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dance, Missouri, at least as early as 1832, but just how much earlier, we do not know.

Though the names "Mount Pike" and "Pike's Peak" occurred in print at least as early as the middle thirties, it seems not to have been until after the use of the latter name by Captain J. C. Fremont, in the official reports on his Rocky Mountain expeditions of 1842 and 1843-'44, that literary usage finally crystallized in favor of the name, Pike's Peak. In an attempt, ~~but~~ but a few years before this, to make ~~Dr. James'~~ Dr. James' name stick where it would not, one ^{traveller and} popular writer (Thomas J. Farnham, 1839) went so far as to transfer the name "Pike's Peak" to ^{one of} the Spanish Peaks.

When ~~the~~ the fate of the matter became apparent, attempts were made, to transfer the name, "James' Peak" elsewhere; ^{but the} ~~the~~ (apparently) first of ^{these were} ~~which was~~ unsuccessful. Thus, ~~on~~ under date of June 30, 1846, in the journal of Edwin Bryant*, we read, "We have passed to-day Laramie's,

*Published in 1849, under the title, "What I Saw in California; Being the Journal of a Tour Thither in the Years 1846, 1847." (2 maps.) 12mo, cl.

or James's Peak, and what are called the Black Hills." The application of James' name to a peak visible from the Oregon Trail, in the North Platte country, where Dr. James had never been, and to one which had ^{Laramie's Peak, or sometimes as} long been known as "the Peak of the Black Hills", was manifestly ~~is~~ inappropriate, and ~~it~~ unlikely to survive; and it failed to do so.

The name also seems sometimes ^{apparently} (as by Lieut. Beckwith* in the fifties) ~~to have been used~~ to have ^{been used}.

*Pac. Ry. & Sur. Reps., Vol. 2, Beckwith's Rep. 41st Parallel, p. 10; ^{but in his Rep.} 38th and 39th Parallels, p. 30, he uses the name "James' Peak" for Pike's Peak.

~~James' Peak~~ ^{finally settled} as an alternative name of Long's Peak. Failing there also, it ~~was at last~~ ^{presently} ~~settled~~ ^{settled} on the James' Peak, ^{the front} ~~at~~ at the common meeting point of three Colorado counties, — Gilpin, Clear Creek and Grand, — less than 30 miles southerly from Long's Peak, in a part of the Front Range which was viewed, though at a distance, by Long and James, and in which it is fitting that both ^{these} ~~these~~ explorers should have namesakes. This latest James Peak is ~~approximately~~ in ~~lat. 39° 51' 10" N., long lon. 105° 41' 9" W.,~~ lat. 39° 51' 10" N., ~~long lon.~~ lon. 105° 41' 9" W.,*; and its

*Lippincott's Gazetteer of the World.

elevation, as determined by the Hayden Survey, is 13,273 feet.

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"The creek on which the party encamped during the three days occupied in making the excursion above detailed, is called Boiling-spring creek, having one of its principal sources in the beautiful spring already described. It is skirted with a narrow margin of cottonwood and willow trees, and its banks produce a small growth of rushes on which our horses subsisted while we lay encamped here. This plant, the common rush (Equisetum hiemale, Ph.), found in every part of the United States, is eaten with avidity by horses, and it is often met with in districts where little grass is to be had. When continued for a considerable time, its use proves deleterious.

"The recent tracks of a grizzly bear were observed near the camp, and at no great distance one of those animals was seen and shot at, by one of the hunters, but not killed.

"In the timber along the creek, the sparrow hawk, ^{mocking bird} ~~sparrow hawk~~, robin, red-head woodpecker, dove, winter wren, ~~sparrow~~ towhe-bunting, yellow-breasted chat, and several other birds were seen.

"Orbicular lizards [Phrynosoma] were found about this camp, and had been once or twice before noticed near the base of the mountains.

