PREHISTORIC TRADE IN THE SOUTHWEST AND THE DISTRIBUTION OF PUEBLO IV HOPI JEDDITO BLACK-ON-YELLOW

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A knowledge of prehistoric pottery types, their method of manufacture, cultural affiliations, temporal and areal distributions is essential to the student of Southwestern archaeology (see Colton, 1953: 7,8 and McGregor, 1965:91-106). Of these aspects, areal distribution may perhaps prove to be the most important, providing evidence as it does for inter-cultural contact through trade or other means which may in turn lead to reassessment of cultural divisions such as Anasazi and Mogollon. It is the purpose of this paper to suggest the need for a major analysis of prehistoric trade in the Southwest and to make a contribution toward such a study by mapping the distribution of a so-called "widely-traded" Hopi pottery type, Jeddito Black-on-Yellow of Pueblo IV (1300-1625) origin. Discussion of the implications of the Jeddito distributional information is also included.

When one finds a sherd, or many sherds, of so-called "foreign manufacture" at an archaeological site, there are, of course, many possible inferences to be made. One possibility, in the case of a single or maybe even two or three sherds, is that the site has been contaminated, a process wherein a tourist, student, or even archaeologist may have brought a sherd from one site and, wittingly or unwittingly, dropped it at another site hundreds of miles away. Or perhaps the "foreign" pottery is merely of local manufacture, a copy of a style common to another region. Such was probably the case with the pottery made by the Virgin Branch Anasazi in their duplication of some of the Tsegi wares described by Colton in his ceramic series (1956). An interesting, though perhaps impossible to verify, answer to the question of why a pottery style common to one area

begins to be manufactured in another area would be the enslavement of a potter or potters by those desirous of a cheap and ready supply of their handiwork.

A more plausible reason for large amounts of an intrusive ware would be that of migration. Haury (1958), with the aid of Tsegi Orange Wares, has presented good evidence for a movement of Pueblo peoples from northern Arizona's Tsegi region into southeastern Arizona's Point of Pines area during the thirteenth century. As possibly fifty or sixty families were involved, his use of the term migration is amply justified.

Probably the most frequent conclusion to be reached upon finding either large or small amounts of pottery intrusives, however, is that of trade. People from one area sought goods from another area and therefore traded their pottery, or something contained in it. Knowing this, many archaeological inferences can follow. Material items are accompanied by culture, ideas accompany pots, and it is these ideas, or rather the possibility of them, that can lead to explanations for many prehistoric phenomena. Too often, it seems, only pragmatic solutions are offered for archaeological problems. Thus cliff-dwellings are explained as defensive structures while there is little evidence that warfare, and thereby a need for such inconvenient residences, even existed. What about the possibility that a religious idea motivated the building and occupation of such unlikely dwelling places? And what brought about the mass settlement of a Chaco Canyon? Mere happenstance, a fortunate set of physical circumstances seized upon by the pragmatic natives as a good chance to build some 800 room pueblos? Or did a group of Mexicans, whose material remains are yet but scanty, bring the ideas--religious, political and economic, necessary to unite a large group of people in a common effort? Trade evidence can provide the solid base upon which to erect a series of theoretical explanations for the behavior of prehistoric peoples, to enable one to fill in the scanty structural outlines provided by a mere recounting of the material remnants of a populace.

Trade evidence also keeps the scientist, or should keep him, aware of the fact that he cannot hope to reach meaningful conclusions about his data if he views regional complexes as if they were isolated. Ideas are not endogamous, culture is not a closed system, and yet too frequently it appears as if the archaeologist wishes to view the region with which he is concerned as being culturally isolated. Intrusive sherds in minute amounts may be seen as embarrassments and treated as hardly-worth-mentioning aberrations rather than being seized upon as an excellent means to substantiate a further fleshing out of one's theory and to postulate important connections between peoples previously viewed as culturally distinct.

But maybe there is a danger in attributing too much to one sherd. If so, perhaps the most important value of trade indications in the Southwest and surrounding areas is that stated by Heizer when he speaks of ". . . the possibility of extending the unique chronology of the Southwest into outside areas where exact dating is impossible to determine" (1941: 185). He refers of course to dates derived by dendrochronological methods, e.g., many southern Arizona Hohokam sites have been dated on the basis of pottery intrusive from tree-ring areas.

