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SIXTEENTH-CENTURY TUSAYAN

Henry F. Dobyns

THE NINTH VOLUME OF THE Smithsonian Institution's *Handbook of North American Indians* includes Albert H. Schroeder's essay, "Pueblos Abandoned in Historic Times." The author begins his discussion of Hopis with these words: "In 1540 the people of Tusayán (also Tucayan, Tucano, and Tuzán), living in seven terraced Pueblos . . ."[1] Schroeder did not, however, cite Bartolomé de las Casas' sixteenth-century report which stated "On that route toward the west . . . 80 leagues from Tigués, there is a province called Tuzayán, which has up to 30 pueblos of good houses. . . ."[2]

During the years that I have been reconstructing historic population trends in the Americas,[3] I have learned to take very seriously any quantitative statement that Bartolomé de las Casas made, unlikely though it may appear at first glance.[4] Some scholars scoff at las Casian claims that Spanish colonialism, and the contagious diseases that Spaniards carried across the Atlantic Ocean, decimated Native Americans. Such scholars at times accuse the sometime procurator of the Indians at the Spanish court of exaggerating in order to score polemical points.[5]

Writing about Tusayán, however, Friar Bartolomé was not penning a polemic. He wrote a brief description of Pueblo peoples seen by members of the 1540-1543 exploring expedition commanded by Francisco Vásquez de Coronado. Casas apparently interviewed some expeditionaries returning to Spain not long afterward. While skeptics might discount Casas' report that Tusayán contained upwards of 30 pueblos on grounds that he himself had not visited Pueblo country, his report was based on statements made by travelers who had been there. Thus there is a legitimate question to attempt to resolve: was Tusayán in 1540 composed of 7 or upwards of 30 pueblos?

Archeological evidence can be brought to bear on this question. There are west of Zuñian villages the ruins of numerous large pueblos. On the Little Colorado River, Homólovi IV stands farthest downstream. Homólovi I, II, and III cluster near the Clear Creek confluence. Cottonwood Pueblo is on the north side of the river halfway upstream to the Chevelon Creek confluence, and Chevelon Pueblo immediately up that creek.[6] These add up to half a dozen riverine pueblos.

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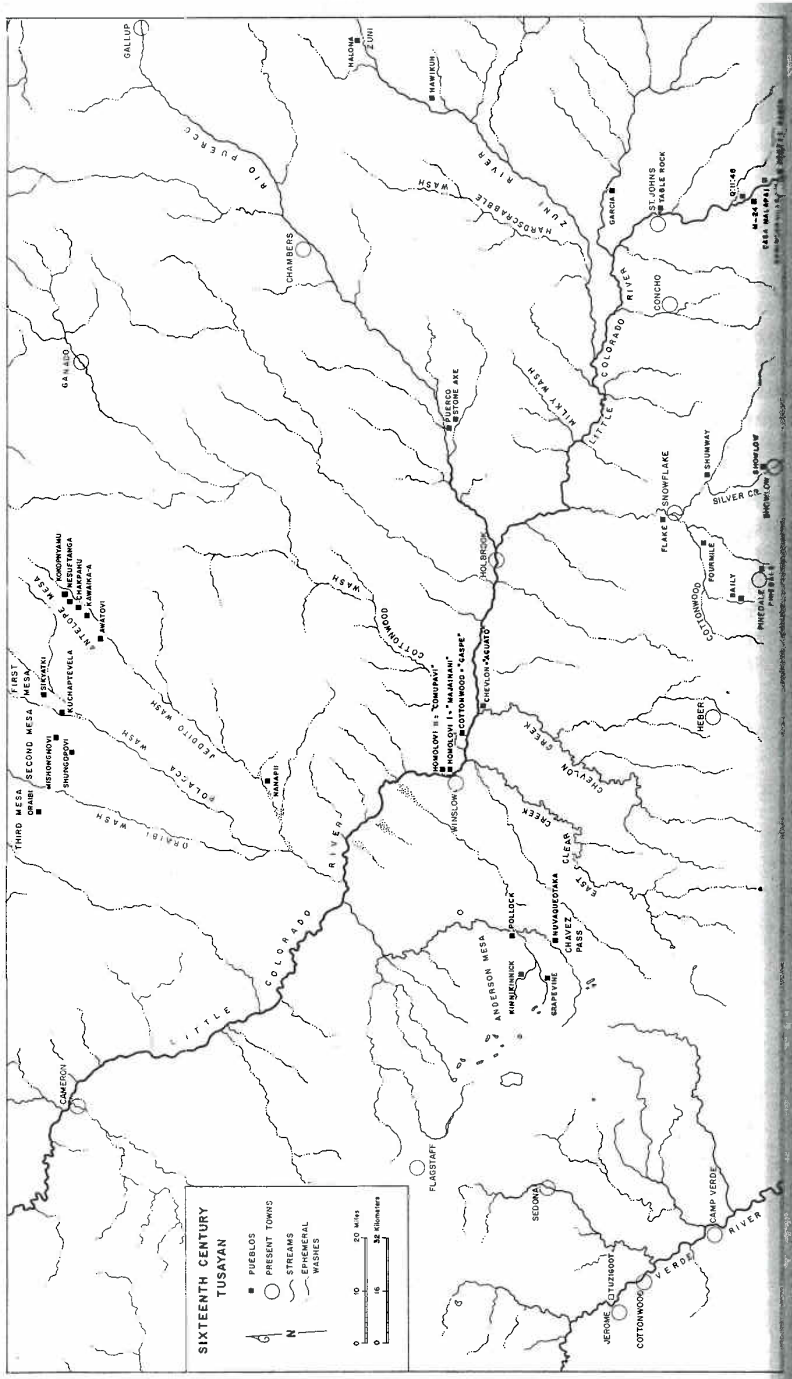

Upstream toward Zuñi River are five more ruined pueblos called Table Rock, M-24, Q:11:48, Hooper Ranch, and Casa Malpais. Garcia Pueblo near the Table Rock ruin is not riverine.[7]

Half a dozen more pueblos formerly obtained water from tributary Silver Creek: (1) Flake at the Cottonwood Wash confluence, (2) Fourmile on a narrow tongue of land between the two creeks, (3) Shumway farther up Silver Creek, (4) non-riverine Showlow in its headwaters, (5) Pinedale in the eastern headwaters of Cottonwood Wash, and (6) Baily Ruin in the western headwaters.[8]

Up the Río Puerco tributary lies Puerco Pueblo.[9] South of it, Stone Axe Pueblo is near Milky Wash.[10] There were, in other words, 16 riverine pueblos and 4 upland villages near creeks, constituting the demographic core of this native province.

