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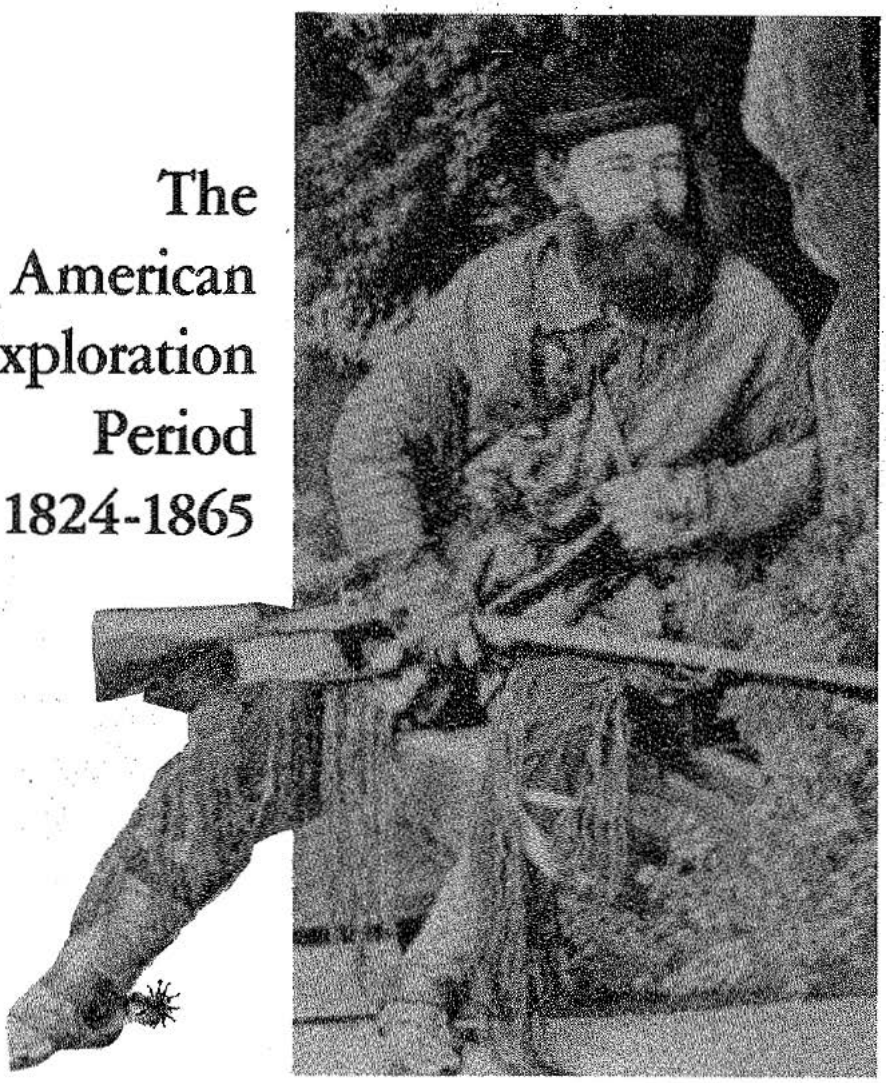
MAN AND WILDLIFE IN ARIZONA:

The American Exploration Period 1824-1865



by Goode P. Davis, Jr.

Edited by Neil B. Carmony & David E. Brown

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of the four legs. Then it was carefully removed, dried on a willow hoop, and scraped or grained to get rid of adhering particles of flesh (Cleland 1950:14).

In the next phase of the operation, the hides were placed on a framework of sticks planted around the edge of a hole containing a fire of rotten wood. The hides were smoked for 10-12 hours. The skins were then folded with the fur inside and, with a crude press, packed in bundles of about 80 hides which weighed about 100 pounds. Each bundle was tied with green buckskin thongs, which contracted while drying and finally became almost as hard and inelastic as iron bands (Cleland 1950:14-15).

On long expeditions it was often to the advantage of the trapper to cache (hide by burying) food and pelts. In time of need he thus had a stockpile of provisions. He also spared his pack animals the ordeal of carrying heavy burdens unnecessarily over long distances. Extreme care was taken to conceal the spot where the valuables were buried.

James Ohio Pattie

As far as is known, the first English-speaking Americans to set foot in what today is Arizona were 14 beaver trappers who, working down the Gila River, entered the state in late December 1824. Among the trappers was James Ohio Pattie, a youth of about 20. His memoirs of adventures in New Mexico, Arizona, and California from 1824 to 1830 are unique in Southwest literature[2]

The nomadic trappers were a reticent, largely illiterate lot, and their contributions to the historical literature were small. George C. Yount and Job Francis Dye left reminiscences, elicited when they were old men, which briefly describe their trapping days in Arizona. However, these recollections, filled with tall tales and

[2]Pattie, J.O., 1831, *The Personal Narrative of James Ohio Pattie of Kentucky:* Timothy Flint, ed., John H. Wood, Cincinnati. Second printing 1833, Cincinnati. There has long been debate among historians as to the validity of Pattie's narrative. This controversy is discussed in Appendix A.

fogged by the decades, have little to interest the present-day naturalist. Pattie's narrative, published in 1831, only a year after his return to the East, is singular in that it is a contemporary, first-hand account of the adventures of a "mountain man" in the Southwest.

Unfortunately for naturalists, the primary focus of Pattie's narrative is on Indian fighting, not trapping. He tells us very little about the craft of beaver trapping or the habits of his quarry. We learn next to nothing about the fur trade. We are given but scant glimpses of camp life. The frequent battles with Indians, complete with dismembered trappers and scalped redskins, receive most of Pattie's attention. Pattie was not attempting to produce a scientific treatise, but rather an exciting adventure story. It was evidently popular for the book was reprinted in 1833, only two years after its first publication. But, between Indian fights, Pattie gives us some interesting descriptions of early Arizona's wildlife and habitats, the first such descriptions in the English language.

James O. Pattie, his father Sylvester, and a number of other adventurers left Missouri in June 1824. They arrived in Santa Fe in November the same year.[3] Toward the end of November, the Patties and five others left Santa Fe, traveling south for the largely unknown and then untrapped wilderness of the Gila River drainage.

Somewhere along the Rio Grande, seven other trappers joined the Patties, doubling the size of the party. At a point four days below Socorro, they all struck west for the Santa Rita Copper Mines near present-day Silver City. At the copper mines, the last outpost of Mexican civilization until Tucson, 200 miles to the west, the expedition hired two Mexican guides and pushed on northwest, to the headwaters of the Gila River in what is now Gila National Forest.

[3]Weber (1971:93) maintains that the Patties did not arrive in New Mexico until the fall of 1825, but he does not attempt to resolve the ripple of chronological conflict that this change in date sends throughout the narrative. Since a discrepancy of one year is not of great import to this study, Pattie's chronology will be used throughout.

... we reached the Helay [Gila River] on the 14th [December, 1824]. We found the country the greater part of the last two days hilly and somewhat barren with a growth of pine, live oak, pinion, cedar and some small trees, of which I did not know the name. We caught thirty beavers, the first night we encamped on this river. The next morning, accompanied by another man, I began to ascend the bank of the stream to explore, and ascertain if beaver were to be found still higher, leaving the remainder of the party to trap slowly up, until they should meet us on our return. We threw a pack over our shoulders, containing a part of the beavers, we had killed, as we made our way on foot. The first day we were fatigued by the difficulty of getting through the high grass, which covered the heavily timbered bottom. In the evening we arrived at the foot of the mountains, that shut in the river on both sides, and encamped. We saw during the day several bears, but did not disturb them, as they showed no ill feeling towards us.

On the morning of the 13th [16th?] we started early, and crossed the river, here a beautiful clear stream about thirty yards in width, running over a rocky bottom, and filled with fish. We made but little advance this day, as bluffs came in so close to the river, as to compel us to cross it thirty-six times. We were obliged to scramble along under the cliffs, sometimes upon our hands and knees, through a thick tangle of grapevines and under-brush. Added to the unpleasantness of this mode of getting along in itself, we did not know, but the next moment would bring us face to face with a bear, which might accost us suddenly. We were rejoiced, when this rough ground gave place again to the level bottom. At night we reached a point, where the river forked, and encamped on the point between the forks. We found here a boiling spring so near the main stream, that the fish caught in the one might be thrown into the other without leaving the spot where it was taken. In six minutes it would be thoroughly cooked.

The following morning my companion and myself separated, agreeing to meet after four days at this spring. We were each to ascend a fork of the river. The banks of that which fell to my lot, were very brushy, and frequented by numbers of bears, of whom I felt fearful, as I had never before travelled alone in the woods. I walked on with caution until night, and encamped near a pile of drift-wood, which I set on fire, thinking thus to frighten any animals that might approach during the night. I placed a spit, with a turkey I had killed upon it, before the fire to roast. After I had eaten my supper I laid down by the side of a log with my gun by my side. I did not fall asleep for some time. I was aroused from slumber by a noise in the leaves, and raising my head saw a panther stretched on a log by which I was lying, within six feet of me. I raised my gun gently to my face, and shot it in the head. Then springing to my feet, I ran about ten steps, and stopped to reload my gun, not knowing if I had killed the panther or not (Pattie 1833:52-54).

Pattie's descriptions of the upper Gila are good. There are a number of hot springs along the river in this area. His boiling spring was possibly the small unnamed hot spring located near the junction of the West and Middle Forks of the Gila River. Although not actually boiling, the spring is hot enough to scald the skin and it sends up clouds of condensing water vapor during the cold winter months.

The "panther," or mountain lion, incident is suspicious as it describes behavior uncharacteristic of this furtive animal. However, the country about the headwaters of the Gila is mountain lion, turkey, and black bear habitat, and was formerly inhabitated by grizzly bears, now extinct in the Southwest (Findley et al. 1975).

Pattie rejoined the other trappers downstream on the Gila and found that seven men had deserted the party, moving rapidly ahead to have first chance at the beaver. The Patties continued downstream:

... we ... traveled slowly, catching what beaver we could, and killed some deer, although the latter were scarce, owing, probably to the season of the year. The river here was beautiful, running between banks covered with tall cottonwoods and willows. This

bottom extended back a mile on each side. Beyond rose high and rather barren hills (Pattie 1833:54-55).