Despite the fact that trade indications, if any, are usually mentioned in individual site reports, there seems to have been little intensive research dealing with trade as a distinct and important phenomenon in the prehistoric Southwest. Some articles have been written suggesting the value of such research (see Colton, 1941; Heizer, 1941; and Malouf, 1940) but no one, to my knowledge, has attempted to do for the Southwest what J. T. Davis (1961) has done for California in his "Trade Routes and Economic Exchange Among the Indians of California." Davis's report appears to be quite a thorough coverage of not only who traded what for what to whom, but also of the routes over which these goods travelled. His work could, and should, prove to be a valuable basic reference for California archaeology and ethnohistory. A similar work would

be of equal value in the Southwest. The study that follows, it is hoped, will be a contribution to the future compilation of such a work by some ambitious soul.

Jeddito Black-on-Yellow is a Pueblo IV Hopi pottery type manufactured from approximately 1325 to 1600 A.D. According to Colton, its source can be confined to the region now represented by Arizona's Hopi Reservation but it has been found as trade ware throughout all of the Pueblo region. Listed as type 6 of ware 7B in Colton's Pottery Types of the Southwest, it is described as being notable for its bright yellow surface color and beauty of form and design (1956). Hargrave (1932: 29-30) has even suggested that Jeddito Black-on-Yellow and its sister yellow-wares may have, with their bright gold color, served as a basis for tales of rich metals which lured the Spanish into the Southwest. It is because of its reputedly limited area of manufacture and accompanying wide distribution that this type has been chosen for discussion.

The most significant aspect of the Hopi yellowware is its beauty. Its color, shape, and painted designs are all outstanding in comparison with the majority of prehistoric Southwestern pottery types. Thus, we can suggest esthetics as perhaps the primary reason for Jeddito's wide distribution. Groups in contact with the Hopi saw the pottery, recognized a superior product, and began to trade for it. Perhaps the ware soon took on a status significance, being owned only by those with power or wealth, as was the case with the Greek and Etruscan bronzes which are found buried with the barbarian chieftains of 5th and 6th century Europe. Or maybe this pottery came to achieve a religious significance, either through its own qualities or because of its Hopi derivation, or both. Could the Hopi area, its people and products, have had some religious significance for the entire Southwest? Another possibility is that Hopi ware began to be used somewhat similarly to Kula valuables among Malinowski's Trobrianders, as ceremonial exchange items used to maintain

intergroup relationships and as a means to allow trade exchange of more mundane items. And, of course, the ware may have served as a sort of Southwestern currency or "most-valued" trade item, setting a standard by which many exchanges could be measured. These possibilities, naturally, assume that the aboriginal judged his pottery and arrived at conclusions similar to those expressed by archaeologists. If not, Jeddito Black-on-Yellow may have been merely another bowl or pot, of no more importance to him than are all our wonderfully colored and designed cans and bottles, bags and boxes to us. In such a case, the contents of the pottery vessels would be of primary trading importance. Let us assume, however, that Jeddito Black-on-Yellow, if only for its excellent construction, was a significant trade item in itself, used by the Hopi as a means to obtain goods native to other regions.

While the research involved in tracing this distribution of Jeddito Black-on-Yellow cannot be claimed as exhaustive, a rather thorough inspection of the literature and correspondence with many museums throughout the area has yielded what is hoped is an accurate portrayal of the distributive picture. The distribution has been plotted according to the ratio of the number of Jeddito-bearing sites to the approximate number of square miles within a quad, a unit determined by one degree movements of latitude and longitude. The quad system is in use by archaeologists at Arizona State University and elsewhere as a means to overcome the arbitrariness of national, state, and local boundaries. Ideally, the system should be applicable on a world-wide basis, thus eliminating the state-bounded A, B, C designations used herein. Table I provides an inventory of Jeddito sites in the Southwest, Figure I shows the quad system as it is currently in use in Arizona with an extension of the same system into neighboring states and Figure II shows the location and intensity of occurrence (reflected in the sites-to-square mile ratio) of Jeddito sites throughout the area.

Let us turn to Figure II in order to note the geographical range

of the pottery type. As we examine the regions on the map and their pattern in order of the occurrence frequency of Jeddito sites, a word of caution is perhaps in order. What is seen on the map may be only a reflection of archaeological bias, the result of a great deal of work being done in one area while other regions have been relatively neglected. A study indicating the approximate number of sites per quad in Arizona and the rest of the Southwest would be of great value in this respect. To interpret the present data, however, we must assume that Figure II is truly representative of Jeddito distribution.