South of the Little Colorado River, Nuvaqueotaka Pueblo in Antelope Notch (Chavez Pass)* functioned as a trading center handling numerous exotic commodities. The quantity and quality of items interred with the small Nuvaqueotaka elite indicate that it was the central settlement in a four-village Anderson Mesa cluster including nearby Kinnickinick, Grapevine, and Pollock Pueblos.[11] These former pueblos have been thought to have been founded during the fourteenth century.[12]

Five pueblos were clustered together on Antelope Mesa overlooking Jeddito Wash: (1) Awatovi, (2) Kawaika'a, (3) Chapahu, (4) Nesuftanga, and (5) Kokopnyama. Nanapii Pueblo was 30 km. downchannel.[13] To the northwest, Kuchaptavella below the First Mesa rim, and Sikyatki above the rim overlooked Polacca Wash. Shungopovi and Mishongnovi perched on Second Mesa, and Oraibi on Third Mesa. These 11 Black Mesa Hopi villages were fewer in number than Tusayán's riverine towns.

Physical remains of relatively large ruined pueblos and a few surviving Black Mesa Hopi villages attest to a former geographical pattern of Tusayán natural resource exploitation and intergroup commerce. There were 10 riverine Little Colorado River pueblos plus 2 upland towns, 3 riverine Silver Creek pueblos plus 3 upland towns, 4 Anderson Mesa pueblos, 5 Antelope Mesa pueblos plus one on Jeddito Wash, 2 First Mesa, one Second Mesa, and 2 Third Mesa pueblos, or 31 in all.[14]

There are physical remains of more than 30 former pueblos on the Colorado Plateau west of Zuñian territory. Therefore, members of the 1540-43 exploring expedition who told Bartolomé de las Casas that Tusayán contained up to 30 settlements could very well have

Editor's note: Both the text and the map refer to the pueblo ruin in Chavez Pass as Nuvaqueotaka (pp. 188-189). However, according to information available to Barton Wright, the mapmaker, the Hopis of Second Mesa call this ruined pueblo Topachovi. Nuvakweotukwi is Belted Mountain which lies just to the south of Chavez Pass.

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been correct if the known ruined pueblos were occupied during the sixteenth century. Spanish exploration chronicles provide evidence bearing upon the chronological question.

Schroeder's seven pueblo figure comes from Pedro Castañeda de Nacera's reminiscence about the 1540-43 expedition.[15] Castañeda did not describe Pedro de Tovar's route to Tusayán, although he reported that Vázquez de Coronado's Zuñi informants placed it 25 leagues away. Tusayán's location must be inferred from textual clues.

One pertinent clue is pueblo height. A "terraced" pueblo is a multi-story pueblo, of the defensive type the Vázquez de Coronado expedition initially encountered Zuñians defending. Historian Baltasar de Obregon described the seven Zuñian pueblos as "three- and four-story houses, enclosed and walled in, as if belonging to a belligerent and warlike people."[16]

Black Mesa Hopi villages typically have consisted of only one- or two-story houses, the Antelope or Black Mesa escarpments providing defensive advantage against hostile forces approaching from the south. When Castañeda described the Tusayán pueblos as "high," he described the pueblos themselves, meaning that they were, like Zuñian towns, multi-storied defensive settlements.

Spanish tactical behavior furnishes another clue. Tovar's Spaniards "entered the country so quietly that nobody observed them." In the darkness, "our men . . . were able to conceal themselves under the edge of the village, where they heard the natives talking in their houses." Armored Spaniards[17] could hardly have ridden up the Antelope Mesa escarpment in the dark—having arrived after nightfall—without Black Mesa Hopis hearing them.

The following morning, the natives mobilized when they discovered the intruders. Armed with bows and arrows, shields, and warclubs, the native warriors advanced on the mounted Spaniards in a double-wing formation. The Spanish lancers charged the native force, scattering it. The charge is a third clue indicating that Tovar's force was in the Little Colorado River Valley about 90 km. from Antelope Mesa. Mounted lancers could easily disperse a native infantry force on the floodplain, but could not possibly charge effectively up the Antelope Mesa escarpment. Once Tovar's lancers defeated the native warriors who attempted to defend the easternmost Tusayán pueblo, "people in the village" rushed "out with presents, asking for peace." These included cotton textiles, cornmeal, piñon nuts, and "birds of the country." After the natives brought Tovar some turquoise, they permitted him "freely to visit, buy, sell, and barter with them."[18] Here, as historian Baltasar de Obregón wrote, Tover "discovered the river and settlement of Tuzayán. . . ."[19]

In view of these numerous textual clues showing Tovar to have been among riverine Tusayán pueblos, one must reject J.O. Brew's

assertion that "It is fairly well established that Awatovi was the first town in the Hopi country to be visited by Spaniards."[20] Whatever consensus scholars may have reached has been achieved on the basis of tenuous assumptions made without fully and conscientiously analyzing available chronicles.[21] What is claimed to be "a careful analysis of the documents" establishing Awátovi "as the first point of contact by Tovar," actually does not even consider the textual clues pointed out above. It extensively quotes the 1929 Hammond and Rey translation of Pérez de Luxán's journal, as well as Erik K. Reed's archeological and documentary analysis,[22] but only to disqualify Kawaika Pueblo near Awátovi on Antelope Mesa as the Tusayán eastern frontier town Tovar visited.[23]