The trappers entered what is today Arizona in late December 1824 (Fig. 2). Along this stretch of the Gila they found beaver and other game so scarce that they were forced to kill a horse for food. Their luck changed when they reached the San Francisco River on January 1, 1825.

The stream, we discovered, carried as much water as the Helay, heading north. We called it the river St. Francisco. After travelling up its banks about four miles, we encamped and set all our traps and killed a couple of fat turkeys. In the morning we examined our traps, and found in them 37 beavers! This success restored our spirits instantaneously. Exhilarating prospects now opened before us, and we pushed on with animation. The banks of this river are for the most part incapable of cultivation being in many places formed of high and rugged mountains. Upon these we saw multitudes of mountain sheep. These animals are not found on level ground, being there slow of foot, but on these cliffs and rocks they are so nimble and expert in jumping from point to point, that no dog or wolf can overtake them. One of them that we killed had the largest horns, that I ever saw on animals of any description. One of them would hold a gallon of water. Their meat tastes like our mutton. Their hair is short like a deer's, though fine. The French call them the gros cornes, *from the size of their horns which curl around their ears, like our domestic sheep. These animals are about the size of a large deer. We traced this river to its head, but not without great difficulty, as the cliffs in many places came so near the water's edge, that we were compelled to cross points of the mountain, which fatigued both ourselves and our horses exceedingly.*

The right hand fork of this river, and the left of the Helay head in same mountain, which is covered with snow, and divides its waters from those of Red River. We finished our trapping on this river, on the 14th. We had caught the very considerable number of

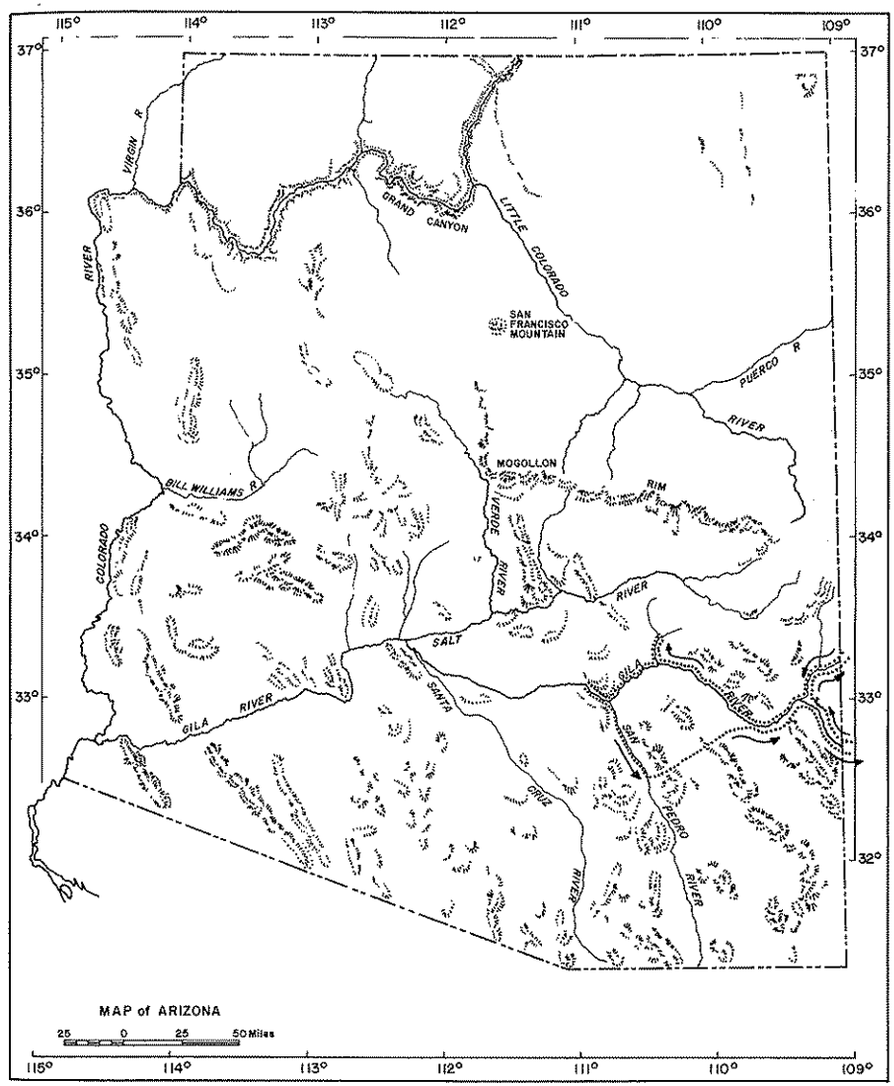

Figure 2. Route of James Ohio Pattie's 1st trapping expedition in Arizona, December 1824 - April 1825.

250 beavers and had used and preserved most of the meat, we had killed. On the 19th we arrived on the river Helay, encamped, and buried our furs in a secure position as we intended to return home by this route (Pattie 1833:55-56).

The *gros cornes* or bighorn sheep that Pattie described so well became extinct in this region about the beginning of the twentieth century. Bighorn have since been reintroduced to the San Francisco River watershed by the New Mexico and Arizona Game and Fish Departments.

Descending the Gila, the trappers came upon the deserting members of the party on January 22. The deserters had been attacked by Indians with one killed and others wounded. They returned to the Santa Rita mines, but the Patties continued downstream.

During a snowstorm on the night of January 25, several horses escaped from camp. The next day Pattie and a companion trailed the horses up a creek that entered the Gila from the north, possibly Bonita Creek. While searching for the horses, Pattie came upon a cave containing what was presumably a grizzly bear.

We passed a cave at the foot of the cliffs. At its mouth I remarked, that the bushes were beaten down, as though some animal had been browsing upon them. I was aware, that a bear had entered the cave. We collected some pine knots, split them with our tomahawks, and kindled torches, with which I proposed to my companion, that we should enter the cave together, and shoot the bear. He gave me a decided refusal, notwithstanding I reminded him, that I had, more than once, stood by him in a similar adventure; and notwithstanding I made him sensible, that a bear in a den is by no means so formidable, as when ranging freely in the woods. Finding it impossible to prevail on him to accompany me, I lashed my torch to a stick, and placed it parallel with the gun barrel, so as that I could see the sights on it, and entered the cave. I advanced cautiously onward about twenty yards, seeing nothing. On a sudden the bear reared himself erect within seven feet of me, and

began to growl, and gnash his teeth. I levelled my gun and shot him between the eyes, and began to retreat. Whatever light it may throw upon my courage, I admit, that I was in such a hurry, as to stumble, and extinguish my light. The growling and struggling of the bear did not at all contribute to allay my apprehensions. On the contrary, I was in such haste to get out of the dark place, thinking the bear just at my heels, that I fell several times on the rocks, by which I cut my limbs, and lost my gun. When I reached the light, my companion declared, and I can believe it, that I was as pale as a corpse. It was sometime, before I could summon sufficient courage to re-enter the cavern for my gun. But having re-kindled my light, and borrowed my companions gun, I entered the cavern again, advanced and listened. I then advanced onward a few strides, where to my great joy I found the animal dead. I returned, and brought my companion in with me. We attempted to drag the carcass from the den, but so great was the size, that we found ourselves wholly unable. We went out, found our horses, and returned to camp for assistance. My father severely reprimanded me for venturing to attack such a dangerous animal in its den, when the failure to kill it outright by the first shot, would have been sure to be followed by my death.

Four of us were detached to the den. We were soon enabled to drag the bear to the light, and by the aid of our beasts to take it to camp. It was both the largest and whitest bear I ever saw. The best proof, I can give, of the size and fatness is, that we extracted ten gallons of oil from it. The meat we dried, and put the oil in a trough, which we secured in a deep crevice of a cliff, beyond the reach of animals of prey. We were sensible that it would prove a treasure to us on our return (Pattie 1833:57-59).

Back on the Gila, Pattie reported killing another bear, one that attacked the trappers on January 31. He described the area, now known as Safford Valley:

We found the river skirted with very wide bottoms, thickset

with the musquito trees, which bear a pod in the shape of a bean, which is exceedingly sweet. It constitutes one of the chief articles of Indian subsistence; and they contrive to prepare from it a very palatable kind of bread, of which we all became very fond. The wild animals also feed upon this pod (Pattie 1833:59).

The trappers spent four days exploring a small river that entered the Gila from the north — what is now called the San Carlos River. They found few beaver but many Indians. "We found the banks of this river plentifully timbered with trees of various species, and the land fine for cultivation" (Pattie 1833:60). They returned to the Gila, February 13, 1825.

After many days of arduous travel through a rugged, mountainous region, the trappers again struck a beaver bonanza.

March 3rd, we trapped along down a small stream, that empties into the Helay on the south side, having its head in a southwest direction. It being very remarkable for the number of its beavers, we gave it the name of Beaver River. At this place we collected 200 skins; and on the 10th continued to descend the Helay, until the 20th, when we turned back with as much fur as our beasts could pack (Pattie 1833:63).

On the 25th we returned to Beaver River. ... About six miles up the stream, we stopped to set out traps ... we had pitched our camp near the bank of the river, in a thick grove of timber, extending about a hundred yards in width. Behind the timber was a narrow plain of about the same width, and still further on was a high hill, to which I repaired, to watch my horses, and descry whatever might pass in the distance. Immediately back of the hill I discovered a small lake, by the noise made by the ducks and geese on it. Looking more attentively, I remarked what gave me much more satisfaction, that is to say, three beaver lodges (Pattie 1833:64).

Pattie's Beaver River was undoubtedly the San Pedro. The high hill he mentions was likely what is now called Malpais Hill.

The small lake could well have been formed by Leroy Springs located at the base of Malpais Hill, but there is no lake in the vicinity today and the San Pedro River is no longer perennial in this reach (Brown et al. 1981).

