

and he brought with him "letters from New Spain." Hence he could not have left Suya (some ~~206~~ leagues distant from Tiguex) ^{later than September 8th, or much} much earlier than about the ~~beginning~~ of ~~August~~; and it is therefore probable that he remained in Suya until the return thither of the messengers from New Spain, then joining them and accompanying them to Tiguex with his 40 men from Suya.*

* Winship seems to think that Tovar's return from Señora and Suya was almost immediate; for, speaking of the time of Cárdenas' departure from Tiguex (which promptly followed the receipt of the letters which Tovar and his messengers brought with the 40 men from Suya), he says (14th p. 339, 1848, 339) "Pedro de Tovar had reduced the already feeble garrison at the latter post by half, when he took away the reinforcements six months before." "Six months before," however, was when Tovar started from Tiguex to Señora, or started to go to these men, and not when he brought them away. Winship has also surmised (l.c., 343) that Gallego was a member of the express sent to New Spain when Tovar was sent to Señora; but though Gallego had been sent to New Spain in the fall of 1540, and returning northward may have reached Señora again about March 10th to 15th, 1541, and been the bearer of the message sent about that time by Alcaraz to Coronado concerning Melchior Diaz' death and the mutinies at Señora, and though Gallego must subsequently have been sent to New Spain for reinforcements, this would seem to have been, not in the spring of 1541, when Tovar was sent to Señora and the messengers with Coronado's letter of April 20 ~~had~~ started for Mexico, but at a much later time, — probably in October, 1541, if we time him by his meeting with Coronado, about April 25th, 1542, ~~near~~ Chichilticalli, allowing him, prior to that meeting, 100 days for the journey from Tiguex to Mexico, ¹⁰ for gathering his reinforcements in that city, and ⁷⁷ days for his return northward to the point where he met Coronado. None of our early chroniclers state, and I know of no valid reason for believing, that Gallego went southward with Tovar in the spring of 1541; and the fact that an ancient sword, engraved with the name "Gallego", has within recent years been found imbedded in clay soil in western Kansas, is very much against such an assumption, for it would seem to indicate that, in the summer of 1541, Gallego made the journey from Tiguex to Quivira and back, with Coronado.

The above roughly approximate dates, and the movements of Juan Gallego after Coronado's brave thirty had returned from Quivira to Tiguex, are more particularly accounted for as follows:

According to ~~Coronado's~~ ^{Coronado's and his army's} army, returning to Mexico City in 1542, left Culiacan about Saint John's Day (June 24), after spending some time — for which six days, from June 18 to 23, is an ample allowance — in collecting provisions there; and must therefore have reached Culiacan not far from June 24, — assuming that —

~~Left Tiguex the 17th, and reached Culiacan the 24th, — a distance of about 56 or 57 leagues — leaving from Señora Coroneo, recruits of the army turned back at~~

~~not two days north of Chichilticelle (as implied in Winship's translation of Cárdenas, ^{and probably from Haynes} just two days south of it as reckoned by Haynes in the Varied and Critical History of America), but~~

~~the Spanish text of Cárdenas, —~~

not far from June 17th. We learn from Castañeda, that Coronado's returning army was met by Juan Gallego, on the ^{second} day ^{marked} after the Chichilticelle, and that the captain reluctantly ~~had~~ turned back with it. ~~He had been held~~ The distance from

Chichilticalli to Culiacan is about 270 leagues. Assuming that, on its return journey thither, the army was free from some of the more cumbersome baggage and all of the "four-footed food supplies" that had hindered it on its northward journey two years before, and that it now made the ~~conventional~~ 5 leagues a day, it must have arrived at Culiacan, from the said point of meeting, after a march of about 54 days, as follows:

In April, 6 days (Apr. 25 - 30, inclusive)

" May, 31 "

" June, 17 " (June 1 - 17, inclusive).

But Juan Gallego's journey from Tiguex to New Spain and back to where he met the army, had been one for bringing reinforcements to Coronado, who, at the time when Gallego had been sent, was planning a farther campaign in the Quivira country, where reinforcements might be greatly needed. The errand was urgent, and the captain was evidently executing it with strenuous zeal and with all possible haste; and, as on shorter commissions, Coronado's officers had sometimes doubled the ordinary day's march, it is not likely that on this ~~full~~ occasion Gallego, who hoped to get back in time to join the campaign, had averaged less than 6 leagues (16.2 miles) a day, although in going up Sonora River Valley he averaged but 5, his time there being given in part to the fighting, pillaging, and hanging of natives, who had become hostile since his passing south, and who, with their dangerous poisoned arrows, had massacred some and driven away the rest of the Spanish colony of Suya.

