Dr. James couples the lower, or trunk, part of the stream with Monument creek, as if the latter were the main fork. A plate in Long's Atlas, is entitled "View of the Castle Rock on a Branch of the Arkansas at the base of the Rocky Mountains"; it is an easily recognizable picture of Elephant Rock, near Palmer Lake, (as Prof. W.O. Cromby was first to observe), and is evidently the feature by which it was sought to give the name "Castle Rock creek" to the Fontaine qui Bouille, or Boiling Spring river. While Elephant Rock and Monument creek may have been known by the name, Castle Rock, prior to 1820, that name was not the one ordinarily in use for Fountain creek below the forks, as is abundantly witnessed by old itineraries, etc., and by old maps and testimony from Indians. Besides the French name, Fontaine qui Bouille, and its English equivalent, Boiling Spring, and the various Indian names meaning Boiling Water (the Ute name, among these, being, it is said, not the regular word for boiling, but one indicating the turbulence of the water in the springs), the only other name that I have been able to find for Fountain creek, is the Spanish one, Rio del Almagre, which is used on Pike's map, and which, there is evidence to show, was in use far back in the eighteenth century. Almagre means Red Ochre or Red Earth, and probably refers to some of the rust-colored sediments of the rocks in the vicinity, and to a gradation from copper red to ochreous brown.

St. Charles creek was passed on the afternoon of the 18th. Its tributary, Greenhorn creek, is described as coming from the southeast and passing between the Spanish Peaks, whereas it comes from the southwest and rises at the Greenhorn mountain.*

*Greenhorn mountain, constituting part of the Wet Mountain range (Sierra Mojada), takes its name, which as does Greenhorn creek, from a noted Comanche chief, who for years, in the eighteenth century, was the scourge of the Spanish settlements in New Mexico, but who received his quietus in a battle fought (in 1779) by Capt. Rulof Furst on the 13th of April, 1779, when the Comanche chief was killed. H.H. Sancroft states that Lieutenant-colonel Juan Bautista de Anza, who was then political and military governor of New Mexico, in August and September 1779, made a campaign against the Comanches with a force of 645 men, including 85 soldiers and 259 Indians; 200 Yutas and Apaches joined the army as allies on the way. Places passed by the expedition, above Taos, are: Paso de San Bartolomé on the Rio del Norte 15 leagues from its source, (Wagon Wheel Gap?), Ciénega de San Luis (marshes, sometimes lakes, figuring on recent Colorado maps as San Luis Lakes), Arroyo de San Ginés, Aguaje de Yutas (Ute creek, east of Blanco Peak?), Rio San Augustin, Lomas Perdidas, Rio Santa Rosa, Sierra de Almagre (Pike's Peak range); and on the return route, Arroyo de Cristo, Rio Dolores (now Rio Trinchera), Rio Culebra, and Rio Ductil (probably the "Río del Dotie" of Pike's map 1813, "Los Datitas or los Latas" of Parke and Kern's map 1851, "Las Ladillas" of Heap's map 1853, and "Latir creek" of late U.S. General Land Office maps). This campaign resulted in the killing of the great chief, Cuerno Verde, and four of his leading subchiefs, his "high priest" or medicine man, his eldest son, and 32 of his warriors, and in the capture of 30 women and children and 500 horses.

Early on the 20th they passed the mouth of Huerfano creek, of which he writes that, according to the guide, it "is called by the Spaniards Wharf creek, probably from the circumstance of its washing perpendicular precipices of moderate height, which is said to be the case. A party of hunters in the employ of Mr. Chouteau, who were taken prisoners by the Spaniards in the month of May, 1817, were conducted up
this creek to the mountains; thence across the mountains to Santa Fe.

Dr. James, in his information about these southern branches of the Arkansas, was evidently derived from Bijeau, who was one of the Chouteau and De Mun party taken prisoners as above mentioned and as will be more particularly narrated in a subsequent chapter.

As to the geographical part of it, and in view of considerable looseness in the doctor's geographical statements elsewhere in his account, there is perhaps some doubt whether it correctly interprets and presents the knowledge that was possessed by his guide, and which the latter had gained in his beaver-trapping, hunting and trading, during a two years' sojourn in that region. However, that may be, all of these branches, flowing in a general way from the southwest, and it is Cucharas creek, a south fork of Huerfano, instead of Greenhorn creek, a south fork of St. Charles, that has its sources about the Spanish Peaks, one of its sources partially encircling the West Peak, and another (Mahatoya creek) coming from a quarter between the two peaks, and receiving waters from both of them. The Huerfano river takes its name from a conspicuous landmark now known to Americans as the Huerfano Butte, which was long ago dubbed El Huerfano—i.e., The Orphan—by the Spaniards, on account of its abrupt elevation and isolated position. This butte is a typical volcanic neck.