Pattie further described the lower San Pedro River and its environs:

Its banks are still plentifully timbered with cottonwood and willow. The bottoms on each side afford a fine soil for cultivation. From these bottoms the hills rise to an enormous height, and their summits are covered with perpetual snow. In these bottoms are great numbers of wild hogs, of a species entirely different from our domestic swine. They are foxcolored, with their navel on their back, towards the back part of their bodies. The hoof of their hind feet has but one dew-claw, and they yield an odor not less offensive than our polecat. Their figure and head are not unlike our swine, except that their tail resembles that of a bear. We measured one of their tusks, of a size so enormous, that I am afraid to commit my credibility, by giving the dimensions. They remain undisturbed by man and other animals, whether through fear or on account of their offensive odor, I am unable to say. That they have no fear of man, and that they are exceedingly ferocious, I can bear testimony myself. I have many times been obliged to climb trees to escape their tusks. We killed a great many, but could never bring ourselves to eat them. The country presents the aspect of having been once settled at some remote period of the past. Great quantities of broken pottery are scattered over the ground, and there are distinct traces of ditches and stone walls, some of them as high as a man's breast, with very broad foundations. A species of tree, which I had never seen before, here arrested my attention. It grows to the height of forty or fifty feet. The top is cone shaped, and almost without foliage. The bark resembles that of the prickly pear; and the body is covered with thorns. I have seen some three feet in diameter at the root, and throwing up twelve distinct shafts (Pattie 1833:67-68).

The descriptions of the javelina or collared peccary and the saguaro cactus are unmistakable and quite accurate. Pattie understandably mistook the opening of the large scent gland on the javelina's lower back for its navel, but the enormity of the javelina's tusks is a gross exaggeration. The enlarged canine teeth of the javelina never exceed 5 cm. (2 in.) in length. The ferocity that Pattie attributes to the unaggressive javelina is also a fiction. Javelinas are still abundant on the lower San Pedro.

On March 30, the trappers, having had most of their horses stolen by Indians and their provisions lost or spoiled, quit the San Pedro and struck out to the east, hoping to eventually reach the Gila and thence the Copper Mines. They immediately had to climb a high mountain, the Galiuro Range where they "... met with no traces of game" (Pattie 1833:68). Upon descending from the mountains on April 2, Pattie wrote:

In descending from these icy mountains, we were surprised to find how warm it was on the plains. On reaching them I killed an antelope, of which we drank the warm blood; and however revolting the recital may be, to us it was refreshing, tasting like fresh milk. The meat we put upon our horses, and travelled on until twelve o'clock, before we found water.

Here we encamped the remainder of the day, to rest, and refresh ourselves. The signs of antelope were abundant, and the appearances were, that they came to the water to drink; from which we inferred, that there was no other drinking place in the vicinity. Some of our hunters went out in pursuit of the antelopes. From the numbers of these animals, we called the place Antelope Plain. *The land lies very handsomely, and is a rich, black soil, with heavily timbered groves in the vicinity* (Pattie 1833:69).

Pattie's Antelope Plain was the northern end of Sulphur Springs Valley and the watering place was likely what is now called Hooker's Cienega. The area today still supports a small population of pronghorn which were reintroduced to the Sulphur Springs Valley in the early 1940's.

On the far side of the plain the party encountered another high mountain (the Pinaleños) which they crossed, finally reaching the Gila River in the Safford Valley on April 12. The men were near starvation and killed some of their dogs for food.

April 18, probably near the head of Safford Valley, Pattie reported catching an otter in a beaver trap — one of the few references to river otters in Arizona. The hungry trappers ate the otter:

On my return from setting our two traps, I killed a buzzard, which disagreeable as it was, we cooked for supper. In the morning of the 18th, I found one of the traps had caught an otter. This served for breakfast and supper (Pattie 1833:71).

Proceeding up to the Gila, Pattie (1833:71) reported the killing of four deer and some turkeys during two days of hunting in the vicinity of the same creek where he had dispatched the grizzly on January 26. The exhausted trappers reached the Santa Rita Copper Mines on April 29, 1825.

James Ohio Pattie left his father at the mines and returned to Santa Fe to requisition horses and supplies for another trip to the Gila, this time to reclaim the pelts buried at two caches. The expedition reached its objectives, but only a few furs were recovered from the cache on the San Francisco River, and the larger cache on the Gila had been broken into and stolen, presumably by Indians. Financially broken, the Patties settled for the next few months at Santa Rita, where they attempted to work the mines.

Although his first trapping venture was a financial bust, James Ohio Pattie was undaunted. The next winter the younger Pattie joined a group of "French" trappers bound for the Red (Colorado) River. Leaving his father behind, Pattie and his companions left the Santa Rita mines on January 2, 1826[4] and traveled down the Gila River (Fig. 3).

The record of this second trapping expedition contains only meager bits of natural history as Pattie concentrates on detailing a particularly bloody battle with hostile natives which took place near the mouth of the Salt River.

[4]Weber (1971:123) cites evidence that indicates that this expedition may have actually taken place during the winter of 1826-1827 and been lead by Michel Robidoux.

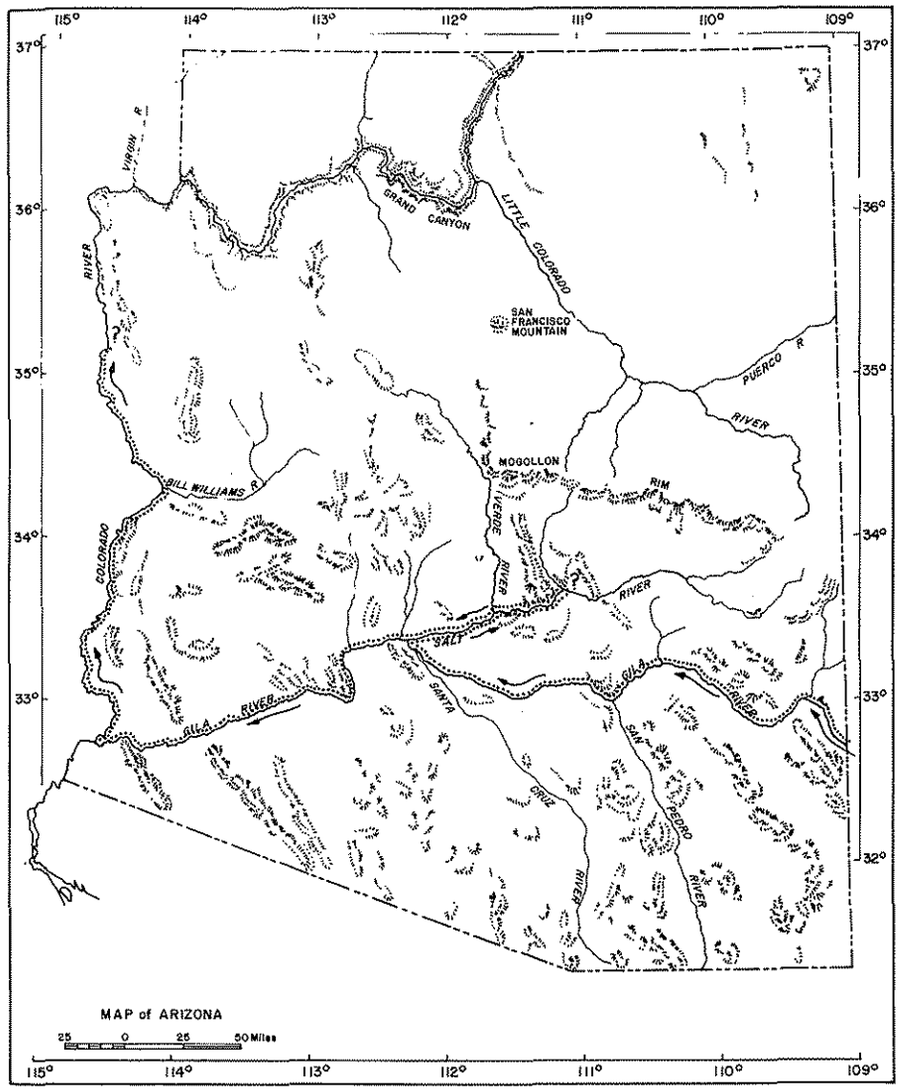

Figure 3. Route of James Ohio Pattie's 2nd trapping expedition in Arizona, January 1826 - April 1826.

Here, despite Pattie's remonstrances, the trappers camped at a "Papawar" village whose inhabitants showed more evidence of treachery than the hospitality they professed. Pattie and another trapper withdrew for the night and camped some distance away. Their fears were realized; the "Papawars" massacred the entire party except for the leader who escaped, badly injured, into the darkness. He eventually stumbled into the hiding place that concealed Pattie and his companion, and the three men successfully evaded the Indians.

Incredible good fortune now befell them. The next night the three fugitives spotted the campfires of another expedition of American trappers. They were made welcome and accepted the offer to continue trapping as part of the company.

The mountain men first exacted a successful revenge on the "Papawars": they killed most of the warriors in an ambush, then burned the village. They now settled down to the routine of trapping beaver, working their way up the Salt River, which Pattie called Black River.

It [Salt River] affords as much water at this point as the Helay. In the morning of the 1st of February, we began to ascend Black River. We found it to abound with beavers. It is a most beautiful stream, bounded on each side with high and rich bottoms. We travelled up this stream to the point where it forks in the mountains; that is to say, about 80 miles from its mouth. Here our company divided, a part ascending one fork, and a part the other. The left fork [Verde River] heads due north, and the right fork [Salt River] northeast. It was my lot to ascend the latter. It heads in mountains covered with snow, near the head of the left hand fork of the San Francisco. On the 16th, we all met again at the junction of the forks. The other division found that their fork headed in snow covered mountains, as they supposed near the waters of Red River (Pattie 1833:91).

The trappers returned to the mouth of the Salt River and Pattie briefly described the next leg of their journey:

We thence returned down the Helay, which is here about 200 yards wide, with heavily timbered bottoms. We trapped its whole course, from where we met it, to its junction with Red River (Pattie 1833:91).

On February 26 they began their journey up the Colorado River (Red River) and Pattie described his surroundings:

At twelve we started up Red River, which is between two and three hundred yards wide, a deep, bold stream, and the water at this point entirely clear. The bottoms are a mile in general width, with exceedingly high, barren cliffs. The timber of the bottoms is very heavy, and the grass rank and high. Near the river are many small lakes, which abound in beavers (Pattie 1833:92).