Gallego met the army about April 25th. He had reached the point of meeting by some 452 leagues of travel from Mexico City to Chichilticalli, or in about 77 days, as follows:

In February, 21 days (Feb. 8 - 28, inclusive)

" March, 31 "

" April, 25 " (Apr. 1 - 25, inclusive).

Thus it was about February 8th, that Gallego started northward from Mexico with his small band of reinforcements. Allowing him the ^{previous 10} ~~full~~ days for collecting those reinforcements, he would have remained in Mexico City from January 29th to February 7th, inclusive, and must therefore have arrived there about January ~~28th~~ 28th. He had reached Mexico City after ~~about 602~~ about 602 leagues' travel from Tiguex, at about 6 leagues per day, hence in about 100 days' travel, as follows:

In October (1541), 11 days (Oct. 21 - 31, inclusive)

" November, 30 "

" December, 31 "

" January (1542), 28 " (Jan. 1 - 28, inclusive).

It seems probable that Gallego bore on its way as far as Mexico, Coronado's letter of October 20, 1541, to the King.

The Valley of Suya, in which Captain Tovar made the third and last location of San Hieronimo, was on a small source of Rio Sonora, on and near which were also a number of small native villages; and the people

of that country, like the Señorans to the south and the Sobaipuris to the north, and like the Papagos of recent years, lived partly by agriculture and partly by hunting, fishing, and utilizing the pro-

"According to Gomara, as cited in Bancroft's "Native Races" (1, ¹⁵³³ pages 577-8), "the natives of Sonora in 1551 were caught ⁱⁿ poisoning the deer pools." Cabeza de Vaca mentions the practice - of which he

ductions of a rich native flora. It was in a mineralized region, as the Spaniards of San Hieronimo discovered; but the natives seem to have made no use of the available deposits of gold, ^{and} as we shall see elsewhere, the Spaniards of San Hieronimo dared not try to do so, owing to hostility of the natives after the discovery was made.

A considerable part of what is known of the Valley of Suys and of the country and people of the neighboring settlements, is contained in the following description by CastaMedea:

"It is 40 leagues from Señora to the valley of Suys. The town of
Saint Jerome (San Hieronimo) was established in this valley, where
there was a rebellion later, and part of the people who had settled
there were killed, as will be seen in the third part. There are
many villages in the neighborhood of this valley. The people are
the same as those in Señora and as far as the desert of Chichilticalli."

* This "desert of Chickilticalli" was the four days' stretch of uninhabited country through which the road to Cibola first led after leaving San Pedro River; it began at a village on the middle segment of that stream and ended at or near Chichilticalli. It should not be confounded with the "desert of Cibola," which was Melchior Diaz' "despoblado grande," beyond Chichilticalli, a ^{and} "desert" of 15 days' journey.

The women paint their chins and eyes like the Moorish women of Barbary. They are great sodomites. They drink wine made of the pitahaya, which is the fruit of a great thistle* which opens like a pomegranate.

The Giant Cactus, *Cereus giganteus*. Says Doctor Russell, in his Bureau of American Ethnology memoir, The Pima Indians, (p. 71,) "The fruit of the giant cactus, or, as it is more generally known in the Southwest, the saguaro is gathered in June, and so important is the harvest that the event marks the beginning of the new year in the Pima calendar. The supply is a large one and only industry is required to make it available throughout the year, as both the seeds and the dried fruit may be preserved.

"The fruit is eaten without preparation when it ripens. It is of a crimson color and contains many black seeds about the size of those of the fig, which fruit it resembles in taste. By a process of boiling and fermentation an intoxicating liquor is obtained from the fresh fruit which has been more highly esteemed than the nutritious food and has rendered this new-year a season of debauchery.

"The fruit is dried and preserved in balls 15 or more centimeters in diameter.... From either the fresh or dried fruit sirup is extracted by boiling it 'all day.' The residue is ground on the metate into an oily paste which is eaten without further preparation. The seeds may

be separated from the pulp at the time of drying the fruit and may be eaten raw or ground on the metate and treated as any meal—put into water to form a pinole or combined with other meal to bake into bread."

The wine makes them stupid. They make a great quantity of preserves from the tuna" [prickly pear]; "they preserve it in a large amount of its sap without other honey. They make bread of the mesquite, like chesse, which keeps good for a whole year. There are native melons [melones] in this country so large that a person can carry only one of them. They cut these into slices and dry them in the sun. They are good to eat, and taste like figs, and are better than dried meat; they are very good and sweet, keeping for a whole year when dried in this way.*

*It must not be thought that these so-called "melons" grew wild; they were undoubtedly cultivated; for there is no cucurbitaceous plant in the wild flora of Sonora that bears so large fruit. They were "native" only in the sense that they had not been introduced from the Old World.