Near noon camp, which was probably at Kramer creek, across from present Nepesta, a large herd of elk was seen.

Along this part of the Arkansas, Dr. James again observed and mentions the curious conical erosion-forms of the Pierre shale, known as tepee buttes, some of which he has previously noticed about the Pike's Peak observation camp on Fountain creek. He here observes the rocky core as a characteristic feature of these buttes, and writes of it, "The natural mounds of which we speak, appear usually to contain a nucleus of sandstone, which is sometimes laid bare on the summit or on the sides, and sometimes entirely concealed by the accumulated debris resting upon it. This stone often contains petrified remains of marine animals."

Within the past few years, these tepee buttes have been studied by Mr. J.K. Gilbert, of the United States Geological Survey; his brief account of them is in the Pueblo Folio of the Survey's Geologic Atlas of the United States. The calcareous and chimney-like nature of the core, in a matrix of shale, is due to the former persistence of a small colony of marine chlorophytes occasionally at one locality on the sea floor, for a considerable time, during which that floor was being gradually built higher by the deposition of sediment. — F. W. C.

Evening camp was made at some point between present Missouri Pacific and A.T. & S.F. railway stations of Olney and Manzanola, on the north side of the river. In this vicinity, the hunters procured "a wild cat, an old turkey, and five of her chickens." Here also was found the type-specimen of the Arkansas Flycatcher, Tyrannus verticalis Say.

On the 21st, camp was broken at 5 A.M., and after travelling six or eight miles down the river, the party met an Indian and squaw of a tribe called by themselves Kaskaia and known to the French as Bad-Hearts. "They were on their way from the Arkansas below, to the mountains near the sources of the Platte, where their nation sometimes resides."
informed us that the greater part of six nations of Indians were en-
camped about thirteen days' journey below us, on the Arkansa. These
were the Kaskaia, Shienaes, Arrapahoes, Kiwas, the Bald-heads, and a
few Shoshones, or Snakes.* These nations, the Kaskaia informed us,

*Of these six tribes, four are still known by their old names. Of
the two which are not, the Kaskaia are

had been for some time embodied, and had been engaged on a warlike expen-
dition against the Spaniards on Red river, where a battle was fought,
in which the Spaniards were defeated with considerable loss.

"We now understood the reason of a fact which had appeared a little
remarkable; namely, that we should have traversed so great an extent of
Indian country, as we have done since leaving the Pawnees, without meet-
ing a single savage. The bands above enumerated, are supposed to
comprise nearly the whole erratic population of the country about the
sources of the Platte and Arkansa, and they had all been absent from
their usual haunts, on a predatory excursion against the Indians
[evidently meaning Spaniards, though perhaps both Spaniards and Pueblo
Indians] of New Mexico.

"At our request, the Kaskaia and his squaw returned with us several
miles, to point out a place suitable for fording the Arkansa, and to
give us any other information or assistance in their power to communicate.
Being made to understand that it was the design of some of the party to visit the
sources of Red river, he pretended to give us information and advice
upon that subject; also to direct us to a place where we might find a
mass of rock-salt, which he described as existing on one of the upper
branches of Red river.*