Black Mesa Hopi villages survived until the present century, although the Antelope Mesa towns did not endure beyond the seventeenth century. Tovar's placing himself on the Little Colorado River in 1540 dates at least seven riverine pueblos as still inhabited at that time. They were "still" inhabited because physical remains indicate that 10 riverine pueblos had been inhabited earlier. Three pueblos were probably abandoned in the wake of pandemic smallpox mortality about 1524 and pandemic measles mortality about 1533.[24]

Tusayán's sixteenth-century population collapse continued. In 1581, a small Spanish expedition from a colonial frontier mining camp explored Pueblo territory as far west as the Zuñian pueblos. There, Pedro de Bustamante "heard" about the "valley of Asay" containing "five pueblos with many inhabitants." From Zuñian "signs," Bustamante "deduced that two of these pueblos were very large" and that all five grew cotton.[25] Gestures left ample opportunity for faulty communication. Yet, the valley concept conveyed to the Spaniards seems clearly to mean that the Zuñis referred to riverine pueblos rather than to Black Mesa Hopi villages. Referring to the 1581 explorers, Schroeder claimed that they learned from Zuñis "that to the west were five Pueblos among the Asay or Osay (Hopis)." Schroeder neglected to mention that the Zuñian "signs" placed the Asay in a valley.[26] Chroniclers Martín de Pedroza[27] and Hernán Gallegos[28] also listed these five pueblos located a two-day (native?) journey distant from Zuñi.

In the spring of 1583, Antonio de Espejo confirmed that five pueblos survived on the Little Colorado River. Espejo referred to the ethnic group as *Mohoce*, a usage indicating that he employed Keresan-speaking native guides, probably Zian traders.[29] Espejo estimated Mohoce population as 50,000.[30] Espejo's companion Perez de Luxán boasted that Mohoce mobilized 12,000 bowmen (including contingents sent by allies) to oppose "ten lone Spaniards."[31] A mobilization of 24 percent of a total native population would be truly remarkable. If half of the estimated 12,000 bowmen were Mohoce,

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that polity achieved a more typical 12 percent mobilization. Espejo's population estimate and Pérez de Luxán's warrior estimate are, therefore, mutually consistent.

That Espejo's Mohoce were riverine appears from his prospecting west from them. Following native guides, Espejo visited deep native quarries on Mingus Mountain. Espejo stated that he "traveled directly west" from Mohoce to the quarries.[32] One cannot travel directly west from Antelope Mesa or Black Mesa Hopi villages and strike the middle Verde Valley and Mingus Mountain; one strikes Havasu Canyon!

Espejo's distance reports also place Mohoce on the Little Colorado River. Espejo alloted a scant 70 leagues to the entire Zuñi-Verde River trail, with 45 leagues from the easternmost Mohoce pueblo to the Verde. That leaves only 25 leagues between that pueblo and Hawikkuh. Following Zuñi River downstream to Silver Creek, then cutting due west on a trail south of the Little Colorado River, Espejo would have crossed more than 200 miles with numerous twists and turns descending into the Verde Valley. Espejo's league was, therefore, slightly more than 2.6 miles [crow's-flight distance]. Had Espejo traveled via Antelope Mesa as Schroeder[33] and other scholars[34] have assumed, the crow's-flight 62 miles from Awatovi Pueblo to the Little Colorado River at modern Holbrook mean that he would necessarily have ridden more than 20 such leagues.

Obregon's report, which neither Schroeder nor Brew cited, is conclusive. Tover "discovered the river and settlement of Tuzayán which Antonio de Espejo called Mohoce. This river, as Don Pedro de Tovar and Antonio de Espejo told me, is very well settled by clothed people, owners of good houses, cotton, maize, beans, and calabashes."[35] Both explorers personally told the historian that they explored the same river, whose inhabitants "enjoy good, temperate lands, forests, and water." Final occupation of ruined pueblos and use of artifacts left in them must be dated in terms of these colonial eye-witness statements.

Pérez de Luxán blamed Vázquez de Coronado for destroying the easternmost of the seven riverine Mohose towns Tovar had visited in 1540, retaliating for natives killing five of his nine scouts. Espejo reported that leaders of Aguato Pueblo in the same province came to see his party at the ruined frontier pueblo. A correct reconstruction of events demands recognition of what Espejo actually reported. First, Espejo wrote that Aguato Pueblo's leaders came an unreported distance to see the Spaniards. Second, Espejo did *not* report that his party visited Awatovi Pueblo as Schroeder and earlier scholars assumed. Aguato Pueblo was not Awatovi Pueblo.

Aguato Pueblo was one Espejo league from the ruined eastern frontier pueblo. The ruined pueblo probably is the one now called

Chevelon Ruin, located on Chevelon Creek immediately above its confluence with the Little Colorado River.[36] On the evening of 17 April 1583 (27 April, new style), its inhabitants brought the Spaniards a peace offering of more "tortillas, tamales, roasted green-corn ears, corn and other things" than the explorers could consume.

Schroeder and previous scholars[37] seem to have overlooked entirely the significance of roasting ears. Black Mesa Hopi planting does not begin until mid to late April, if temperatures permit. It may begin in May, and it continues until the summer solstice.[38] Black Mesa Hopis could not, in other words, have given Espejo's party roasting ears because their maize was barely sprouting even if they had planted it as early as possible in 1583. The roasting ear gift indicates that at a slightly lower altitude than Black Mesa and with abundant irrigation water[39] during the spring snow-melt, riverine Mohoce must have planted sometime in March a fast-growing (60-day) maize variety.