The map shows the highest occurrence ratio to be in Arizona quads D and J. It is believed, on the basis of Colton's information (1956), that these two quads encompass the area of origin of Jeddito Black-on-Yellow. Sites containing the pottery within that area are therefore not listed or discussed herein. Arizona quad C and the eastern edge of quad N are the only areas outside of Hopiland where Jeddito occurs in relatively large amounts. Tuzigoot Pueblo (quad N), for instance, had a total of approximately 734 sherds of Jeddito Black-on-Yellow listed in its final sherd tabulation (Caywood and Spicer 1935). Colton (1960:88) has suggested that the Verde Valley inhabitants had traditionally relied on more northern peoples for their "tableware" pottery. He cites as evidence the high incidence of Kayenta pottery types and then the later Hopi ware found in Verde Valley sites. In return for their pottery, Colton states, the Hopi received salt, malachite, and cotton. The trail used was one extending east from the Verde up Dry Beaver Creek, past Pine Springs and Chavez Pass through the area of present-day Winslow on the Hopi mesas. Our explanation for the high frequency of Jeddito occurrence in this region, then, would simply have to state that the Hopi had a great desire for salt, malachite and cotton and found the best source for these goods to be in the Verde Valley. There is also the consideration that the Valley housed the only sizeable sedentary population close to the Hopi during the fourteenth and fifteenth centuries, thus forcing them to carry on most of their trade in that region.

The next highest occurrences of Jeddito, indicated by the .002 ratio on the map, are seen in the Flagstaff area and in southern Utah along the San Juan River (Arizona I and Utah V). The Flagstaff region was inhabited by the last remains of the so-called Sinagua culture during the fourteenth and first half of the fifteenth centuries. These people, according to McGregor (1965:419) were abandoning the region in favor of moving up to join the Hopi. One can only speculate as to what they exchanged with the Hopi, but perhaps it may have been animal products such as hides. Or, they may have stood in a poor cousin relationship to the Hopi and thus have been the recipients of charitable gifts.

The Utah V area, as well as adjacent quads U and W and nearby Arizona C, are all probably instances of late Hopi attempts at isolated farming communities in the Glen Canyon and San Juan region. These are all small sites with low Jeddito occurrences, some being due, possibly, to purely seasonal and temporary migrations into that area.

Category .001 occurs in Arizona P and Q and New Mexico B and I as well as previously mentioned Utah U. Arizona P and Q include the extreme headwaters of the Little Colorado River and the Showlow-Springerville area. Here we get what is probably an extension of Hopi culture and what may be a westward arm of Zuni settlement. What this area traded with the Hopi mesas is in doubt but they are very much in line with an ancient route going towards the Rio Grande pueblos which exists today in the form of Route 66. Thus, traders whose main objective was the Eastern Pueblo area might have sidetrackes briefly into the Showlow area as a matter of form, visiting as much as trading. New Mexico I, the Rio Grande region, would have been one of the major destinations of Hopi traders. Here is where, Colton tells us (1960), the Hopi traded moccasins of white deer hide (originally obtained from Havasupai) for indigo, turquoise and jewelry. Hopi pottery, perhaps, may only have served as containers for the traders or as "conversation pieces" for the easterners, their need for tableware obviously being well-supplied locally. New Mexico quad B,

on the other hand, may represent trade with a group who needed the pottery as tableware, the Navajo. Beaglehole (1937) tells us that the Navajo exchanged wood, water and girls for Hopi products, or perhaps the ware was merely stolen by the Athabascans from traders plying the west-east route.

Two quads with the .005 ratio have been discussed, Utah W and Arizona C; the others are Arizona K, U, and V and New Mexico J, N, and O. Arizona K's two occurrences are probably due to Navajos, or to small groups of Pueblos who had fled the Spanish reconquest of New Mexico. The New Mexico sites are all fairly large pueblos, e.g. Pecos, which could hardly have escaped being visited by trading Hopis seeking the same goods obtained from the pueblos in New Mexico I. Arizona U and V, of course, represent Hopi contact with the so-called Salado or Southern Pueblo peoples in the Roosevelt area and further south.

The last and largest category consists of the quads with the .0002 ratio. As might be expected, most of these fall on the edges of the pattern in Figure II. Each of these quads contains one site only. Arizona E, New Mexico A and Colorado W are probably all instances of Navajo trade, although the area was also occupied by the aforementioned pueblo dwellers in flight from the Spanish (Dittert 1968). New Mexico D contains Picuris Pueblo, large enough to have warranted trade visits by the Hopi. New Mexico G with Hawikuh shows that the Hopi included the Zuni among their eastern trading partners and Laguna Pueblo, in New Mexico H, is merely a stop on the way to the Rio Grande area. New Mexico M and New Mexico Y may represent trading ventures launched from the so-called Southern Pueblos such as existed at Point of Pines in Arizona W. Pueblo Grande (Arizona T) in Phoenix and Casa Grande (Arizona AA) near Coolidge, provide further evidence of Hopi contact with the Salado, or Hohokam-Salado, as the builders of these two desert pueblos are sometimes called. Shell, obtained by the Salado from California, was perhaps the chief item exchanged for the yellowware. The three sherds of Jeddito found at Mount Trumbull

in Arizona A are associated with Paiutes who camped in the area. The Paiutes, it is said (Beaglehole 1937), traded wood, piñon gum, meat and children to the Hopi.