"A smoke supposed to be that of an Indian encampment was seen, rising from a part of the mountain at a great distance towards the northwest. It had been our constant practice since we left the Missouri, to have sentinels stationed about all our encampments, and whenever we were not on the march by day, and until nine o'clock in the evening, it was the

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duty of one of the three Frenchmen to reconnoitre at a distance from camp in every direction, and to report immediately when anything should be discovered, indicating that Indians were in the vicinity. Precautions of this kind are highly necessary to prevent surprisal, and are invariably practised by the Indians of the west, both at their villages and on their march.

"On the 14th, Lieutenant Swift returned to camp, having performed the duties on which he was sent.

"A base was measured near the camp, and observations taken for ascertaining the elevation of the Peak. These are detailed in the appendix to this volume, and in Major Long's report may be seen an account of the method used to estimate the actual elevation of the point at which these observations were made. The entire elevation of the Peak above the level of the ocean, ascertained in the manner there described, is eleven thousand five hundred feet."

From the ~~following account~~ ^{appendix report} of the manner in which these observations were made, ~~as recorded in the appendix~~, it will be seen that this very erroneous estimate of the height of Pike's Peak was due, not to any serious error in Lieutenant Swift's measurement of the altitude of the Peak, relative to the camp near Fountain village, but chiefly to the faulty estimate of the ~~mountain's~~ elevation of the lower Platte canon above sea level; the latter and the camp near Fountain, having been tacitly assumed equal. The statement in the appendix, is as follows:

"At our camp on Boiling-spring Creek, at the distance of about 25 miles from James's Peak, (the same designated by Pike as the Highest peak,) trigonometrical observations were made for determining the height of the peak above the level of the adjacent country. A base of ~~1043~~ 1043 1/2 feet was accurately measured, and angles taken at its extremities, to ascertain another side of the triangle, to serve as a base to determine the height of the mountain. The angles at the extremities of the primary base, corrected for the index ~~and~~ error of sextant, were 104° 32' 15" and ~~85~~ 85° 28' 45" — and the extent of the secondary base as found by calculation, 133372.5 feet. The angles taken at the extremities of the secondary base, included between that line and the lines of vision, to an object distinctly visible at the summit of the peak, were 96° 21' 15" and 81° 17' 45", corrected as above. The angle of elevation of the top of the peak, observed at ~~the~~ the extremity of the secondary base, most remote from the peak, was 3° 41' 15", corrected also for index error of sextant. The final result of these observations, gives for the height of the peak above the plain in which the observations were made, 8507 1/2 feet.

"In order to ascertain with precision, the angle of elevation of the summit of the peak, an artificial horizon of water was employed, and the double angle of elevation observed. The angle of elevation as it stands corrected for refraction, is 3° 39' 26". The estimate as above gives the height of the peak above the true level of the place of observation, no correction having been made for the spherical figure of the earth.

"Allowing the perpendicular fall of the river Platte, from the mountains to its mouth, to be on an average nineteen inches per mile, (which appears reasonable from the rapidity of its current compared with that of the Missouri,) the fall of the Missouri from the place where it receives the Platte to its mouth, to be 16 inches per mile, which agrees with the result from leveling at Engineer Cantonment-- and that of the Mississippi from the mouth of the Missouri to the Gulf of Mexico to be 12 inches per mile, it would give for the height of the Platte at the base of the mountains, say at the place of the above observations, 3000 feet above the level of the ocean, and consequently the height of James's Peak would be 11507 $\frac{1}{2}$ above the same level."

The true height of Pike's Peak above sea level, as given in the latest (1906) edition of Gannett's Dictionary of Altitudes, is, by observations of the United States Weather Bureau, 14,111; and by United States Coast and Geodetic Survey measurements, 14,108 feet.