On 21 April (old style) Espejo's party rode two leagues to *Gaspe* Pueblo, built with high stone walls. More than 1,000 residents brought "very fine earthen jars" of water, rabbits, cooked venison, tortillas, maize gruel, beans, squash, and more than 600 cotton textiles bearing decorations.[40] Scholars have equated "Gaspe" with First Mesa Walpi, partly because colonial historian Obregon called Gaspe *Xoalpe* and *Oalpes*.[41]. There are at least two basic difficulties with such a correlation. One is terminological. Modern Walpi village was not then inhabited. Hopis then called what is ruined "Old Walpi" from the modern perspective *Kuchaptavella*.[42] Consequently, Obregon's *Xoalpe* could not have been First Mesa-top Walpi. The second difficulty is spatial. Pérez de Luxán reported but one Gaspe Pueblo, whereas Espejo's party would have seen Sikyatki Pueblo only about 3 km. from Kuchaptavella had it ridden from Awatovi Pueblo to First Mesa.[43] The Awatovi-First Mesa trail is, moreover, longer than a dozen miles. Therefore, each of the reported two leagues in between would have to be longer than six miles. On the Little Colorado River as he later said, Espejo actually rode 7.5 km. from Chevelon to Cottonwood Ruin,[44] making each league 2.3 miles long.[45]

On 22 April (old style) Espejo's party rode two leagues, half of that distance through "cotton fields," to twin pueblos hardly half a league apart. Pérez de Luxán recorded the larger pueblo's name as *Comúpavi* and the smaller as *Majanani*.[46] Schroeder correlates these towns with Mishóngnovi and Shongópavi,[47] as did translators George P. Hammond and Agapito Rey. Again, there is a spatial difficulty in placing these two pueblos on Black Mesa. Second Mesa consists of three southern tongues. Mishóngnovi is on the easternmost, while Shongópavi is on the middle tongue. The trail distance between them

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is more than two miles, or hardly more than half of a 2.6- or 2.3-mile league.

On the Little Colorado River, the twin pueblos were two of the ruins now called Homólovi. Homólovi I and II are 2.5 km. apart, or 1.55 mile, or half of a 3.1-mile league. Homólovi III lies 3.25 km from its nearest neighbor, or two miles.[48] Pérez de Luxán's statement that: "These two pueblos are situated in two strong sierras which the horses climb with difficulty"[49] has influenced scholars perceiving the text as referring to the eastern and western tongues of Second Mesa. Homólovi I is located at the edge of the modern floodplain, so that post-abandonment flooding eroded part of it away.[50] Homólovi II, in contrast, "is situated on top of a hill with a wide outlook."[51] Being significantly larger than the other pueblo, this is the Comúpavi of 1583.

Riding a league through cotton fields, whether these formed a single bloc or were scattered, indicates a riverine habitat. Irrigated floodplain cotton fields, whether in 1582 stubble or 1583 young plants, could easily extend half the distance between Gaspe and Comúpavi. The easiest Mishóngnovi-Shungópovi route atop Second Mesa supports a variety of crops,[52] and probably has been diversified through time rather than monocropped.

On 24 April (old style) Espejo's party rode three leagues to *Olalla*, the largest Mohoce pueblo, which depended on "wells" for its water.[53] Espejo then turned back to Aguato Pueblo, where he divided his party. Espejo led a few men westward to the Mingus Mountain native quarries.[54] Only on this prospecting journey, and on the Zia-Zuñi trail, did Espejo depart from a riverine route. After leaving the San Gregorio Valley, Espejo descended the Río Conchos to the Río Grande. He ascended that stream[55] and its Jemez River tributary until his guides struck cross-country to Acoma with its small stream and then to the Zuñian pueblos on Zuñi River. Espejo descended Zuñi River to the Little Colorado, and continued downstream to the terminus of habitation before turning back to Aguato Pueblo and striking out cross-country toward the quarries. Espejo much preferred, in other words, traveling near streams to crossing uplands lacking surface-running water.[56]

By 1698, only four riverine pueblos survived. New Mexico Governor Juan de Oñate's itinerary gives the distance from the westernmost Zuñi pueblo to the easternmost Mohoce pueblo as 17 leagues. The second riverine pueblo was three leagues from the first, and the third was somewhere in a four-league long trail between the second and fourth pueblos.[57]

That Oñate visited riverine pueblos appears both from his terminology and from the short distance that Marcos Farfán reportedly traveled to the Mingus Mountain quarries. The itinerary distance from the Mohoce pueblos to the middle Verde River via a somewhat twisting route, is only 33.5 leagues.[58] Thus, Oñate's itinerary makes the Hawikkuh Pueblo to Verde River distance only 57.5 leagues.[59] That works out as an average 3.5 mile-long league, in contrast to Espejo's 2.9 mile-long average league. For Oñate and Farfán to have parted at Awatovi Pueblo as scholars have assumed would have added the 17.7 leagues between Awatovi and the Little Colorado River to the 57.5 leagues logged.[60]

Governor Oñate or his scribe elicited native names—*Panauma, Hoynigua, Huynuxa,* and *Patigua*—for the four riverine pueblos. The scribe inserted them in the formulaic affidavit stating that on 15 November 1598 the natives of the *Mohoqui* ethnic group accepted vassalage under the Spanish king.[61] The affidavit shows that the Spaniards correctly perceived riverine and Black Mesa Hopis as forming a single "province"[62] or ethnic group, because the scribe also listed five non-riverine pueblos whose chiefs attended the meeting. *Aguatuyba* clearly was Awatovi Pueblo on Antelope Mesa.[63] *Oraybi* clearly was Oraibi Pueblo on Third Mesa.[64] *Xumupami* was evidently Shungópavi Pueblo on Second Mesa.[65] *Cuaurabi*[66] and *Esperiez*[67] cannot be identified with later Black Mesa pueblo names.[68] Oñate's 1598 ethnic Hopi pueblo count is, in any event, clear: there were four riverine, one Antelope Mesa and four Black Mesa villages.

