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News and Views

Comments on Genetic Data Relating to Athapaskan Migrations: Implications of the Malhi et al. Study for the Southwestern Apache and Navajo

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It is rewarding when independent scientific sources support theories proposed using archaeological data and provide a basis for selecting between alternative viable hypotheses, as does Malhi et al.'s (2008) recently published article. This is therefore a welcome and valuable addition to the growing literature on Athapaskan migrations into the American Southwest. This recent genetic treatment does, however, suffer from conceptual shortcomings. Their methodology and interpretations fall short of their potential because Malhi et al. adopted the long-prevailing view of Southwestern Athapaskan prehistory. Currently, archaeologists are attempting to tackle many more precisely focused issues that take into account a series of complex historical processes that sometimes conflict with the prevailing and often-cited perspectives. Archaeologists can now offer a substantially different formulation that fits well with the genetic data, allows more in-depth interpretations, does not require that the results be stretched to make them congruent with what they think the archaeology says, and can guide future DNA sampling. When these deficiencies are addressed the study will gain even more explanatory strength.

To begin, there is potentially more than a single genetic pool, and there was not "an" Athapaskan migration, but rather potentially several. Rather than examining "the Southern Athapaskan migration hypothesis" from the 1930 and 1950s, the genetics data could dovetail with current archaeological formulations to help us choose from new alternative and equally viable hypotheses.

Given this, the definition of "population" used by the genetic study is far too inclusive. It would have been more effective to distinguish genetic data from different Southwestern Athapaskan subgroups (taking into account tribes, bands, clans, and communities; also see Brugge, 2003), rather than assuming they are a homogeneous lot. It is inappropriate to consider the Athapaskans as one people, but rather it is imperative to consider the diverse lineages of and complex historical processes relating to these modern Southwestern entities.

One level of distinction that could have been productively considered is that the Navajo and Western Apache have very different histories than the Chiricahua and Mescalero (and the eastern Apachean groups; Seymour, 2004a, 2008a). Archaeological data suggest a north-south difference in the Southwest that is somewhat at odds with the traditional and potentially outdated focus on linguistic contrasts along an east-west axis; the linguistic situation is far more complicated than Hoijer suggested. Regrettably, the geneticists only sampled Navajo and San Carlos (the latter are a subset of the Western Apache) genetic populations communities that some linguistic studies place closest among all Athapaskan speakers (Webster, 2006) along with a generic "Apache" sample group. The Navajo and San Carlos are also more Pueblocized in comparison to those in the south, who interacted with different neighbors and maintained a much more mobile existence for longer. There should be genetic differences, just as there are material culture differences, between these southern and northern Southwestern Athapaskan populations.

The geneticists concluded that small groups traveled south to intermix with local populations. Archaeologists have long suggested this polygenetic nature of Southwestern Athapaskans so it is refreshing to have genetic data that support this formulation. Given this, it is imperative to consider the differing influences on their way here and to ask if the genetic data can tell us about the groups Athapaskans came in contact with on the way south. The questions now are not if the migration occurred, but when, how quickly, how many times, by which routes, and from and to where. That these groups intermixed with surrounding Southwestern populations is a historical fact presented in documentary, ethnographic, and traditional accounts. This intermixing is likely one of the factors that accounts for why the northern Southwest Athapaskan groups are so different in lifeway and material culture from the more southerly groups (e.g., Chiricahua and Mescalero) and from those in the Subarctic.

Malhi (personal communication) perceives this mixing as a post-1680 phenomenon, consistent with the traditional view of refugees dodging Spanish domination by co-inhabiting the hinterlands. Although this process seemingly accelerated during the Pueblo Revolt, there is good documentary evidence (too lengthy to cite here) that recruitment was occurring earlier. Furthermore, archaeologists have voiced suspicions that recruitment was occurring much earlier, based upon interpretations of archaeological and documentary data. Thus, genetics might be effectively used to test if this behavior has greater time-depth.

Malhi et al. (2008, p 8) end their discussion by stating that "It is scarcely conceivable that the ... Puebloan[s] regarded the ... Apachean hunter-gatherers sufficiently superior ... to abandon their own ways of life. Nor can the capture of individuals from these well-defended centers have been a major source of Apachean recruitment." This Pueblo-centric position neglects the well-documented power of duress by Apachean raiders cum traders, who by their later numbers and free-ranging pattern would have been formidable opponents. This also ignores

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the importance of recruitment by kidnapping and intermarriage known for the Apache and which was indigenous to the southern Southwest, judging from the earliest documentary records. It also excludes consideration of movement between lifeways.