It has been supposed by some that these "melons" were cantaloupes; but to the present writer the evidence seems to point to the ~~un~~postical conclusion that they were merely large sweet ~~watermelons~~ ^{squashes} notwithstanding the circumstance that Castañeda applied to them the Spanish word "melones." According to the best botanical and horticultural authorities, melons are not indigenous in America; the muskmelons and cantaloupes (genus Cucumis) are said to be of Asiatic origin, while the native home of the watermelons (genus Citrullus) is Africa. After the advent of Europeans, watermelons (Spanish, sandias) and muskmelons and cantaloupes (Spanish, melones) were obtained and extensively cultivated by the southwestern tribes; and Father Garces found the Yumas cultivating both "calabazas" (Spanish for pumpkins, squashes, gourds) and "melones" in 1775. (See Coues, On the Trail of a Spanish Pioneer, I, 170.) But it is not likely that the aborigines of the Suya and upper Mexia valleys were cultivating melons so early as 1540-42, notwithstanding the remarkable fact that ^{Suya} had obtained a few Spanish fowls even at that early day, as Castañeda presently states. Some of the varieties of ~~watermelons~~ Cucurbita pepo and Cucurbita maxima (pumpkins and squashes), according to the Encyclopædia Britannica, "contain a considerable quantity of sugar, amounting in the sweetest kinds to 4 or 5 per cent, and in the hot plains of Hungary efforts have been made to make use of them as a commercial source of sugar." Of the cucurbitaceous plants cultivated by the Yumas in the middle of the nineteenth century, Heintzelman reported, "The watermelons are small and indifferent, muskmelons large" [nothing said of quality], "and the pumpkins good." (Ho. Ex. 76, 34th Cong., 3d sess., 1857, p. 36.) Farther, in 1540-42, the pumpkins (Cucurbita pepo) and squashes (C. maxima) of North American aboriginal horticulture were not yet known in Europe, and their cultivation does not even appear to have extended at that time so far southward as New Spain and New Galicia. It is little wonder, therefore, if Castañeda, who had never seen anything more nearly like them than melons, applied the name "melones" both to these sweet cucurbitæ of the Suya Valley and to the similar ones that were seen in Cibola and other northerly provinces. They are especially sweet when dried in slices as Castañeda describes. See also page 170 of this Paper.

"In this country there were also tame eagles, which the chiefs es-

According to Heintzelman's Handbook of the Cucurbitaceæ (1857) "Cucurbita pepo" is a tropical plant, raised in Mexico and Central America, and is called "calabaza" in the Spanish Yucatán (p. 56) "calabazas," but "calabazas" (p. 56) "calabazas,"

According to Heintzelman's Handbook of the Cucurbitaceæ (1857) "Cucurbita pepo" is a tropical plant, raised in Mexico and Central America, and is called "calabaza" in the Spanish Yucatán (p. 56) "calabazas,"

teemed to be something fine. No fowls of any sort were seen in any of these villages except in this valley of Suya, where fowls like those of Castile were found. Nobody could find out how they came to be so far inland, the people being all at war with one another."

It is indeed surprising that ~~such~~ fowls like those of Spain should have been found on a source of Sonora River in 1540-42. But Castañeda can hardly have made a ~~such~~ mistake in such a matter. If we may depend upon a statement of 1554, made in Gomara's Historia General de las Indias, about deer hunting in Sonora, a party of Spaniards must have been on Sonora River, in the Sonora Valley proper, (Babiacora to Banamichi,) in 1537.* From

Footnote

*See footnote, page 411, this Paper.

such a party — especially if it followed the river northward to the vicinity of Suya-Mututicachi — domestic fowls of the Spaniards ~~might~~ have been ~~obtained~~ obtained, through barter or otherwise, by natives of Suya Valley. But there is strong reason to suspect that Gomara's "1537" is an error, and that the observation to which he refers, of a native method of deer hunting in Sonora, was that made by Cabeza de Vaca's party in 1536.

Such fowls may possibly have been ~~procured~~ ^{procured} by barter in ~~on~~ a visit to some west coast tribe that had obtained them from some shipwrecked vessel. Travelling traders were often immune from the embargo that was imposed on other travel in war times; at least such was the case in more southerly parts of Mexico.

(Contin'd on A 32d)

"Between Suya and Chichilticalli there are many sheep and mountain goats with very large bodies and horns. Some Spaniards declare that they have seen flocks of more than a hundred together, which ran so fast that they disappeared very quickly."

Footnote ¹ "Winship's Castañeda, Bu. Eth. Ann. XIV, 510.