Certain conclusions seem evident. First, Bartolomé de las Casa's informants who participated in the 1540-43 expedition to Pueblo country correctly reported that upwards of thirty pueblos constituted Tusayán province. Archeological research shows that there were at least 31 large defensive-style pueblos in the Little Colorado River Valley and on adjacent mesas. As reinterpreted herein, documentary evidence indicates that most of those pueblos were inhabited until mid-sixteenth century, a century later than archeologists have assumed.[69]

Second, the first New World smallpox and measles pandemics appear to have decimated Tusayán's population, inasmuch as only seven of ten riverine pueblos were inhabited in 1540. Thus, archeological data aid in assessing population change during the first half of the sixteenth century.[70]

Third, later diminution in Tusayán pueblo numbers and a parallel Zuñian depopulation trend lend support to the inference that contagious diseases spread to the Puebloan peoples between 1543 and 1581.[71] By 1581, Zuñians reported but five riverine pueblos immediately west of them, and in 1583 Spanish explorers confirmed only five. Moreover, settlement contraction continued, for, in 1598, the leader of the first Spanish colony in Pueblo country found only four riverine pueblos. Governor Oñate then recorded that leaders of one Antelope Mesa and four Black Mesa Hopi villages also became vassals of the Spanish king, at least on paper.

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Fourth, the sixteenth-century attrition of Western Pueblo population means, in terms of cultural analysis, that there "was little continuity between pre-contact and contact times."[72] In other words, the small-scale[73] pueblo societies ethnologists studied in the late nineteenth and the twentieth centuries provide few and perhaps no accurate analogs for interpreting the structure and functioning of very large-scale pre-1520 pueblo societies. To take an obvious example, environmental constraints in many ways limit modern Black Mesa Hopi subsistence activities. The late fourteenth to early sixteenth-century ancestral Hopi regional network exploiting Anderson Mesa, the headwaters of Silver Creek, and the mainstream Little Colorado River as well as the Black Mesa edge environment, was not as limited. Black Mesa Hopi food production techniques are not and cannot be an appropriate analog for understanding Tusayán-Asay-Mohose riverine oasis food production. Nor can Black Mesa Hopi cotton growing be an accurate analog for riverine, large-scale cotton fiber production under irrigation.[74]

NOTES

1. Albert H. Schroeder, "Pueblos Abandoned in Historic Times." Pp. 236-54 in *Handbook of North American Indians. Volume 9: Southwest.* Washington, DC: Smithsonian Institution, 1979, p. 253.

2. Fray Bartolomé de las Casas. "Apologetica Historia," in *Obras Escogidas, vol. III, in Biblioteca de Autores Españoles desde la Formación del Lenguaje Hasta Nuestros Dias.* Edición por Juan Perez de Tuleda Bueso. Madrid: Ediciones Atlas, 1958, p. 181. My translation.

3. See Henry F. Dobyns, "Indian Extinction in the Middle Santa Cruz River Valley, Arizona." *New Mexico Historical Review* 38:2 (April, 1963) 163-181; "Estimating Aboriginal American Population: An Appraisal of Techniques with a New Hemispheric Estimate," *Current Anthropology* 7:4 (October, 1966) 396-97, 412; *Native American Historical Demography: A Critical Bibliography.* Bloomington: Indiana University Press for the Newberry Library Center for the History of the American Indian, 1976; *Their Number Become Thinned: Native American Population Dynamics in Eastern North America.* Knoxville: University of Tennessee Press, 1983.

4. Even in *The Tears of the Indians: Being an historical and true account of the cruel massacres and slaughters of above twenty millions of innocent people.* Translated by John Philips. London: Nath. Brook (Stanford: Academic Prints, 1953).

5. Henry Raup Wagner and Helen Rand Parish, *The Life and Writings of Bartolomé de las Casas.* Albuquerque: University of New Mexico Press, 1967, pp. 98-102 for Casas' first book, *Del único modo,* which antagonized Franciscan missionaries in New Spain; 108-113 on Casas' campaign persuading Emperor Charles V to promulgate the *New Laws of the Indies;* including his 1552 publication of his *Brevissima relación de la destrución de las Indias;* 172-75, 179-82 for Casas' critical debate with Juan Ginés de Sepúlveda.

6. Steadman Upham. *Politics and Power: An Economic and Political History of the Western Pueblo.* New York: Academic Press, 1982, pp. 61, 65; on Chevelon Ruin, see also Jesse Walter Fewkes, "Two Summers' Work in Pueblo Ruins." Pp. 3-196 in *Twenty-Second Annual Report of the Bureau of American Ethnology, 1900-1901. Part 1.* Washington: Government Printing Office, 1904, pp. 30-32, 62-63, 65-68, 72, 78-79, 83, 85-87, 89-92, 95-101; Plates 20, 28, 34, 35, 37, 43, 46-47.

7 Upham, *op cit.,* 1982, pp. 62, 69. See also Paul S. Martin and John B. Rinaldo, *Table Rock Pueblo, Arizona.* Fieldiana: Anthropology Vol. 51, No. 2, 1960; Paul S. Martin, John B. Rinaldo and William A. Longacre, *Mineral Creek Site and Hooper Ranch Pueblo, Eastern Arizona.* Chicago: Chicago Natural History Museum, Fieldiana: Anthropology, Vol. 52, 1961.

8. Upham, *op. cit.,* 1982, pp. 61, 66; for Fourmile Pueblo, see also Fewkes, *op. cit.,* 1904, pp. 136-164 and Plates 24-26, 35, 40-42, 56-65. For Showlow Pueblo, see Emil W. Haury, "Showlow and Pinedale Ruins." Pp. 4-79 in *Recently Dated Pueblo Ruins in Arizona.* By Emil W. Haury and Lyndon L. Hargrave. Washington: Smithsonian Institution, Miscellaneous Collections v. 82 No. 11, 1931, pp. 7-44. For Pinedale Pueblo, see pp. 44-72 in the same volume.