*These directions were probably not pretended, but bona fide, and to
one of the well-known salines in western Oklahoma. The Canadian
was the stream known among the western plains Indians as Red River. A
few miles north of Watonga, Okla., at the head of Salt creek, on Cim-
arron drainage, yet close to the North Fork of the Canadian River, is
a strong saline, which is perhaps the one referred to by the Kaskaia.—
F. W. C.
Dr. James couples the lower, or trunk, part of the stream with monumant creek, as if the latter were the main fork. A plate in Eddy Long's Atlas is entitled "View of the Castle Rock on a Branch of the Arkansas at the base of the Rocky Mountains"; it is an easily recognizable picture of Elephant Rock near Palmer Lake, (as Prof. W. D. Grombey was first to observe), and is evidently the feature by which it was sought to give the name "Castle Rock creek" to the containing aqui fonial or boiling spring river. While Elephant Rock and monumant creek may have been known by the name Castle Rock, prior to 1830, that name was not the one ordinarily in use for Fountain creek below the forks, as is abundantly witnessed by old itineraries and charts. Other than the one before us, and by old maps and testimony from Indians, besides the French name, "Bouillon Spring," and the English equivalent, "Boiling Spring," and the various Indian names meaning boiling water (the Ota name, among these, being it is said, not the regular word for boiling, but one indicating the turbulence of the water in the spring), the only other name that I have been able to find for Fountain creek, is the Spanish one, Río del Almarte, which is used on Eddy's map, and which, there is evidence to show, was in use far back in the eighteenth century. In the map of Almarte among Red rocks of New Earth, and probably in some of the Pueblos is an aquila of "Pouallo," surrounded by counts of the fountain basin in 1799. J. H. Laneroot states that Lieutenant-Colonel Juan Bautista de Anza, who was then political and military governor of New Mexico, in August and September 1779, made a campaign against the Comanches with a force of 640 men, including 236 soldiers and 226 Indians; 250 Yutes and Apaches joined the army as allies on the way. Places passed by on the expedition were: Las Huertas on the Río del Pecos 15 leagues from its source (Wagon wheel Gap), Chicago de San Luis (Marches sometimes lakes), on recent Colorado map as San Luis Lake, Arroyo de San Cino, Arroyo de Yutas (Ota creek east of Blanco Peak), Rio de San Augustin, Loses Perridas, River Santa Rosa, River de Almarte (Pikes peak range); and on the return route, Arroyo de Cristo, Rio colorado (now Riv Chiranches), Rio Culebra, and Rio Outeal (probably the "Río del Potrillo" of Pikes Peak's map 1810, and "Los Batillas" or "Los Lallas" of Park and Curtis map 1851, "Las Ladillas" of Healy's map 1853, and "Latir creek" of late U.S. General Land Office maps). This campaign resulted in the killing of the great chief, Guarno Torc, his four leading subchiefs, four of his leading subchiefs, his "Great Priest" or medicine man, his eldest son, and 35 of his warriors, and in the capture of 50 women and children and 500 horses.

Participating with these passes was the north of Puerredon creek, of which Mr. Eades, that, according to the guide, it is called by the Spaniards "Marf creek," probably from the circumstance of its carving peculiar crescents of moderate height, which is said to be the case. A party of hunters in the employ of Mr. Chouteau, who were taken prisoners by the Spaniards in the north of May, 1817, were conducted so
this creek to the mountains; thence across the mountains, to Santa Fe. 

As to the geographical part of it, and in view of considerable looseness in the doctor's geographical statements elsewhere in his Account, there is perhaps some doubt as to whether it correctly interprets and presents the knowledge that was possessed by his guide, and which the latter had gained during his beaver-trapping, hunting and trading, during a two years' sojourn in that region. However that may be, all of these branches, flow, in a general way, from the southwest, and it is Buckaroos creek, a south fork of Kuerfano, rather than Nuhench, a south fork of it, Charles, that has its sources about the Spanish Peaks, one of its forks partially encircling the Peak. Peak, and another (Cahaloy Creek) coming from a quarter between the two peaks and receiving waters from both of them. The Kuerfano river takes its name from a conspicuous landmark now known to Americans as the Kuerfano Butte, which was once dubbed El Kuerfano — i., the mountain — by the Spaniards, on account of its abrupt elevation and isolated position. This butte is a typical volcanic neck, or plug, of basalt.

Near noon camp, which was probably at Kuerfano creek, across from present Logan, a large herd of elk was seen.

Along this part of the Arkansas, Dr. Jones again observed and mentions the curious conical erosion-forms of the Pierre shale, known as tenta buttes, some of which he has previously noticed about the Pike's Peak observation camp on Mountain creek. He here observes the rocky core as a characteristic feature of these buttes, and writes of it, "The natural conduit of which we speak, appears usually to contain a nucleus of sandstone, which is sometimes left bare on the summit or on the sides, and sometimes entirely concealed by the accumulated debris resting upon it. This stone often contains petrified remains of marine animals."

Within the last few years, these tenta buttes have been studied by Mr. C. W. Gilmore, of the United States Geological Survey; his brief account of them is in the Pueblo Folio of the Survey's Geologic Atlas of the United States. The calcarceous and chimney-like nature of the core, in a matrix of shale, is due to the former persistence of a small body of shallow, chiefly lucina, ooze, at one locality on the sea floor, for a considerable time, during which that floor was being gradually built higher by the deposition of sediment. — P. S. A.

Evening camp was made at some point between present Missouri, Pacific and A.T. & S.F. railway stations of Olney and Manzanola, on the north side of the river, In this vicinity, the hunters procured a wild cat, an old turkey, and five of her chickens." Here also was found the type-specimen of the Arkansas Flycatcher, Tyrannus verticalis Say.