The three sites in California, KK, OO and PP, two with a site apiece and one with an unknown number of sites, almost undoubtedly represent trade with the Mohave. Who visited whom? Francisco Garces, Spanish priest and explorer, noted a Hopi and his wife trading amongst the Mohave in 1776 (Colton 1960). But perhaps the Mohave, great travelers themselves, repaid such visits, their primary purpose being the pursuit of their "name-travelling" pastime (Stewart 1968), Jeddito bowls being brought back only as proof of their exploits. Our northernmost instance of Jeddito is found in Utah R, in the Moab region. Here again we have an unspecified number of sites where Jeddito Black-on-Yellow was found with remnants of the Fremont culture. What the Hopi sought in this area is questionable, but then perhaps it was its native residents who visited the small pueblos along the San Juan or even travelled as far as the Hopi mesas seeking the attractive golden pottery. Once their ware became known throughout the Southwest, the Hopi may have had only to sit at home and wait for annual or even more frequent visits from most of the major groups in the region. It is Beaglehole's contention that the "Hopi were sedentary middlemen traders, rather than adventurers to distant lands" (1937: 85) and that they held a "key position" in an inter-tribal trading chain.

Whether the Hopi stayed mainly on the Mesas and waited for trade or actively pursued an exchange of goods by traveling throughout the Southwest, it seems we can draw the conclusion that they were, however, traders, a people who desired, or needed, things not available among their immediate resources. They therefore set production goals for pottery and other items in excess of their own needs, producing a "surplus" with an eye to foreign markets. Beaglehole states that pottery, basketry and other goods were specialized according to the various Hopi Mesas (1937:80-85). Presumably then, had the area remained free from European contact, trade in the Southwest might have reached a stage wherein various regional groups

would have existed in symbiotic relationships with each other as Sanders (1956) has suggested was the case in Mesoamerica; some producing food to be exchanged for the clothing, weapons and tools made by others. One problem with such a conclusion and prediction, however, is that the wide distribution of Jeddito and other items may not reflect trade at all. Let us therefore briefly consider some other explanations for our data.

Colton (1960:88) states that "the amount of foreign pottery in any region at a given time is a measure of business relations." Spier (1928) suggests that such may not be the case. According to him, aboriginal trade, in terms of volume of material goods, was small and merely incidental to the real reasons the Hopi and others travelled throughout the Southwest. One such reason was the need to maintain inter-tribal relations. Thus Jeddito bowls may have served as gifts, a means whereby a Hopi visitor was immediately able to express his friendly and peaceful intentions. Stephen's Hopi Journal mentions parties of young Hopi visiting Zuni to observe the Shalako ceremony and Zuni staying at Walpi in order to court Hopi women (1936:1001-20). Beaglehole states that gift exchange normally accompanied visiting and that small gifts were given to "trading friends" at Zuni as a necessary preliminary to exchanging goods with the village at large (1937:80-85). Perhaps the Hopi were beginning to feel pressure from the Athabascans during Pueblo IV times and sought to make alliances either for defensive aid or to insure themselves a place of retreat in case of rout by the nomads. Or good relations with their neighbors may have enabled the Hopi to weather periods of drought and famine on the mesas. John Martin, who has studied the Havasupai, states that the canyon-dwellers tell of a time when the Hopi were starving and had to rely on the Havasupai for food (1968). Any number of reasons, of course, can be suggested for the maintenance of peace with one's neighbors; the point is raised merely to suggest that Jeddito may have been distributed in exchange for social insurance rather than material goods. No doubt the Hopi gift-giver would have received a token gift in return if his

visit proved acceptable, and thus one could say material exchange, i.e. trade, occurred. It is the motivation behind the exchange, however, which should interest us and lead us to the appropriate label for the behavior.

Even less subject to the label "business relations" is another of Spier's suggestions for inter-group contact among Southwestern peoples. Travel, says Spier, brought knowledge of other peoples' life-ways, a form of wisdom which brought prestige to the traveler once he had returned home. Such aboriginal ethnographers, it is said, were often chosen as leaders because of the wisdom they had gained through travel. Thus we can picture a Hopi (contrary to Beaglehole's description of him as a "sedentary middleman") setting out to make his fortune not by trading the small yellow bowls in his bundle but through giving them as gifts in order to ensure his welcome among various aliens. With a number of such trips, a man's prestige might entitle him to a council seat, or gain him admittance to a secret society, or merely make him an esteemed and valuable member of the community.