9. Early historic inhabitants of Puerco Pueblo may have been ethnic Zuñians. At least Zuñis in 1882 told Frank H. Cushing *(The Nation of the Willows.* Flagstaff: Northland Press, 1965, pp. 12-13) a creation myth accounting for the Zuñian place name glossed as "spring where the old woman entered."

10. Upham, *op. cit.,* 1982, pp. 62, 68. Upham classified two additional ruined pueblos as part of the Little Colorado River province, although Q:3:70 is an upland village north of the lower Zuñi River, and Q:3:53 is even closer to known Zuñian pueblos on the Hardscrabble Wash tributary of Zuñi River.

11. *ibid.,* pp. 61, 64. See also Fewkes, *op. cit.,* 1904, pp. 32-34, 196 Plates 28, 29, 34, 36, 44, 45.

12. Upham, *op. cit.,* 1982, p. 53 *et. seq.*

13. Upham, *op. cit.,* 1982, pp. 62-67. For Kokopnyama, see Lyndon L. Hargrave, "Excavations at Kin Tiel and Kokopnyama." Pp. 80-120 in Haury and Hargrave, *op. cit.,* 1931, pp. 95-120.

14. This Tusayán pueblo count assumes that Puerco Pueblo, Q:3:70 and Q:3:52 were inhabited by ethnic Zuñians. They could have formed part of the Tusayán polity.

15. Pedro Castañeda de Nacera, "Relacíon." Pp. 414-545 in *Fourteenth Annual Report of the Bureau of Ethnology.* Translated by George P. Winship. Washington, D.C.: Government Printing Office, 1896, p. 488.

16. Baltasar de Obregon, *Obregon's History of 16th Century Explorations in Western America, Entitled Chronicle, Commentary, or Relation of the Ancient and Modern Discoveries in New Spain and New Mexico, Mexico, 1584.* Translated by George P. Hammond and Agapito Rey. Los Angeles: Wetzel Pub. Co., 1928, p. 15.

17. In his report to the viceroy, Vásquez explained that he was seriously injured by Zuñian stones: "They all directed their attack against me because my armor was gilded and glittered. . . ." (Winship, *op. cit.,* 1896, p. 557).

18. *ibid.,* p. 489. Tover evidently heard here the native term he transliterated as Tuzayán. Robert C. Euler (personal communication, 29 May 1989) believes "that the name 'Tusayán' was a Spanish rendering of the Hopi word 'Tusqua' by which Hopis . . . today refer to their traditional homeland."

19. Obregón, *op. cit.,* 1928, pp. 21-22.

20 J.O. Brew, "Hopi Prehistory and History to 1850." Pp. 514-523 in *Handbook of North American Indians. Volume 9: Southwest.* Washington: Smithsonian Institution, 1979, p. 519.

21. I write this sentence with a deep sense of methodological guilt, inasmuch as I earlier fell into the trap of following the consensus instead of critically re-evaluating the available texts. Consequently, I had Tovar at Kawiokuh Pueblo on Antelope Mesa (Robert C. Euler and Henry F. Dobyns, *The Hopi People.* Phoenix: Indian Tribal Series, 1971, p. 24).

22. Erik K. Reed, "Kawaika-a in the Historic Period." *American Antiquity* 8:1 (1942) 119-120.

23. Ross Gordon Montgomery, Watson Smith and John Otis Brew, *Franciscan Awatovi: The Excavation and Conjectural Reconstruction of a 17th-Century Spanish Mission Establishment at a Hopi Indian Town in Northeastern Arizona.* Cambridge: Peabody Museum of American Archaeology and Ethnology. Harvard University, Papers, Vol. 36, 1949, pp. 5-7.

24. Spaniards transmitted smallpox to natives at Cholula in 1520. The disease spread southward at least as far as central Chile. Spaniards carried measles to New Spain in 1531, spreading it to Incan Tawantinsuyu in 1532 (Henry F. Dobyns, "An Outline of Andean Epidemic History to 1720." *Bulletin of the History of Medicine* 37:6 [Nov.-Dec., 1963] 493-515). I argue that aerosol-transmitted viruses causing smallpox and measles spread to the limits of susceptible populations just as far north as we

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know they spread south (Henry F. Dobyns, *From Fire to Flood: Historic Human Destruction of Sonoran Desert Riverine Oases.* Socorro: Ballena Press, Anthropological Papers, No. 20, 1981; "Native Historic Epidemiology in the Greater Southwest." *American Anthropologist* 91:1 [March, 1989] 171-74). See also Steadman Upham, "Smallpox and Climate in the American Southwest." *American Anthropologist* 88:1 (March, 1986) 125. "The hemispheric pandemic described by Dobyns probably affected populations living in the Southwest."

25. George P. Hammond and Agapito Rey, Translators. *The Rediscovery of New Mexico 1580-1594.* Albuquerque: University of New Mexico Press, 1966, p. 121, "Testimony of Pedro de Bustamante, May 16, 1582."

26. Schroeder, *op. cit.,* 1979, p. 253.

27. Hammond and Rey, *op. cit.,* 1966, p. 120.

28. *ibid.,* p. 108.

29. Carroll L. Riley, *The Frontier People: The Greater Southwest in the Protohistoric Period.* Albuquerque: University of New Mexico Press, 1987, (revised & expanded edition, p. 183). considers "Mohose" to be "probably Keresan, "the Mo-ts of Acoma, or the Motsi of Zia, Cochiti, and San Felipe."

30. "Report of the Expedition which I, Antonio de Espejo, Resident of the City of Mexico, Native of the City of Córdoba, Made at the Close of 1582." Pp. 213-231 in Hammond and Rey, *op. cit.,* 1966, p. 226.

31. *ibid.,* p. 189.

32. *ibid.,* p. 227.