Traveling up the Colorado, the trapping party was continually harassed by unfriendly Indians, but seemed to have success in taking beaver. About March 14, probably near the head of the Mohave Valley, Pattie again briefly mentions wildlife.

Red River at this point bears a north course, and affords an abundance of the finest lands. We killed plenty of mountain sheep and deer, though no bears (Pattie 1833:96).

Beyond this point, Pattie's geography becomes vague and confused and his route of travel is impossible to follow.[5] About all that can be said is that according to Pattie, the trappers traveled north and east into Colorado, eventually crossed the Continental Divide, then descended the headwaters of the South Fork of the Platte. The adventurers made an extended foray to the north, then returned south, reaching Santa Fe on August 1, 1826.

Misfortune again befell the trappers, for the Mexican officials

[5]A number of scholars have attempted to reconstruct Pattie's itinerary beyond the Mohave Valley, but none of these attempts is satisfactory (see, e.g.: Kroeber, A.L., 1964. *The Route of James O. Pattie on the Colorado in 1826: Arizona and the West*, Vol. 6, No. 2, pp. 119-136).

confiscated their rich store of furs on the grounds that the Americans were improperly licensed. Bad luck did not deter the Patties for long, however. During the fall and winter of 1826-1827, James Pattie undertook an extensive trading trip into Sonora and Chihuahua and did a little beaver trapping and Indian fighting on the lower Pecos River. Sylvester Pattie was successfully managing the Santa Rita Copper Mines during this time.

In September 1827, the Patties took to the trapping field again, this time bound for the Colorado River and Mexican California. Rumors had been circulating that American traders operating from vessels along the California coast were offering higher prices for furs than the merchants of Santa Fe.

Following the established route from Taos and Santa Fe to the Santa Rita mines and beyond, the trappers reached the Gila River on October 6. "But our stay on this stream was short, for it had been trapped so often, that there were but few beavers remaining, and those few were exceedingly shy" (Pattie 1833:133).

They pushed on to "Beaver River" (the San Pedro) where Pattie reported they found beaver in "considerable numbers." He tells us nothing more of their stay on the San Pedro (Fig. 4).

Back on the Gila, the trappers were forced by hunger to eat some of their dogs and horses. On November 15, on the lower Gila River, Pattie and his companions stopped to construct a "canoe" so they could trap both sides of the river which he states was too deep to be forded on horseback. The canoe, presumably some sort of dugout, apparently functioned satisfactorily and the party reached the Colorado on December 1, 1827.

About this time, all but seven of the trappers revolted against the authority of Sylvester Pattie. The highly individualistic mountain men broke up into separate detachments and the larger group ascended the Colorado.

Below the mouth of the Gila, misfortune again plagued the eight men of the Pattie company. Indians stole all their horses, and the mountain men had to compensate by hollowing out cottonwood logs to serve as canoes. All the pelts and supplies were loaded

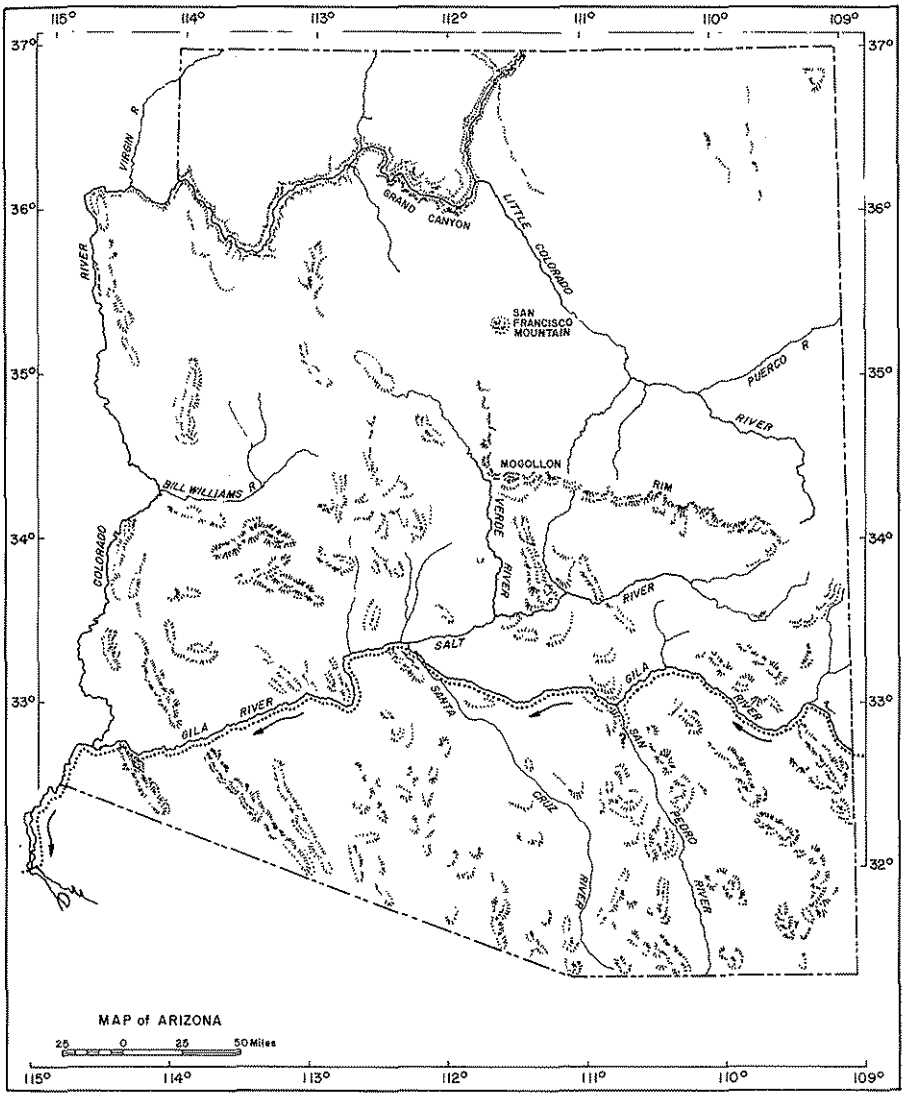

Figure 4. Route of James Ohio Patties 3rd trapping expedition in Arizona, October 1827 - February 1828.

into the dugouts, and the expedition proceeded downriver on December 9. They hoped ultimately to find a Mexican settlement in the delta of the Colorado to which some Indians had vaguely alluded. Pattie described the river and adjacent lands:

We floated about 30 miles, and in the evening encamped in the midst of signs of beavers. We set 40 traps, and in the morning of the 10th caught 36 beavers, an excellent night's hunt. We concluded from this encouraging commencement, to travel slowly, and in hunters phrase, trap the river clear; that is, take all that could be allured to come to the bait. The river, below its junction with the Helay, is from 2 to 300 yards wide, with high banks, that have dilapidated by falling in. Its course is west, and its timber chiefly cottonwood, which in the bottoms is lofty and thick set. The bottoms are from six to ten miles wide .... (Pattie 1833:142).

We continued to float slowly downwards, trapping beavers on our way almost as fast as we could wish. We sometimes brought in 60 in a morning. The river at this point is remarkably circuitous, and has a great number of islands, on which we took beavers. Such was the rapid increase of our furs, that our present crafts in a few days were insufficient to carry them, and we were compelled to stop and make another canoe. We have advanced between 60 and 70 miles from the point where we built the other canoes. We find the timber larger, and not so thick. There are but few wild animals that belong to the country farther up, but some deer, panthers, foxes and wildcats. Of birds there are great numbers, and many varieties, most of which I have never seen. We killed some wild geese and pelicans, and likewise an animal not unlike the African leopard, which came into our camp, while we were at work upon the canoe. It was the first we had ever seen (Pattie 1833:143).

The leopard-like animal mentioned by Pattie, if accurate, must have been a jaguar; there are no subsequent records of jaguar from the lower Colorado River Valley (Lange 1960). The nearest regularly inhabited jaguar range today is some 350 miles to the southeast in Sonora. Jaguars are known to wander considerable dis-

tances, however, and at least 60 have been recorded as taken in Arizona and New Mexico since 1900. Leopold (1959) gives what he evidently feels is an acceptable record of a jaguar killed in September 1955, in Baja California Norte. This animal was 100 miles, or more, farther afield than Pattie's. The unexciting context of the incident also reduces the suspicion that Pattie invented the anecdote to spice up his narrative.

The trappers continued downstream and approached the delta of the Colorado:

... we can see from our crafts a great distance back into the country, which is thickly covered with musquito and other low and scrubby trees. The land is exceedingly marshy, and is the resort of numerous flocks of swans, and blue cranes. The raccoons are in such numbers, that they cause us to lose a great many beavers, by getting into our traps and being taken instead of the true game. They annoy us too by their squalling when they are taken.

From the junction of the two rivers to this place, I judge to be about a hundred miles. We find the climate exceedingly warm, and the beaver fur, in accommodation to the climate, is becoming short (Pattie 1833:149-150).

When it became evident that there were no Mexicans in the inundated wilderness of the Colorado delta, the mountain men considered retracing their steps upriver. But winter floods had so swollen the current that it was impossible to pole or paddle against it. One day a huge tidal bore from the Gulf of California submerged the camp, nearly drowning the whole party.

Continually harassed by Indians, the trappers buried their large supply of furs and quit the Colorado River on February 16, 1828. They struck out overland on foot, heading for the Mexican settlements on the West Coast of the Baja California Peninsula. They survived the desert only to be imprisoned by the Mexican authorities upon their arrival. Sylvester Pattie soon died in prison, but James was finally released and after a number of adventures in California he returned to the United States by way of Mexico City

and Vera Cruz, arriving at New Orleans in August 1830. After the publication of his narrative in 1831, James Ohio Pattie disappeared from history.

Beaver trapping was profitable in Arizona for less than a decade after the Patties last crossed the state. By the mid-1830's the price of beaver fur had crashed and trapping all but ceased (Weber 1971:219).

The trappers who worked the rivers of Arizona had no permanent impact on the land. They doubtless suppressed beaver populations in parts of Arizona for a time, but their activities were sporadic and short lived. The next wave of Americans to enter the Southwest would find no evidence that the Patties and like adventurers had been there.