The name, mountain goat, belongs properly to an animal (Oreamnos montanus) of the northwestern United States and British Columbia, although in the earlier part of the nineteenth century the same term and its shorter form "goat" were applied to the Pronghorn Antelope, Antilocapra. It is possible that the "flocks of more than a hundred together," which some of the Spaniards declared they had seen, were antelope, which doubtless abounded in the ^{on both mountain and plain areas} sixteenth century as in later years, not only on the plains east and north but ⁱⁿ southern Arizona and New Mexico as well.* But the ~~sheep~~

Footnote ² Says Dr. B. A. Mearns in his "Mammals of the Mexican Boundary of the United States," (Bull. 55 U. S. Nat. Mus., p. 226,) "On the northern plains the vast majority of antelope were supposed to pass their entire lives in the open country away from the forests, but in Arizona and New Mexico the mountains were occupied during the summer and the lower mesas and valleys in winter." This was perhaps especially true of the southern parts of those states, where the summer heat of the plains areas was excessive. In northeastern New Mexico, until comparatively recent years, ^{the} immense herds of antelope were wont to gather in the fall of the year in the largely forested region near the foot of the Rocky Mountain front range.

~~sheep~~ "mountain goats" as well as the "sheep," of which Castañeda here speaks on his own authority, ^{were} mountain sheep, ~~sheep~~

~~sheep~~ as appears by his reference ^{elsewhere} to their "very large bodies and horns," and by his description of those which he ^{saw and followed} in the great mountain wilderness between Chichilticalli and Cibola, ^{of} which he said, "They had extremely large bodies and long wool; their horns were very thick and large, and when they run they throw back their heads and put their horns on the ridge of their back."* The idea that there were both sheep and goats

Footnote ³ Ibid. p. 487. The coarse hair of the Mountain Sheep has no resemblance to wool, although it is "slightly crimped," and has "at the roots," says Goodrich, "a small quantity of soft fur." Recognizing the animals as sheep, Castañeda naturally supposed that their covering was wool. Had ^{he} one of them been secured, he would not have fallen into this error; but he says, "They are used to the rough country, so that we could not catch them and had to leave them."

among them, may easily have arisen from the great difference in size and form between the horns of the male and those of the female."

Handwritten Note:
Such a misapprehension has by no means been confined to the sixteenth century. On page 92 of Emory's "Notes" of the military reconnaissance made in 1846 from Fort Leavenworth to San Diego by the Army of the West, we read, "On this spur [of mountains on lower Gila River] was killed a mountain sheep, one of a large flock, from which we named it Goat's spur." His statement is accompanied with a plate (which we reproduce in this Paper) bearing two figures of the head of the female mountain sheep, underneath which are the words, "Head of the Mountain Goat." It would seem from this, that some of the men of that army had called the female sheep "mountain goats," although Emory's remark shows that he himself understood that the so-called "goats" were sheep.

In Mearns' "Mammals of the Mexican Boundary" (p. 238), we read, "In the Verde Basin, Arizona, from 1884 to 1886, the bighorn was occasionally seen. The female was commonly called ~~goat~~ ^{ibex}, and considered to be a different species from the male, on account of the very different shape of its horns."

In the latter most valuable work ~~Handwritten Note~~ (page 246) Doctor Mearns expresses the opinion that Ovis canadensis nelsoni, inhabiting the "desert ranges of mountains of southern California and northern Lower California," (p. 245) "was probably the first-known form of our bighorns"; and in support of it he cites (through Bewick) observations "by the Jesuit missionaries to California as long ago as the year 1697," and particularly (through Biddulph) a notice "by Father Picolo, one of the first Catholic missionaries who visited that country in 1697." But if the distribution of the southwestern races of Ovis canadensis is substantially as given in Doctor Mearns' work, ~~the~~ ^(p. 238) the first-known American form of mountain sheep would seem to have been O. canadensis mexicanus, since the observations by Castañeda and Coronado, antedating those of 1697 by more than a century and a half, relate to the range of that subspecies, which the Doctor gives as "North-central Mexico, northward into the mountains of Texas, New Mexico, and Arizona."

The fact that the ~~mid~~ natives of the Suya district were at war with surrounding peoples—especially, by implication, with those down the river toward the sea—explains how Suya Valley was a place to which the town of San Hieronimo could be transferred and—for the time being at least—be secure from the hostile "Vallecos," who had imperilled that town when located in the Valley of Señora.

When Coronado was leading his army eastward and southeastward from Tiguex and Cicuique (Pecos), early in the summer of 1541, the army master, Don Garcia Lopez de Cárdenas had broken his arm; and when, upon the plains of Texas, Coronado decided to divide his army, taking a small band to go north with him to Quivira, the main army was sent back ~~and~~ — and Cárdenas with it — under Captain Arellano, to Tiguex on the Rio Grande, arriving there "about the middle of July."*

Footnote ^{Red}
*Winship's Castañeda, 14th B.A.E., 510.

In the autumn, after Coronado had also returned to Tiguex, Cárdenas, whose arm was in bad condition, and who had received a message recall-