Chronometric dates from the Southwest may also have a bearing on this issue of population distinctions. Archaeological colleagues in Canada suggest the southward movement began in the A.D. 800s, coincident with the White River Ash deposition (Froese et al., 2008). This is not out of line with Malhi et al.'s (2008, p 2) linguistically based estimate of a divergence of Proto-Apachean from northern Athapaskan around 1,000–3,000 years ago. This old formulation, however, that Athapaskans were relatively late arrivals in the Southwest ("no earlier than 500 years ago"; Malhi et al., 2008, p 2), while certainly commonly cited, is no longer supported given a relative abundance of new dates. A pre-Dinétah (pre-1541) Athapaskan presence has been suggested in the San Juan area of northwestern New Mexico (e.g., Brugge, 1983; Brown and Hancock, 1992; Dykeman, 2003, p 1). My own data relating to the mountainous Southwest suggest the southernmost proto-Apache arrived in the late 1200s or 1300s (Seymour, 2002, 2003, 2004a, 2008a,b, 2009, in press).

Although many outside the Southwest still think in terms of a Plains entry and later dispersal into the mountainous Southwest, this trajectory is not necessarily supported by the existing archaeological data. At a minimum a western route has been suggested for decades and is seemingly now supported archaeologically by the early dates noted earlier in association with Athapaskan material culture in the heart of the mountainous Southwest. Traditional histories also speak of a western entry, with geoclimatic correlates that are consistent with a late 1200s arrival (e.g., Cole, 1988). I am especially curious how the genetic data can address this issue.

So, what does it mean that the earliest definitive Navajo date is 1541 and Athapaskans to the south are earlier? It is widely accepted that the emergence of Navajo identity occurs in 1541 (Brown and Hancock, 1992; Brown, 1991, 1996; Brugge, 1982, 1996; Dykeman and Roebuck, 2008; Seymour, 2003, 2008a, in press). By this time, several traits coalesced to become the Navajo lifeway that are visible archaeologically as a new material culture set, including forked-pole hogans and grayware pottery. But their ancestors were here before 1541, though they were not specifically Navajo or Dinétah, just as those to the south were not the same as their historic Apachean descendants.

In the southern Southwest where Athapaskans remained highly mobile, a constellation of traits (Cerro Rojo complex) appears in association with chronometric dates in the late 1200s or 1300s (Seymour, 2002, 2003, 2004b, 2008a,b, 2009, in press). This complex persists relatively intact until much later, and is traceable into the historic and ethnographic periods. An early Athapaskan presence also seems to be present on the southern Plains from about this time or perhaps a little later (Jelinek, 1967; Spielmann, 1982, p 286; Habicht-Mauche, 1992; Seymour, 2002, 2008b). An early pre-Dinétah complex in the Four-Corners shows similarity in the flaked-stone assemblage to the Cerro Rojo complex. Here I am specifically referring to Brown's (1998) data from the A.D. 1350s, which I have examined in depth finding similarity in the flaked-stone assemblage to the Cerro Rojo complex. Thus, there seems to be a widespread underlying material culture set in the Southwest prior to 1541 that may more closely approximate the original founder's material culture than that associated with the later Navajo (and Western Apache). The search has been hindered by looking for the "Navajo" signature—including hogans, grayware and accepting only tree-ring dates—which are not found on these earlier, unobtrusive sites. The problem is not aided by restricting genetic sampling to a limited range of these Athapaskan subgroups (Seymour, 2003, in press).

Another possibility is that the original founder—pre-Dinétah, Cerro Rojo complex—is different from the founding Navajo one. In this scenario, Athapaskans in the northern Southwest may represent a separate and later wave of migration than the southernmost ones. This would also explain why their material culture is so different from Chiricahua and Mescalero. So rather than the arrival of a homogeneous population, who later transformed into distinctive groups through local influences, the Navajo and Western Apache may have come later in time. This is where the genetic data would be useful. The small group of founding migrants detected in the genetic data could be these late-arriving Navajo or Western Apache groups, rather than being a reflection of the genetic makeup of Southwestern and Plains Athapaskans as a whole. The genetic sampling strategy could be honed by incorporating better control as to which subpopulations the genetic data represent.

The potential of the genetic data is so much greater than presented. Engagement of archaeological scholars actively seeking related answers would have resulted in ascertaining how well the archaeological, linguistic, and ethnographic data track genetic information, subject of course to the limitations of the genetic data itself. Malhi et al. have supplied data in support of many existing theories (a literature that is too extensive to cite here) and for this we are thankful. I look forward to further discourse with the geneticists.

LITERATURE CITED

Brown GM. 1991. Archaeological data recovery at San Juan Coal Company's Las Plata Mine, San Juan County, New Mexico. Technical Report No. 355. Albuquerque: Mariah Associates.

Brown GM. 1996. The protohistoric transition in the Northern San Juan region. In: Towner RH, editor. The archaeology of Navajo origins. Salt Lake City: The University of Utah Press. Chapter 3, p 47–69.

Brown GM. 1998. The transition from prehistory to history in the Mimbres region. Paper Presented at the Conference of The Transition from Prehistory to History in the Southwest, Deni Seymour, Albuquerque.