Plate 5

Plate 6

CHAPTER II

THE MEXICAN WAR 1846-1848

When the Mexican War broke out in April, 1846, Arizona in itself was of little strategic value, but the American appetite to possess California was strong. United States military leaders realized that a secure route across southern Arizona was crucial as a supply line to California. Accordingly, a force of 1700 men with the grandiloquent title of the "Army of the West" was organized at Independence, Missouri, under the command of Colonel Stephen Watts Kearny. Kearny's immediate objective was the occupation of New Mexico. After an uneventful march, Kearny entered Santa Fe on August 18, 1846, without a shot fired.

Following the fall of Santa Fe, Kearny divided his army into four separate commands. One stayed on in Santa Fe as an occupation force. Another, composed of Colonel Alexander Doniphan's volunteers, was to march south, seize Chihauhua City, then turn east and link up with Zachary Taylor's forces. A third, consisting of 300 dragoons under Kearny himself, would push west to California, while the fourth, led by Captain Philip St. George Cooke, was to establish a wagon road from New Mexico to California.

Col. Stephen Watts Kearny, Lt. William Hemsley Emory, and the Army of the West

One of the primary missions of Kearny's California column was to create the first accurate map of the vast region lying between the Rio Grande and the Pacific Ocean. To realize this end, a unit of well-trained topographical engineers was essential. Such a unit was

assembled and its commander was an aristocratic young Marylander with flaming red whiskers named William Hemsley Emory, a highly competent engineer.

On September 25, 1846, Kearny led his dragoons down the Rio Grande with the eventual intention of turning toward the Gila River. At Valverde, he met the seasoned mountain man and explorer Kit Carson, riding east with dispatches stating that American forces had already gained control of key areas in California. Kearny was able to persuade Carson to wheel about and guide his column west, and the troopers set out along the traditional routes used so often by mountain men in the 1820's and 1830's.

At Carson's suggestion, the command was honed down to 100 men, plus Lieutenant Emory's 14-man contingent of topographical engineers. The other 200 dragoons were sent back to Santa Fe with the heavy wagons and equipment that could not negotiate the rough terrain along the Gila. The Army of the West then marched to the Santa Rita Copper Mines in southwestern New Mexico, a ghost town under the dominion of the Apache chief Mangas Coloradas. Kearny declined the Chief's offer to help fight the Mexicans and moved on to the upper Gila, which he reached on October 20. The Americans began descending the ever-deepening gorge cut by the river in its westward passage and crossed into present Arizona on October 22 (Fig. 5). The men in the dusty, noisy column actually saw very few large game animals. Emory commented:

We feasted today [Oct. 24] on blue quail and teal, and at night Stanly came in with a goose. "Signs" of beaver and deer were very distinct; these, with the wolf, constitute the only animals yet traced on the river (Emory 1848:64).

Emory was not the only literate observer on this expedition. James M. Cutts (1965:186) recorded seeing immense numbers of

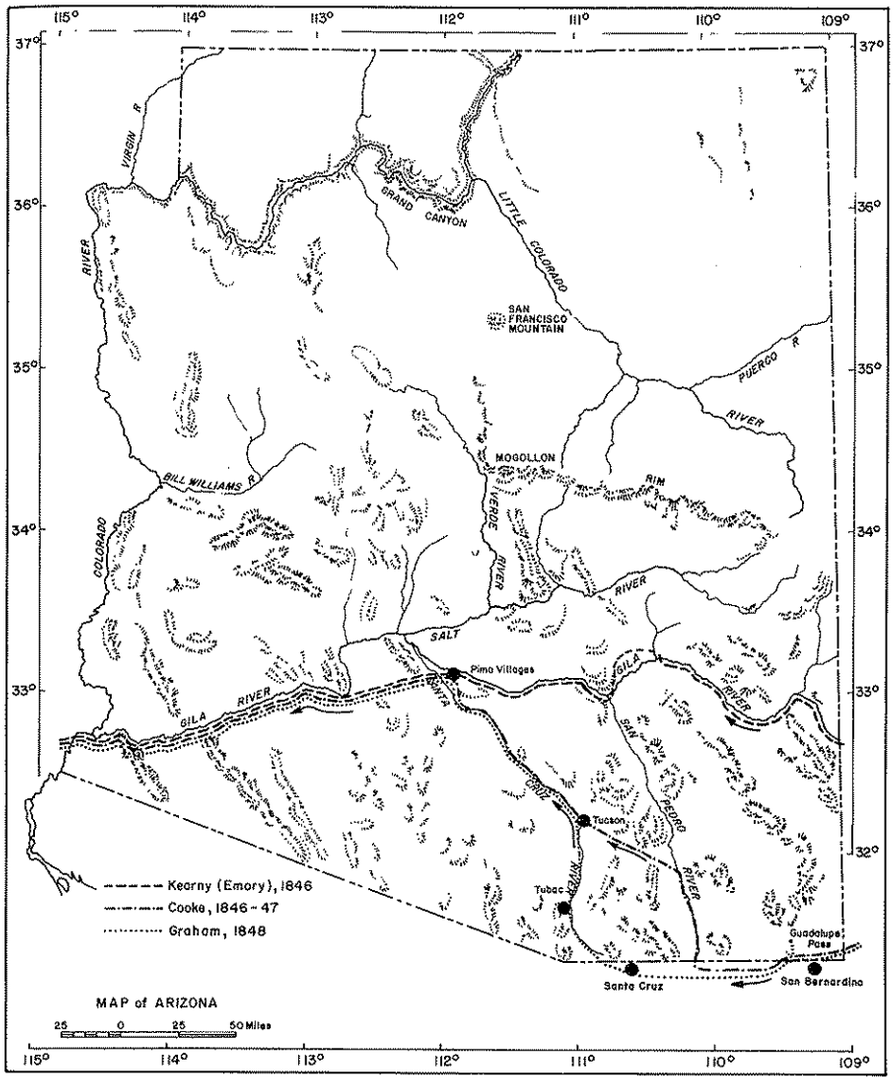

Figure 5. Routes of American expeditions through Arizona en route to California during the Mexican War, 1846-1848.

quail[1] on the bottoms of the upper Gila. Abraham Johnston, a member of the First Dragoons, described the upper Gila as:

... a beautiful mountain stream about thirty feet wide and one foot deep on the shallows, with clear water and pebbly bed fringed with trees and hemmed in by mountains, the bottom not more than a mile wide. The signs of beaver, the bear, the deer, and the turkey, besides the tracks of herds of Indian horses, were plain to be seen on the sand (Johnston 1848:579).

An army surgeon, John S. Griffin (1943:25) commented on the abundance of deer and turkey "sign" and the elusiveness of the animals themselves. He cited Kit Carson as saying that he never knew a party not to leave the Gila in a starving condition. A few days later Griffin did see some ducks and geese on the river and reported that the artist John M. Stanley had shot two turkeys, probably near the head of Safford Valley.

Abraham Johnston (1848:587) got a look at the lower San Francisco River when the Army of the West reached its confluence with the Gila. He reported "beaver dams in great numbers" on this mountain tributary, with "flags and willows along the borders very thick," and large cottonwoods on the banks. Along the Gila near the San Francisco River, Emory (1848:65) reported passing through where "there had been an extensive fire."

One member of the column who kept a detailed journal was Henry Smith Turner. He reported the grass along the upper Gila scarce but enough to sustain the mules (Turner 1966:89). On October 28, at the head of Safford Valley, Turner (1966:94) recorded some observations about quail: "A portion of our route today abounded with the partridges peculiar to this country — never were partridges so numerous as in this — in the distance of half a mile we must have seen today from 800 to 1,000."

[1]Members of Kearny's column often used the term "partridge" for quail. There is little doubt that it was Gambel's quail that so impressed the soldiers by their abundance along the Gila River.

It was also in the Safford Valley, north of Mount Graham, where Lt. Emory first noted the presence of javelina:

Last night, about dusk [Oct. 29], one of my men discovered a drove of wild hogs .... The average weight of these animals is about 100 pounds, and their color invariably light pepper and salt. Their flesh is said to be palatable, if the musk which lies near the back part of the spine is carefully removed (Emory 1848:69).

Below the San Carlos River Kearny was forced by rugged terrain to strike northwest away from the Gila. The column returned to the Gila near the mouth of the San Pedro. Dr. Griffin noted that another name for the San Pedro was Hog River, probably because of the presence of javelina on its well-wooded flood plain. Emory described the valley at the mouth of the San Pedro:

The valley of this river is quite wide, and is covered with a dense growth of mesquite, cottonwood, and willow, through which it is hard to move without being unhorsed .... The San Pedro [is], an insignificant stream a few yards wide, and only a foot deep (Emory 1848:75).

On the Gila, just below the mouth of the San Pedro, Johnston (1848:593) also reported javelina in the dense riparian thickets. Lt. Emory jotted down his impressions of this part of the Gila, the date being November 7:

Flights of geese and myriads of the blue quail were seen, and flocks of turkeys from which we got one.

The river bed, at the junction of the San Pedro, was seamed with tracks of deer and turkey; some "signs" of beaver and one trail of wild hogs (Emory 1848:78).

For Lt. Emory, one of the most absorbing aspects of the journey was an opportunity to study the ruins of a number of ancient Indian towns, as well as abandoned irrigation systems.

Near the mouth of the Salt River, the expedition rested and traded among the Maricopas and Pimas — peaceful farmers who grew crops of corn and cotton which they irrigated by diverting water from the Gila.

On November 14, Kearny resumed the march down the Gila. Dr. Griffin (1943:35) observed that below the Salt the Gila River was about 80 yards wide, three feet deep, and rapid. "We have seen more water fowl in the last two days than we have yet met with on the River — ducks, brant geese and swan." Below the great bend, Lt. Emory referred to the river bottoms being "wide, rich, and thickly overgrown with willow and a tall aromatic weed." The Gila was, in places, covered with waterfowl, particularly snow geese, which Emory called "white brant (wings tipped with black)." Signs of deer and beaver were abundant and one member of the party shot a "large buck," most likely a mule deer (Emory 1848:91).