On the 21st, camp was broken at 6 A.M., and after travelling six or eight miles down the river, the party met an Indian and squaw, of a tribe who called themselves Keshia and known to the French as Bad-hearts. "They were on their way from the Arkansas below, to the mountains near the sources of the Platte, where their nation sometimes resides.
informed us that the greater part of six nations of Indians were encamped about thirteen days' journey below us, on the Arkansas. These were the Kaskais, Chienenes, Arrapahoes, Kiowas, the Bald-heads, and a few Shoshones, or Snakes. These nations, the Kaskais informed us,

Of these six tribes, four are still known by their old names. Of the two which are not, the Kaskais are

had been for some time embossed and had been engaged on a warlike expedition against the Spaniards on Red river, where a battle was fought, in which the Spaniards were defeated with considerable loss.

We now understood the reason of a fact which had appeared a little remarkable; namely, that we should have traversed so great an extent of Indian country, as we have done since leaving the Pawnees, without meeting a single savage. The bands above enumerated, are supposed to comprise nearly the whole erratic population of the country about the sources of the Platte and Arkansas; and they had all been absent from their usual haunts, on a predatory excursion against the Indians [evidently meaning Spaniards, though perhaps both Spaniards and Pueblo Indians] of New Mexico.

At our request, the Kaskais and his squaws returned with us several miles to point out a place suitable for fording the Arkansas, and to give us any other information or assistance in their power to communicate. Being made to understand that it was the design of some of the party to visit the sources of Red river, he pretended to give us information and advice upon that subject, also to direct us to a place where we might find a mass of rock-salt, which he described as existing on one of the upper branches of Red river.

These directions were probably not pretended, but bona fide, and to one of the well-known saltings in western Oklahoma. The Canadian was the stream known among the western plains Indians as Red River, the A few miles north of Pawnee this, at the head of Salt creek, on Cimarron drainage, not close to the north fork of the Canadian river, is a strong salting, which is perhaps the one referred to by the Kaskais.
At ten o'clock we arrived at the ford, where we halted to make a
the mouth of

Rocky Ford; near the present town of that name, and near Timpas
creek, On Williams' Tourists' Map of
Colorado, 1877, the name Rocky Ford does not yet appear, but in the
same vicinity, a little above the mouth of Timpas creek, on the south
side of the river, is legended, "Point of Rocks," as a station of the
A.T. & S.F. Railway. "Timpas" is a word from the
Shoshonean group of languages, (Comanche, Ute, etc.), and signifies rock.

division of the party, which was here to take place. Our Kaskaia
visitor, with his handsome and highly ornamented wife, encamped near
us, having erected a little tent covered with skins. They presented
us some jerked bison meat, and received in return a little tobacco and
other inconsiderable articles. A small looking-glass, which was
among the presents given him, he immediately stripped of the frame and
covering, and inserted it with some ingenuity into a large billet of
wood, on which he began to carve the figure of an alligator. Capt.
Bell bought of him the horse which they had led with them, and which,
according to their account, had recently been caught from among the
wild horses of the prairie. This made some new arrangements of
their baggage necessary, and we were surprised to witness the facility
and dispatch with which the squaw constructed a new pack-saddle. She
felled a small cotton-wood tree, from which she cut two
forked sticks. These were soon reduced to the proper dimensions,
and adapted to the ends of two flat pieces of wood about two feet
in length, and designed to fit accurately to the back of the horse, a
longitudinal space of a few inches in width being left between them to
receive the ridge of the back. The whole was fastened together
without nails, pins or mortises, but by a strong covering of dressed
horse-hide sewed on wet with fibres of deer's sinew.

"The Indian informed us that he was "The Calf". He appeared ex-
cessively fond of his squaw, and their caresses and endearments, they
were at no pains to conceal. It was conjectured by our guide, and
afterwards ascertained by the detachment that descended the Arkansas,
that this mutually fond couple had married in violation of the laws
and usages of their tribe; she being already the wife of another man,
and had stolen the horse they sold us, and deserted their band to
escape punishment.

The low grounds on the upper part of the Arkansas, have a sandy soil,
and are thinly covered with cotton-wood, intermixed with the aspen
poplar (P. tremuloides, Mx.) and a few willows. The undergrowth is
scattering and small, consisting principally of the Amorpha fruticosa
and a symgenecous shrub, probably a veronia. Along the base of the
mountains and about this encampment, we observed a small aecopsis, &c.