33. Schroeder, *op. cit.,* 1979, p. 253 had Espejo "camped near the great Pueblo of Aguato (Awatovi)."

34. Including this one (See Euler and Dobyns, *op. cit.,* 1971, p. 28).

35. Obregón, *op. cit.,* 1928, p. 22.

36. Upham, *op. cit.,* 1982, pp. 61, 65.

37. Again, myself included (See Euler and Dobyns, *op. cit.,* 1971, p. 29). I did emphasize Aguato Pueblo's 600 cotton blanket gift, which indicated that this pueblo was the largest cotton textile producer Spaniards visited.

38. Ernest Beaglehole, *Notes on Hopi Economic Life.* New Haven: Yale University Publications in Anthropology, No. 15, 1937, pp. 37-38.

39. A woman diarist traveling by wagon from Kansas to Prescott in 1875 recorded day-night temperature contrasts on the Little Colorado River. Going downstream on 21 November "the men all in their shirt-sleeves here" although the Mogollon Rim was snow-covered. The next day, "Weather warm so long as we have the sun; freezes 1-1/2 inches thick at night" (Joseph W. Snell, ed. "By Wagon From Kansas to Arizona in 1875—The Travel Diary of Lydia E. English" *Kansas Historical Quarterly* 36:4 [Winter, 1970] 385).

40. Hammond and Rey, *op. cit.,* 1966, pp. 190-91.

41. *ibid.,* p. 190, n. 81.

42. Upham, *op. cit.,* 1982, p. 62.

43. *ibid.,* pp. 71-72.

44. *ibid.,* p. 71.

45. In other words, a 2.3 mile-long league is within a reasonable margin of error (21 percent) of Espejo's average 2.9 mile-long league calculated above.

46. Hammond and Rey, *op. cit.,* 1966, p. 192.

47. Schroeder, *op. cit.,* 1979, p. 254, "Majanani, Mohanami, Moxanamy, or Moxonami (Mishongnovi) and the larger Pueblo of Comupaui or Xomupa (Shongopavi)."

48. Upham, *op. cit.,* 1982, pp. 62, 71.

49. Hammond and Rey, *op. cit.,* 1966, p. 193.

50. Fewkes, *op. cit.,* 1904, pp. 25-26.

51. *ibid.,* p. 29.

52. Robert C. Euler, personal communication, 29 May 1989.

53. Hammond and Rey, *op. cit.,* 1966, p. 192. On the Little Colorado River, ruined Homólovi IV lies 8 km. or 5 miles from III, so each of Pérez de Luxán's three leagues would be but 1.65 miles long. Montgomery, Smith and Brew (*op. cit.,* 1949, p. 6) accuse Pérez de Luxán of poor memory and inconsistency with reports by other chronicles.

54. Katherine Bartlett ("Notes Upon the Routes of Espejo and Farfan to the Mines in the Sixteenth Century." *New Mexico Historical Review,* 17 [1942] 23) identified the quarries as those destroyed by the United Verde Copper Company. She pinpointed the pigment quarry location after George P. Hammond and Agapito Rey (Translators, *Expedition into New Mexico made by Antonio de Espejo 1582-83, as revealed in the Journal of Diego Pérez de Luxán.* Los Angeles, Quivira Society, 1929) concluded that Espejo could not have traveled west of the Verde River Valley during the time he spent in the saddle. Thus, Hammond and Rey ruled out the Bill Williams Mountain that Hubert Howe Bancroft (*History of Arizona and New Mexico.* New York: The Bancroft Co., 1888) thought was the quarry location, and Bill Williams Fork even farther southwest that Herbert Eugene Bolton (*Spanish Exploration in the Southwest, 1542-1706.* New York: Charles Scribner's Sons, 1916) thought Espejo reached.

55. *ibid.,* p. 21.

56. Bartlett (*op. cit.,* 1942, p. 28) merely assumed that "Aguato is Awátovi." Relying on knowledge of Black Mesa Hopi trails, Bartlett stretched Pérez de Luxán's 44-league trail from Aguato Pueblo to the Mingus Mountain quarry so as to accommodate the 62 miles between Awátovi Pueblo and the Little Colorado River. Starting her analysis with this key assumption, Bartlett did not even consider Espejo's route from Hawikkuh Pueblo to Aguato Pueblo.

57. George P. Hammond and Agapito Rey, *Don Juan de Oñate, Colonizer of New Mexico 1595-1629.* Albuquerque: University of New Mexico Press, 1953, Vol. I, p. 327.

58. *ibid.,* p. 328.

59. Hawikkuh Pueblo to Cieneguilla 6 leagues; Cieneguilla to Manantialejos 6 l.; Manamtialejos to first Mohoqui Pueblo 5 l.; 1st to 2d pueblo 3 l.; 2d to 4th pueblo 4. l. (ibid., p. 327)=24 leagues. From 4th pueblo to spring 6 leagues; spring to Alameda river 3 l.; river to escarpment 3 l.; escarpment to Pinal pool 2 l.; pool to warrior rancheria 2.5 l.; rancheria to Valley Water 6 l.; there to Cruzados rancheria 2 l.; rancheria to rancheria in *Agave* stands 3 l.; rancheria to 3d river 4 l.; 3d to 4th river 2 l. (*ibid.,* p. 328)=33.5 leagues.

60. From Awatovi to the river is about 62 miles or 17.7 leagues of 3.5 miles.

61. Act of Obedience and Vassalage by the Indians of Mohoqui, Hammond and Rey, *op. cit.,* 1953, Vol. I, p. 360.

62. Tusqua, as Euler points out.

63. F.W. Hodge ("Pueblo Names in the Oñate Documents." Pp. 363-374 in Hammond and Rey, *op. cit.,* 1953, Vol. I, p. 363) recognized the similarity. In this 1935 publication, Hodge confused matters by stating that the affidavit gave its transliteration of the place name "by error as the name of a Hopi 'captain' instead of the pueblo." On the contrary, the affidavit clearly identifies Aguatuyba as a pueblo, saying that "numerous natives" were present for the meeting, "among them the chieftains of the following pueblos and people" including Aguatuyba (p. 360). No doubt following Hodge, Schroeder (*op. cit.,* 1979, p. 254) reached the erroneous conclusion that Oñate "provided a confused list" with three pueblo names, including Aguatuyba, and "six others that are apparently chieftain's names." In Spanish or in English translation, the affidavit is neither confused nor ambiguous, despite the confusion of such readers as those cited. Chieftains, leaders, and common people from at least the riverine pueblos attended the meeting "among them the chieftains of the following pueblos and people" [the 4 riverine pueblos and Awatovi], and chiefs from "pueblos of this province" [4 Black Mesa villages]. The affidavit clearly names pueblos, not their leaders.