In what is now western Maricopa County, Turner noted that the Gila was becoming much more like a real river. The width varied from 100 to 150 yards wide, with an average depth of four feet — "quite deep enough to float a steamboat." It flowed gently over a sandy bottom, while the banks, in Emory's terminology, were fringed with "cane, willow, and myrtle." Farther on, at the north end of the Mohawk Mountains in what is now Yuma County, Kit Carson shot a bighorn ewe.

We climb the table-bench again 30 feet, and travel until we gradually get into the bottom of the Gila again, at the point of Bighorn mountain, where Carson shot a doe of the Bighorn or mountain sheep. This animal had the face of the sheep, but with very short hair all over; its horns were like those of the common wether .... The animal probably weighed 70 pounds ... several of the males showed themselves on the cliffs, up which they climbed with great facility; their horns were very large, and their appearance much different from the female ... (Johnston 1848:606).

Emory states that he named the site "Goat's Spur," because of the bighorn. Near there, on November 18, Emory described the Gila bottom:

We encamped on an island where the valley is contracted by sand buttes in what had been very recently the bed of the river. It was overgrown with willow, cane, Gila grass, flag grass, etc. The pools in the old bed of the river were full of ducks, and all night the swan, brant, and geese, were passing, but they were as shy as if they had received their tuition on the Chesapeake Bay, where they are continually chased by sportsmen (Emory 1848:92).

Five days later the Army of the West came out on the banks of the Colorado River. Turner remarked on the good cover of grass under the woody growth along the shore, but the expedition feared losing the pack animals in the almost impenetrable riparian thickets of "mesquite and other thorny bushes." There were a few cottonwood trees at this point, but generally there was an absence of heavy timber. The Colorado reminded Turner (1966:119) of the Arkansas, being a little larger, but with the same "dingy red water."

Near the mouth of the Gila a detachment under Lt. Emory captured an enemy courier with the news that much of southern California had been recaptured by Mexican forces. Kearny immediately crossed the Colorado and drove his army over the Colorado Desert in a series of forced marches. At San Pascual, outside San Diego, the exhausted and disorganized Army of the West suffered a sharp defeat at the hands of a unit of California lancers. A relief column from the coast eventually forced the Mexicans back and, in the end, California was annexed by the United States. But in the main, Kearny's march down the Gila is remembered for the achievements of Lt. William H. Emory. He drew the first accurate map of the region, a map that was not only the geographical base of the official report on the expedition, but was to prove invaluable to gold rush emigrants in 1849. In addition, Emory made detailed notes of the topography, geology (including fossils), plants and animals seen along the route. John Torrey studied the plants collected and described 18 new species; George Engelmann of St. Louis wrote the first scientific description of the saguaro cactus; a common evergreen oak of southern Arizona was named *Quercus emoryi* (Goetzmann 1959:142).

it occupied without firing a shot, the Mexican garrison having evacuated the town. The next phase of the journey took the Americans to the Gila, where they found the trail taken by Kearny. The column reached San Diego on January 29, 1847, after a routine march.

Cooke summed up what he considered the accomplishments of the expedition: "Marching half naked and half fed, and living upon wild animals, we have discovered and made a road of great value to our country."

Lt. Cave Couts

During the summer of 1848, a final detachment of American troops crossed Arizona to carry out duties imposed by the Mexican War (Fig. 5). Some 500 men of the Second Dragoons, commanded by Major Lawrence P. Graham, set out from Monterrey, Mexico, on a march to San Diego. Major Graham and many of the troopers were drunk much of the time after the column passed Janos, which may explain why a flash flood near San Bernardino Ranch carried off some of their wagons and mules. This event evoked a comment from Lt. Cave J. Couts (1961:50), a young West Pointer with the expedition: "We also see a little game occasionally, and his [Major Graham's] good spirit moved him through the influence of whiskey, to leave the harmless deer, antelope, turkeys, etc. unmolested."

The dragoons somehow retained their coherence for the rest of the journey, but not without some difficult periods. On the Gila River, about 100 miles above its junction with the Colorado, Couts made the following entry in his journal:

If the game and fishing on the Rio Gila abounded as represented by the pop-gun stump speakers and demagogues of our fair and glorious Republic, the scarcity of provisions would not alarm us but every man who can hunt or fish, and I flatter myself as good if not the best in the command, is constantly out, and enough for one meal is doing remarkably well (Couts 1961:72).

Couts went on to observe on November 8, 1848, that the Gila was running like a "wild torrent" over its extensive sand bottom and had overflowed to form "a great number of lakes, ponds, lagoons." No mention was made of the abundant waterfowl reported two years earlier by members of the Kearny expedition. The Americans reached California without further incident.

Plate 7

the last time for fifteen leagues, although the cottonwoods marking its course are frequently in sight. The grass for several days passed has been coarse and innutritious (Durivage 1937:209).

Durivage nearly died of thirst and exhaustion crossing the desert between Tucson and the Pima villages. After recovering among the Indians, he started down the Gila River with his party of 49ers in early June. He describes the river in the area of Gila Bend:

We found excellent grass along the river bottom — a species of coco grass and timothy. Whole acres of Mexican sunflowers covered the entire bottom. Quail and a species of dove were in the greatest abundance. The river at this point branches and flows with much less rapidity than above, over a broad, sandy bed — perfect quicksand (Durivage 1937:221).

Grass was spotty, being good in some areas and totally absent along other reaches of the river.

Near Antelope Hill on the lower Gila, Durivage (1937:223) reported "the whole bottom abounded in deer."

Durivage (1937:227) made his final observation on the fauna of Arizona in June at the crossing of the Colorado River near its confluence with the Gila: "There is no game in the vicinity of the Colorado — at all events [none] at the present season."

A. B. Clarke

On the same day that Durivage crossed Guadalupe Pass, an emigrant train originating in Missouri also negotiated the defile. Their chronicler was a New Englander named A. B. Clarke, who had become separated by illness from a Massachusetts company that had gone on ahead. Clarke was impressed by the lush appearance of the San Bernardino Valley, considering it "one of the prettiest valleys" he had ever seen. On the higher tablelands to the west "a shrub, two or three feet high, called grease wood" took the place of grassland. However, Clarke reported that good pasturage for the train's livestock persisted all the way to the town of Santa Cruz. Clarke was another traveler to regard the wild cattle as more dan-

gerous than buffalo, adding that many of them had escaped from herds driven north from Mexico by Apaches returning from raids. One member of the company was tossed in the air by a charging bull, but escaped with only slight injuries when another member of his hunting party quickly brought the animal down with one well-aimed shot (Clarke 1852:77-79).

On May 23, as the emigrants approached the Santa Cruz Valley, Clarke (Clarke 1852:80) noted a lone pronghorn standing near the trail. Clarke's party bought provisions at Santa Cruz, then backtracked to the San Pedro River and Cooke's trail.

On May 27, Clarke made the following entry in his journal, after following the upper San Pedro for a day:

Three of the men attacked a grizzly bear last night on the other side of the river. They felled him three times, but their ammunition gave out. He was running towards one of the men, whose gun was yet loaded with buck shot, when coming very near, he let it blaze into his face, when they all ran, the men in one direction and the bear in another; this was the last that they saw of him. In the morning, they went out again, and tracked him by his blood some distance .... The road is pretty good down this splendid valley, although in some places rather rough, from thick tufts of grass, that have grown up in it since it has been used. Trees are becoming common on the river; its direction is indicated by them for a long distance. They are principally cottonwoods, with some sycamore, willow, and mesquite. A fawn was brought into camp in the evening (Clarke 1852:82-83).

That same day, Clarke noticed his pistols had been left at the previous camp. He hurriedly rode back and found "the grass about the camp on fire, and spreading rapidly." He retrieved his pistols and rejoined his companions.

Clarke found indications that the San Pedro Valley had been farmed in places, presumably by Mexican settlers, before the Apaches drove them out. The 49ers once replenished their water supply from an abandoned irrigation ditch. In Clarke's mind, the fine expanse of grassland must once have supported large herds of

cattle. He concluded: "The Indians, now, have undisputed possession. It must be a miserable race that could deliver up such a valley, with its delightful climate" (Clarke 1852:84-85).

Following Cooke's road down the San Pedro River and around the north end of the Whetstone Mountains, Clarke and his companions reached Tucson, then braved the heat of the Sonoran Desert in early June and drove their wagons to the Pima villages. He made the following observation of the Pima and Maricopa communities along the Gila River: "Nearly the whole of the Gila is drawn off by zequias for irrigating the land, which is laid out in little squares, with sluices between, to admit the water from the zequias" (Clarke 1852:92).

To save time, the emigrants crossed a waterless stretch of country to cut off the big bend of the Gila — the 40 Mile Desert. The emigrants arrived back on the river at noon on June 9. On the way, Clarke (1852:95) saw the weathered horns of a bighorn lying on the slope of a hill, probably in the Estrella or Maricopa Mountains.

Near the present boundary between Maricopa and Yuma Counties, Clarke made this observation of the river:

The river was at this place a quarter of a mile wide. The volume of water at times must be immense, as there is brush and other substances lodged in the mesquites from ten to twenty feet high, through the adjoining plain, over which we have been traveling (Clarke 1852:96).

He also noticed that the river on June 12 did not occupy more than a quarter of its bottom, the remainder consisting of a deep bed of sand, baked so hard and cracked so deep that it was difficult to estimate the depth of the fissures. There was a dense growth of weeds, but no grass.

In places, sunflowers from eight to 10 feet high grew in extensive clumps, giving the appearance of cultivated fields. Other flowers of various colors grew in profusion, and a narrow line of cottonwoods marked both sides of the river. Quail were everywhere,

running in large flocks through the weeds and the heaps of driftwood (Clarke 1852:99).

The emigrants had a hard time clearing a way for their wagons through the dense riparian growth on the Colorado River a mile and a half below its junction with the Gila. This jungle consisted of willows and cottonwoods shading an almost impenetrable wall of "canes, vines, and weeds." Farther back from the river were extensive mesquite bosques. Clarke estimated that the river itself was about 350 yards wide, with a deep, strong current. He commented on the contrast in the color of the water in the two rivers. The Gila was "clear and sea-green," while the Colorado was a deep yellow, from the "clay and mud" it carried (Clarke 1852:105).