Brown GM, Hancock PM. 1992. The Dinetah Phase in the La Plata Valley. In: Reed LS, Reed PF, editors. Cultural resources series No. 9: Cultural diversity and adaptation: the Archaic, Anasazi, and Navajo occupation of the upper San Juan Basin. Santa Fe: New Mexico Bureau of Land Management. p 69–90.

Brugge DM. 1982. Apache and Navajo ceramics. In: Schroeder AH, editor. The Arizona archaeologist No. 15: Southwestern ceramics: a comparative review. Phoenix: Arizona Archaeological Society. p 279–295.

Brugge DM. 1983. Navajo prehistory and history to 1850. In: Ortiz A, editor. Handbook of North American Indians, Vol. 10. Washington DC: Smithsonian Institution. p 489–501.

Brugge DM. 1996. Navajo archaeology: a promising past. In: Towner RH, editor. The archaeology of Navajo origins. Salt Lake City, Utah: University of Utah Press. p 255–271.

Brugge DM. 2003. DNA and ancient demography. In: Wiseman RN, O'Laughlin TC, Snow CT, editors. Climbing the rocks: papers in honor of Helen and Jay Crotty. Albuquerque: The Archaeological Society of New Mexico. p 49–56.

Cole DC. 1988. The Chiricahua Apache: from war to reservation 1846–1876. Albuquerque: University of New Mexico Press.

Dykeman DC. 2003. The Morris site 1: early Navajo land use study: Gobernador Phase Community Development in northwestern New Mexico, Volume 1. NNAD Fruitland data Recovery Series No. 4. Navajo Nation Papers in Anthropology No. 39. Window Rock, Arizona: Navajo Nation Archaeology Department.

Dykeman DC, Roebuck P. 2008. Navajo emergence in Dinétah: social imaginary and archaeology. The earliest Athapaskans in southern Southwest: implications for migration. Vancouver, Canada: Society for American Archaeology.

Froese D, McColl LJ, Buck CE, Clague JJ, Hare PG. 2008.Rapid technological change following the White River eruption and the Athapaskan migration from Yukon Territory. Paper presented at the 2008 Society for American Archaeology Meetings Vancouver, Canada.

Habicht-Mauche JA. 1992. Coronado's Querechos and Teyas in the archaeological record of the Texas Panhandle. Plains Anthropol 37:247–259.

Jelinek AJ. 1967. Anthropological papers museum of anthropology, Vol. 31: A prehistoric sequence in the Middle Pecos Valley, New Mexico. Ann Arbor: University of Michigan.

Malhi RS, Gonzalez-Oliver A, Schroeder KB, Kemp BM, Greenberg JA, Dobrowski SZ, Smith DG, Resendez A, Karafet T, Hammer M, Zegura S, Brovko T. 2008. Distribution of Y chromosomes among Native North Americans: a study of Athapaskan population history. Am J Phys Anthropol 137:1–13.

Seymour DJ. 2002. Conquest and concealment: after the El Paso phase on Fort Bliss. Lone Mountain Report 525/528. Fort Bliss, El Paso: Conservation Division, Directorate of Environment.

Seymour DJ. 2003. Protohistoric and early historic temporal resolution. Lone Mountain Report 560-003. Fort Bliss, El Paso: Conservation Division, Directorate of Environment.

Seymour DJ. 2004a. Before the Spanish chronicles: early Apache in the southern Southwest. In: Brunswig RH, Butler WB, editors. Ancient and historic lifeways in North America's Rocky Mountains. Proceedings of the 2003 Rocky Mountain Anthropological Conference, Estes Park, Colorado. Greeley: Department of Anthropology, University of Northern Colorado. p 120–142.

Seymour DJ. 2004b. A Ranchería in the Gran Apachería: evidence of intercultural interaction at the Cerro Rojo Site. Plains Anthropol 49:153–192.

Seymour DJ. 2008a. The earliest Athapaskans in southern Southwest: implications for migration. Vancouver, Canada: Society for American Archaeology.

Seymour DJ. 2008b. Despoblado or Athapaskan heartland: a methodological perspective on ancestral apache landscape use in the Safford area. In: Purcell DE, editor. Crossroads of the southwest: culture, ethnicity, and migration in Arizona's Safford Basin. New York: Cambridge Scholars Press. Chapter 5, p 119–161.

Seymour DJ. 2009. Evaluating eyewitness accounts of native peoples along the Coronado trail from the International Border to Cibola. New Mexico Historical Review (Summer).

Seymour DJ. Contextual incongruities, statistical outliers, and anomalies: targeting inconspicuous occupational events. Am Antiq, in press.

Spielmann KA. 1982. Inter-societal food acquisition among Egalitarian societies: an ecological study of Plains/Pueblo interaction in the American Southwest, Vol. I. Unpublished Dissertation, University of Michigan.

Webster AK. 2006. Southern Athabaskan quotative evidentials: a discursive areal typology. Paper presented at the 2006 Mogollon Conference in a session organized by Seymour DJ, Albuquerque.