The elevation of the D. & R. G. railway at Fountain station, ^{as given in Gannett's Dictionary, is} 5,563 feet; and the average fall of the Fountain creek valley in the ~~the~~ 13 miles between Colorado Springs and Fountain (D. & R. G. stations, as per same Dictionary), is 32 feet to the mile. Long's observation camp (located, as per intersection of its given Pike's Peak bearing, on Fountain creek, about two miles above Fountain station) was therefore approximately 5627 feet. Adding to this, Swift's measurement, 8507 feet, as the height of the Peak above camp of observation, gives 14,134 feet as the elevation of Pike's Peak above sea level. If we bear in mind ^{for many years, and} that ^{even as late as 1891*,} the United States Signal

*Gannett's Dictionary of Altitudes, second edition: Bulletin No. 76, U. S. Geological Survey.

Office's measurement, 14,147 feet, was ~~was~~ accepted as the correct elevation of Pike's Peak, we must concede that Lieutenant Swift's measurement was -- not merely for that early day, but even as judged by modern standards -- remarkably accurate; and that the responsibility for ^{the expedition's} ~~the expedition's~~ great underestimation ~~of the~~ of Pike's Peak, rests with those who combined ~~the~~ the Lieutenant's ~~very~~ accurate measurement with the very erroneous estimate of 3000 feet as the elevation of the Platte and Arkansas waters at base of the Rocky Mountains in the Pike's Peak region.

Continuing the narrative of the ^{and referring to this same observation camp,} expedition, Doctor James says: "Complete sets of observations for latitude and longitude ~~and longitude~~ were taken, which gave 38° 18' 9" north, and 105° 39' 49" west from Greenwich, or 28° 39' 45" from Washington, as the position of our camp. The bearing of the Peak from this point is north, 57° west, and the distance about twenty-five miles."

But of the above figures, those for latitude and longitude are both quite erroneous, and on ^{comparing with} ~~referring to~~ the tables in the appendix, of the

here in the narrative
~~account~~, we find that the Doctor has, ~~here~~, inadvertently substituted the figures for latitude and longitude of the camp of later date on upper Arkansas river, and that ~~whilst the figures are the same as the real figures of the observations made for latitude and longitude of Fountain camp, are not to be found in either the main narrative or the appendix.~~

"In all the prairie-dog villages we had passed, small owls had been observed moving briskly about, but they had hitherto eluded all our attempts to take them. One was here caught, and on examination found to be the species denominated Coquimbo, or burrowing owl, (*Strix cunicularia*).

"This fellow citizen of the prairie dog, unlike its grave and re-cluse congeners, is of a social disposition, and does not retire from the light of the sun, but endures the strongest mid-day glare of that luminary, and is in all respects a diurnal bird. It stands high upon its legs, and flies with the rapidity of the hawk. The Coquimbo owl, both in Chili and St. Domingo, agreeably to the accounts of Molina and Viellot, digs large burrows for its habitation and for the purposes of incubation; the former author gives us to understand that the burrow penetrates the earth to a considerable depth, whilst Viellot informs us that in St. Domingo the depth is about two feet.

"With us the owl never occurred but in the prairie-dog villages, sometimes in a small flock, much scattered and often perched on ~~the~~ different hillocks, at a distance, deceiving the eye with the appearance of the prairie dog itself in an erect posture. They are not shy, but readily permit the hunter within gunshot, but on his too near approach, a part or the whole of them rise upon the wing, uttering a note very like that of the prairie dog, and alight at a short distance, or continue their flight beyond the view.

"The burrows, into which we have seen the owl descend, resembled in all respects those of the prairie dog, leading us to suppose either that they were common, though perhaps not friendly occupants of the same burrow, or that the owl was the exclusive tenant of a burrow gained by the right of conquest. But it is at the same time probable that, as in Chili, the owl may excavate his own tenement.

"From the remarkable coincidence of note, between these two widely distinct animals, we might take occasion to remark, the probability of the prairie dog being an unintentional tutor to the young owl, did we not know that this bird utters the same sounds in the West Indies, where the prairie dog is not known to exist."