Benjamin Harris

In late June an expedition of 52 men mounted on saddle horses, their supplies on pack mules, entered Guadalupe Pass. They had no wagons, so made good time. One of these "Texas Argonauts," who had just weathered a brisk skirmish with Apaches under Mangas Coloradas, was a literate Tennessean named Benjamin B. Harris[1] Near the summit of the pass Harris (1960:71) reported seeing "several wild turkeys — some lately hatched."

Like most emigrants who had just come through Guadalupe Canyon, Harris' party camped near the ruins of Rancho San Bernardino, in "a charming, extensive, and well-watered valley." He observed that the wild cattle remained out of sight in the hills during the day, coming down into the valley after dark for water and grazing. On the way to Agua Prieta, the emigrants saw a herd of feral cattle estimated at between 5,000 and 15,000 head (Harris 1960:71-73).

A routine journey took the Harris party to the Mexican village of Santa Cruz, then down the Santa Cruz River to the abandoned ruins of Tubac. Here, Harris (1960:77) wrote: "Thousands of wild

[1]Harris wrote his account of 1890. The coherence of his descriptions and clarity of detail suggest that his work is based on a journal or field notes.

turkeys came here to the river to drink. Their fresh tracks were visible everywhere about the water."[2]

When the column resumed its northward journey, Harris commented on the abundance of mesquite in the valley, observing that the horses and mules seemed very fond of the pods that grew on the trees at that time of year. He also marveled at the structure of a saguaro cactus growing near Tubac. The emigrants continued downriver, camping a half a mile north of Tucson. It was late in the dry season, but there was still water in pools in the bed of the Santa Cruz (Harris 1960:79).

After an uneventful crossing of the desert, the 49ers followed the rich Gila bottom through a dense mesquite bosque to reach the Pima villages. The next leg of the journey took them due west to the area of modern Gila Bend, where they picked up the river again. Harris' journal reads thus:

... while breakfasting in the Gila bottom, a herd of deer — the largest I ever saw, being as big as common burros — came to view forty yards away. One, struck with a ball, made for the mesa. *With another party, I tracked him by his blood along the course of a dry arroyo about three miles* (Harris 1960:84).

The deer escaped, in part because Harris discovered some Indian pottery shards protruding from the earth, the archeologist in him taking precedence over the hunter.

Downstream, the Gila continued broad and shallow. Harris (1960:85) took the time to notice that "millions of blue quail inhabited near the water."

Harris' company crossed the Colorado without difficulty, being towed on rafts by swimming Yuma Indians. The river in early summer was swollen with snow melt, deep and cold, and Harris estimated it to be 500 yards wide.

[2]In October, 1850, an emigrant named William Miles, while camped just south of Tubac, wrote: "Saw twenty black-tailed deer, a herd of wild horses and a flock of wild turkeys; killed none" (Miles 1965:22).

Robert Green and William Chamberlain

Back up the Gila, near its headwaters in what is now Gila National Forest, another party of forty-niners was getting under way in July on the trail taken by Stephen Watts Kearny and the Army of the West. Like many mountain men twenty years earlier in this region, these emigrants did not have much luck on hunting excursions. Diarist Robert B. Green, a Pennsylvanian, reported talking to one of the company on his return to camp: "Capt Dixon just shot a wolf & says 'Green I shot the wolf but by God I could not get the deer,' game is very scarce no ingins today but lots of mockasin tracks" (Green 1955:59).

Another member of the party, William Chamberlain, also reported game to be scarce. However, his companions did have success in catching fish in the Gila near the present Arizona-New Mexico boundary:

The banks of the Gila, like all other rivers we have seen since leaving the Ohio, are fringed with cottonwood. At this point it is about 12 yards wide and 18 inches deep, and runs upon the first rock and gravel bed we have seen since leaving Pennsylvania. It is a swift flowing stream of clear, pure water, and abounds in trout, some of which are of a very large size. As soon as we encamp a number of our men prepared themselves with rod and line and went to 'try their luck' amongst these strangers of the finny tribe. They soon returned and reported favorably, having caught enough to supply 'all hands' for both supper and breakfast. Hill Dixon caught one that measured four inches between the eyes and weighed about 30 pounds (Chamberlain 1945:160).

While camped at the head of Safford Valley, Green (1955:62) wrote: "Armstrong has just returned with 2 fish each weighing at least 25 lbs."

Near the junction of the Gila and San Pedro Rivers, Green (1955:66) expressed his discontent thus: "There is no game worth mentioning along this river, no country, no people, no timber, no

fresh water no grass, & no comfort." On the lower Gila, in the big bend, things began to look up. "Saw 3 old fashioned deer today the 1st in a great while."

George Evans

Another chronicler of the Gold Rush was George W. B. Evans, a member of the Defiance Gold Hunter's Expedition from Defiance, Ohio. The party reached the upper Santa Cruz Valley in present Santa Cruz County in August, 1849. Evans thought they were in the most beautiful valley he had ever seen. "All kinds of wood grows on the hillsides," he wrote, "and fine towering cottonwoods mark the course of this river" (Evans 1945:148).

When Evans' party reached the Pima villages on August 22 he recorded his impressions of the adjacent stream:

The Gila River opposite our present camp is a deep, narrow, and rapid stream of warm, muddy water, the banks covered with a dense growth of wild willows and weeds, tall cottonwoods, and the low willow tree, known as the water willow (Evans 1945:153).

On the lower Gila, grass was found on the high benches several miles to each side of the river, but none down in the bottoms themselves. Like Clarke, he saw large stands of sunflowers.

At all of our river camps we have done without a spear of grass. At these camps we find indisputable evidence of the presence of the beaver, deer, and wolves ... (Evans 1945:158).

In early September, Evans wrote a detailed description of the Colorado River just below the Gila:

The river here is about two hundred yards, with a five-mile current, good sloping banks on this side but very bluff and about twelve feet high on the other. The waters from the melting of the snows above are now receding, but have for weeks past been very high. The rise of the water in this river and tributaries north commences about the middle of June, and about the last of July or first of August, the snows being melted, the water recedes and a stream of two miles in width is at this time within banks, and about the distance across above spoken of (Evans 1945:160).

It was December when Eccleston descended the Gila to a point within 40 miles of the Colorado River. He had this to say about the fauna of the region:

We were in the bottom all day and touched near the river at several points. We have seen some deer tracks but not a single hoof since we have been on the river. Ducks, geese, brant, & crane are tolerably plenty, but keep close to the other shore generally, & therefore out of reach. The poor quail is our only victim, but even he is extremely shy. Mr. Adams saw a bear last Saturday, on a cottonwood tree a short distance from camp, & panther & wildcat track may be found occasionally (Eccleston 1950:227).

John Woodhouse Audubon

Some time before news of the gold strike reached the east, the famous wildlife artist John James Audubon (1936:7) gave the following advice to his son John Woodhouse Audubon: "Push on, to the West, even to California: you will find new animals at every change in the formation of the country, and new birds from Central America will delight you."

When family friends formed a "California Company" to head for the gold fields in early 1849, John W. Audubon joined the group as second in command. He was not only interested in gold, but also in natural history and adventure. On February 8, the company of 80 men sailed on the steamship *Transport* from New York, with ports of call at Philadelphia, Brazo Santiago, Texas, and Brownsville. From Brownsville, the emigrants boarded a steamer for a trip up the Rio Grande. They disembarked at Rio Grande City, Texas, and while preparing for the trek across northern Mexico were shattered by a cholera epidemic. Eight men died, with more deaths to follow as the demoralized company decided to continue the journey.

At the Mexican town of Parral, Chihuahua, Audubon and some 40 die-hards elected not to take the popular route to Janos and the Gila Trail, but struck due west across the Sierra Madre to Ures and the Sonoran Desert. Enduring the intense heat of late

summer, the survivors of the California Company moved on to Altar, then northwards across what is now the Papago Indian Reservation.

The adventurers were probably in the vicinity of the present-day Papago village of Sells when Audubon wrote the following:

September 17th. Near Papagos villages. Last night, as for many preceding evenings, we sat down to our supper of bread and water, our sugar, coffee and all other matters culinary having been used up, and the country affords no game. We all felt the want of coffee or meat, after being up from 5 a.m. to 7 p.m., but we shall I hope, soon be through this desolate country. Four days since one of the party killed the largest and finest buck antelope I ever saw, and we expected a treat, but it was like the meat of a poor two-year-old beef, hardly so good. We found the horns of a Rocky Mountain sheep, and of the black-tailed deer, but none have been killed, or even seen as yet .... The people live on turtles [desert tortoise], and what game they can get. I have seen some elk[4] *and antelope skins dressed and terrapin shells are everywhere* (Audubon 1906:147-148).

September 19th. ... We picked up yesterday horns of the Rocky Mountain sheep, and the Papagos tell us they are found in plenty in the mountains around us (Audubon 1906:149).

Audubon described the northern part of the Papago country:

September 21st. The last village we passed of these Indians was situated on a large prairie of miserably poor soil, sandy and dry, covered with a peculiar small-leaved plant [creosote bush] containing a great deal of astringent, gummy sap; we find this only on the poorest of soils full of gravel and sand, and always hail it with dislike .... Why it is that these Indians settle in such country, I cannot conceive, for even the lizards, in most places innumerable, are

[4]Audubon's mention of elk skins is quite certainly a misstatement. The nearest elk habitat is some 175 miles to the northeast of the desert-dwelling Papagos.

scarce here. The Indians kill them with a light wand, giving them a dexterous tap on the head; they pick up the game (?), slip the head under a belt or string around their waists, and when sufficient are collected a little fire is made, and this delicate repast is enjoyed by them, as an epicure would relish his brace of woodcock (Audubon 1906:149-150).

Audubon and his party probably followed the Santa Rosa Valley north to the Gila River, which they reached in a state of exhaustion. Nevertheless, Audubon took time to do some hunting. In the vicinity of modern Gila Bend he shot five "plummed partridges" (Gambel's quail) in ten minutes and noticed that they were feeding on "pig-weed," which was very abundant. He reported seeing hundreds of the birds.