64. Hodge, *op. cit.,* 1966, p. 368. This is one of the 3 pueblos Schroeder (*op. cit.,* 1979, p. 254) accepts as a pueblo designation rather than a chief's name.

65. Hodge, *op. cit.,* 1966, p. 374, rewrites *Xumupami* as Xumupavi and identifies the pueblo as Shongópovi. This is one of the 3 pueblos that Schroeder (*op. cit.,* 1979, p. 254) perceives as a pueblo rather than a chief's name.

66. Hodge (*op. cit.,* 1966, p. 366) rewrote *Cuaurabi* as Cuanrabi and considered the word a pueblo name "probably the result of a misunderstanding of the name."

67. Hodge (*op. cit.,* 1966, p. 367) considered this term "'an evident error' perhaps a misunderstanding of the name of a headman as that of a pueblo." Schroeder (*op. cit.,* 1979, p. 254) classed the term as a leader's name. Possibly it was. Just possibly Hopis then called *Esperiez* what they later referred to either as Mishóngnovi or Sikyatki.

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68. Again, I must admit to having earlier accepted the Hodge interpretation instead of re-analyzing the affidavit of vassalage (See Euler and Dobyns, *op. cit.*, 1971, p. 30).

69. Upham (*op. cit.*, 1982, p. 168), for example, concluded that Nuvaqueotaka Pueblo was "occupied from at least A.D. 1100 to 1400, with a probable extension to the mid-fifteenth century." Redating habitation of these pueblos into historic times means that several widely traded types of native ceramic vessels that archeologists use as chronological markers must also be redated. Such types as Jeddito Black-on-yellow, Homólovi Polychrome, Fourmile Polychrome, Pinedale Polychrome, and Chavez Pass Polychrome were made, traded, and used until *at least* mid-sixteenth century. Some types survived later, until the final post-1630 Black Mesa Hopi conversion of Sikyatki into San Bernardo Polychrome.

70. Brian M. Fagan ("Epidemics, European Contact, and American Indians." *Quarterly Review of Archeology* [Summer, 1988] 4) credits Ann F. Ramenofsky (*Vectors of Death*. Albuquerque: University of New Mexico Press, 1987) with showing "that archaeology can act as an independent way of assessing catastrophic population change over the centuries of contact." Once the Tusayán sites Upham analyzed are accurately dated to the sixteenth century, his research is informative in the same manner as Ramenofsky's.

71. Upham, *op. cit.*, 1986, p. 125, "A likely date for another reocurrence of smallpox in the Southwest is in the interval following the departure of Coronado in 1541 and before the 1581 visit by the Rodriguez-Chamuscado expedition."

72. Fagan, *op cit.*, 1988, p. 4.

73. "Scale" is here used in the technical sense defined by Godfrey and Monica Wilson, *The Analysis of Social Change*. Cambridge: University Press, 1945.

74. After all ethnic Hopis amalgamated in Black Mesa edge villages, they imported raw cotton from Northern Panya merchant-growers on the lower Colorado River (Henry F. Dobyns, "Trade Centers: The Concept and a Rancherian Culture Area Example." *American Indian Culture and Research Journal* 8:1 (1984) 23-35. Eighteenth-century Black Mesa Hopi cotton imports emphasized the fact that the vicinity is actually a very marginal cotton growing environment.

"RIGHT IN THE MIDST OF MY OWN PEOPLE": NATIVE AMERICAN WOMEN AND THE FIELD MATRON PROGRAM

Lisa E. Emmerich

IN JANUARY 1892 INDIAN AGENT Major George LeR. Brown asked the Office of Indian Affairs (OIA) for assistance with the Pine Ridge reservation population. Little more than a year after Sioux attempts to reclaim a fading tribal past ended tragically at Wounded Knee, he found precious little evidence of individual or community progress toward "civilization." The agent, arguing that "the pressing need [here] is for better homes and better cooking," requested the appointment of a field matron.[1]

Implementing an innovative Indian Service program begun in 1890, field matrons promoted assimilation through intensive domestic work with Indian women. Brown believed that Julia Kocer was an ideal candidate for the post. Interested in introducing tribal women to the "ways of White Women," she appeared to personify the "certified civilizer" reformers and OIA policy makers hoped to attract to the program.

Major Brown saw Kocer as a potential catalyst for change at Pine Ridge. The OIA, however, did not share his enthusiasm.[2] Neither impeccable qualifications nor genuine interest could alter the fact that Julia Kocer differed from other prospective field matrons. They were all Anglo-Americans. Educated, competent, and respectable, she was a mixed-blood Arikara Indian.

The first Native American field matron might have been Julia Kocer. Assimilated and concerned with the welfare of her Arikara peers, she clearly represented the "new" Indian woman the OIA hoped to create.[3] Nonetheless, the field matron corps remained closed to women like her until 1895. Then, Indian women could join Anglo-American women in helping their tribal peers accept the "White Woman's [sic] road." From 1895 to 1905, they played an active and occasionally prominent role in civilization work. Neither their participation nor their visibility, though, could guarantee a permanent place in the program. While field matrons continued their work on reservations until the 1930s, Native American involvement declined rapidly after 1905.

The story of Native American field matrons is a special, albeit abbreviated, chapter in the larger history of the field matron pro-

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