Audubon recorded the following while camped near Agua Caliente Springs:

October 5th. A few cotton-woods and scrub-willow, with dried weeds, and some sunflower plants, make thickets here and there, and this is all that is to be seen in the way of vegetation, for about a hundred miles below the Pimos villages, which hundred miles we made in five days, and are now, thanks to a placard at the forks of the road, across the far-famed Gila, in a grassy bottom of coarse swamp tufts, which is better than nothing, but our animals do not seem to like it much, though they eat it, in their starved condition.

The river here is a very rapid stream at this season, about a hundred and fifty yards wide, and from eighteen to twenty inches deep, with very deep holes in places. The bottom is shifting quicksand, delightfully varied with drift logs, put exactly where they can best trip up the mules ....

We look and long for Gila trout, and wild-fowl, but in vain. I shot two blue-wings and one of our men caught two little trout. Our road is garnished almost every league, with dead cattle, horses or oxen; and wagons, log chains, and many valuable things are left

at almost every camping ground by the travellers; we ourselves have had to do the same, to relieve our worn and jaded mules, able now to carry only about a hundred pounds. Our personal effects amount to about one change each, with our ammunition and arms, all else discarded or used up or stolen.

Opposite our camp about three miles from us, is a hot spring of beautifully clear water; it is so hot as to just be bearable (we have now no thermometer) and is tasteless (Audubon 1906:159-160).

The Audubon party reached the Colorado on October 15, 1849. Like virtually all of the forty-niners, it was Audubon's desire to never see the lower Gila country again. The summer heat was almost unbearable, game (except for Gambel's quail) was scarce, and grazing for their horses and mules was poor. Yet, west of the Colorado River awaited a desert even more harsh and inhospitable to travelers.

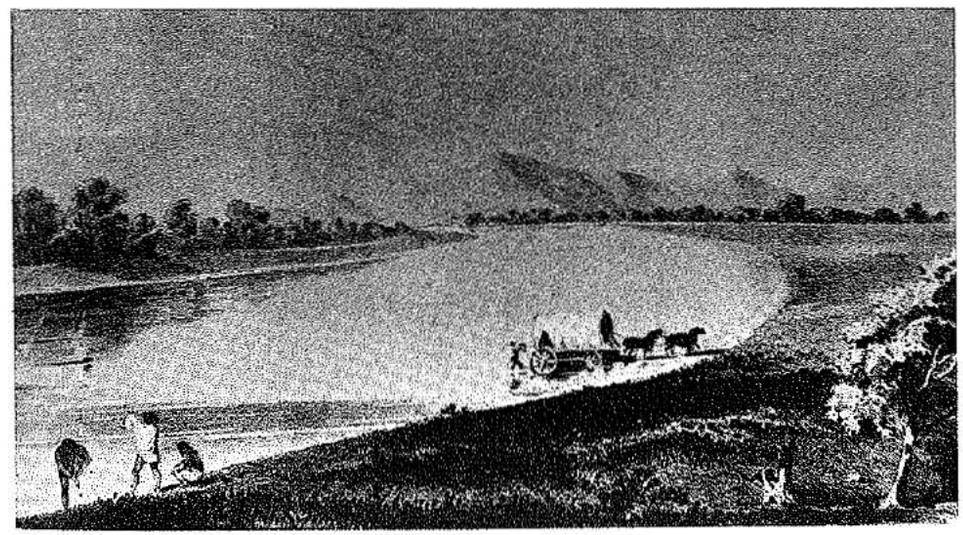

Plate 9

Lt. John G. Parke

After the signing of the Gadsden Purchase agreement in December, 1853, the United States government proceeded quickly to survey the 32nd parallel for the proposed railroad route. The surveying party was organized at San Diego in January, 1854, under Lieutenant John G. Parke. Besides Parke were: Mr. Henry Custer, assistant topographer; Dr. A.L. Heerman, physician and naturalist; and Lieutenant George Stoneman, commander of a military escort of 28 dragoons.

Following a version of the emigrant trail called Nugent's Wagon Road, the surveyors moved up the Gila to the Pima Villages and then up the lower Santa Cruz Valley to Tucson, which they reached February 20. Parke described the "Old Pueblo" and its environs:

The party ... moved through the town, and encamped about two and a half miles beyond on the bank of a clear running brook, with an abundance of grass and wood[6]

February 21. — Remained in camp. — Rest and a good feeding of corn, which we fortunately can obtain, will be of great service to our animals, some of them already beginning to fail. Tucson (properly Tuczon) is a one-storied flat-roofed adobe town of about six hundred inhabitants, whose sole pursuit is agriculture; the much dreaded Apaches having interfered greatly with their pastoral occupation. They raise chiefly corn and wheat, cultivating about three hundred acres of rich soil by irrigation from a stream

[6]A German adventurer, Julius Froebel, camped on the Santa Cruz near Tucson in July, 1855: "We encamped a few miles above the town, in a pleasant part of the valley. A rapid brook, clear as crystal, and full of aquatic plants, fish, and tortoises of various kinds, flowed through a small meadow covered with shrubs. The meadow itself was situated at the foot of a steep rocky hill, with a watch-tower on the top, where the Mexican garrison used to keep a guard stationed to watch for the Indians. The sides of the hill were so covered with cactus-columns that it might have been called a Saguarro-forest ..." (Froebel 1859:503).

which has its source near the mission of San Javier del Bac, 8.5 miles to the south; and although it flows past our camp with a depth of one foot and width of six feet, its waters nevertheless disappear a short distance below the town, either consumed by irrigation or absorbed by the sands. At sunrise the temperature of this stream was 62°, while that of the air was 32°. Timber is scarce in this locality, that used in building, a species of pine, being found in cañons and narrow gorges of the distant mountains; while the cotton-wood, willow, and mezquite, of the immediate vicinity, is barely sufficient for fences and fires (Parke 1855:7).

The next day the surveyors proceeded west to the "Cienega de los Pimas" (near Pantano, Pima County) and then on to the San Pedro River. They reached the San Pedro on February 25, near the site of present Benson.

The stream is about eighteen inches deep and twelve feet wide, and flows with a rapid current, at about twelve feet below the surface of its banks, which are nearly vertical, and of a treacherous miry soil, rendering it extremely difficult to approach the water, now muddy and forbidding. The banks are devoid of timber, or any sign indicating the course or even the existence of a stream, to an observer but a short distance removed (Parke 1855:9)[7]

Parke and his crew worked westerly, past the "Playa de los Pimas" (Willcox Playa), through Apache Pass to San Simon Creek. He described the stream near where the town of San Simon now is, on March 3, 1854:

[7]Andrew B. Gray, working for a private company, also surveyed railroad routes in southern Arizona in 1854. His report contains relatively little natural history, but he did describe the middle reach of the San Pedro River: "The San Pedro river, where we struck it, in latitude 31° 34′ is a small stream at this stage, about eight feet wide, and shallow; between steep banks 10 feet high and 25 to 50 feet apart. ... At three points that I have crossed it, it is a living stream, with large fish. ... Occasional bunches of mezquite and cotton-wood are seen upon its borders ..." (Gray 1856:76-77).

In this vicinity there are neither trees nor bushes to indicate the course of the stream. There is no main bed or channel, the water ramifying through small narrow ditches, or spreading itself over the surface of the bottom, rendering it marshy and miry. Grass is scarce and salty. The chief growth upon the plain is larrea [creosote bush], agave [yucca?], and artemisia [probably saltbush] (Parke 1855:10-11).

Parke supervised the surveying of some alternate routes in southeastern Arizona during the summer of 1855. He located "Railroad Pass" north of the Dos Cabezas Mountains, and explored a route north through the upper Sulphur Springs Valley to Aravaipa Creek, then west through Aravaipa Canyon to the San Pedro. The lower San Pedro was surveyed from Tres Alamos (north of Benson) to its mouth, and the Gila from the San Pedro to the Pima Villages.

Parke described the lower San Pedro:

In the gorge below [Tres Alamos] and in some of the meadows, the stream [bed] approaches more nearly the surface [of the floodplain], and often spreads itself on a wide area, producing a dense growth of cotton-wood, willows and underbrush, which forced us to ascend and cross the out-jutting terraces. The flow of water, however, is not continuous. One or two localities were observed where it entirely disappeared, but to rise again a few miles distant, clear and limpid (Parke 1857:25).

Parke also described features of the upper Sulphur Springs Valley:

The first water which is encountered on the direct line of the road, after leaving the Railroad Pass, is Bear Springs, twenty-nine miles distant [to the north]. There are six of these springs, similar in character to all others encountered in this region, rising from the plain, which, for several hundred square yards around, is covered

with salsolaceous [salt tolerant] plants. The water is abundant and agreeable to the taste. About two miles below these springs water rises in the bed of the stream [Aravaipa Creek], forming a cienega.

...

... the Calitro [Galiuro] mountains present many advantages; permanent water exists in many places near the plain. The slopes are covered with a luxuriant growth of grama grass, and the gulches are filled with oak, ash, and walnut timber, the whole appearance of the country strikingly resembling many localities among the Coast Range of California. ... Game is also abundant — antelope, black-tailed deer, and a species of grouse [quail?], having been seen there ... (Parke 1857:26-27).

Below the mouth of the San Pedro, the Gila River entered a canyon country where the river occupied the entire bottom of the gorge in places. Parke described the Gila near the San Pedro:

The water was clear and palatable, flowing with a moderate current over an alternating bed of sand, pebbles, and rock. The stream was, in July [1855], about twenty feet wide and twelve inches deep. Its banks were fringed throughout with cotton-wood and willow thickets, with mesquite at the base of the terraces.

Below the gorge ..., the valley opens out in a broad plain, increasing in width as the Pimas villages are approached. This bottom is covered with dense groves of mesquite, with occasional intervening patches of grass, which, however, become less frequent as the river is descended (Parke 1857:27).

A.L. Heermann's zoological report was largely limited to a cataloging of specimens. He did make note — like so many before him — of the incredible abundance of Gambel's quail along the Gila. The birds seemed to actually prefer the haunts of man, being common along roads and in cultivated fields around Tucson. He also observed that scaled quail were not seen west of the San Pedro (Heerman 1859:19-20).