One other very likely explanation for our distribution data is that of migration, both permanent and temporary. Haury has suggested a Pueblo migration to Point of Pines from the Tsegi area. We know that the Tewa, with a different language and somewhat different culture, moved in with the Hopi and that the Maricopa settled near the Pima. Thus it seems quite possible that the Hopi, or rather groups of them, chose to live with other linguistically and culturally different peoples. The move may only have been temporary. One of Spier's Havasupai informants tells of the tribe's spending a harvest season at Oraibi with the Hopi (1928). The possible reasons for such moves are myriad. No doubt throughout the 300-year period of Jeddito's manufacture there were a number of economic crises or social upsets for the Hopi, any one of which could have caused part of the tribe, maybe only a lineage or even a nuclear family, to move away and live elsewhere. Stephen mentions the Hopi's leaving their villages in great numbers during the 1862 famine in order to settle in the

Rio Grande area and also notes Hopi clans with origins in Acoma and Laguna (1956:1020-22). Parsons (1956:xxx), in her introduction to Stephen's journal, states that the Hopi call Acoma a colony of theirs and that Isleta has a suburb called Oraibi. She also mentions (1923) that descendants of the Hopi Bear Clan lived at Laguna. And the Beagleholes (1935: 10) tell of a famine during which many Hopi migrated to Zuni. Perhaps the great number of Jeddito sherds in Arizona's Verde Valley represents a large movement away from Hopiland. Hibben, in discussing the discovery of much Jeddito Black-on-Yellow at Pottery Mound, New Mexico, suggests a possible intrusion of Hopi peoples into the pueblo (55:180). A great number (795) of Jeddito sherds were found at Table Rock pueblo in Arizona Q on the map. While Martin and Rinaldo (1960) feel the sherds represent Hopi trade with the Zuni, one wonders whether the Zuni might instead have played host to a group of Hopi migrants. Ellis (1959), in mentioning the Jeddito found at Laguna Pueblo in New Mexico, suggests that the sherds might represent either trade or migration. Thus, intrusive pottery by no means is a necessary indication of trade. It is quite conceivable that one sherd could be evidence for any number of forms of contact between two peoples. Or it may represent no connection whatsoever, or an indirect one at best.

Actually, however, the answer to Jeddito's distribution is probably a composite of the above. No doubt the Hopi were traders who also sought ties with other tribes and accorded prestige to those who maintained and broadened such ties. No doubt also that there were at least scattered instances of Hopi migration through Pueblo IV times. No one explanation will, or should be, allowed to suffice, at least not until a far more extensive analysis of inter-cultural contacts in the prehistoric Southwest has been accomplished.

INVENTORY OF JEDDITO-BEARING SITES IN THE SOUTHWEST

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
Calif KK	1	3920	.000255	E. Cronise Lake	Rogers 1929 Ruby 1967
Calif OO	1	3990	.000250	Tujunga	Forbes 1961
Calif PP	?	3990		Mojave R. to San Bernardino Mts.	Smith 1968
Utah R	?	3710		Moab area	Provensha 1968
Utah U	4	3780	.00105	Kaiparowits Plateau	Fowler et al.
				+N.A. 7140	Adams et al.1961
				N.A. 7233	" "
				N.A. 6426	Long
Utah V	8	3780	.00211	Mystery Canyon	Turner 1960
				N.A. 7167	++M.N.A. notes
				N.A. 7150	" "
				N.A. 7713	" "
				N.A. 6800	" "
				Copper Canyon	Adams 1959
				Piute Canyon	" "
				Undesignated	Turner and Miller 1961

+ N.A. refers to Museum of Northern Arizona site designations

++ M.N.A. notes--Anonymous, Research Collection Files. Museum of Northern Arizona.

INVENTORY OF JEDDITO-BEARING SITES IN THE SOUTHWEST (cont.)

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
Utah W	2	3780	.000529	Undesignated	Turner and Miller 1961
				Montezuma Canyon	Matheny 1962
Ariz A	1	3850	.000259	Mt. Trumbull	Baldwin 1944
Ariz C	2	3850	.000519	N.A. 6484	Adams et al. 1961
				N.A. 7961	Ambler et al. 1964
Ariz E	1	3850	.000259	Curtain Cliff	Long 1960
Ariz I	9	3920	.002295	Wupatki	Colton 1946
				Medicine Cave	" "
				Old Caves Pueblo	" "
				Grape Vine Pueblo	" "
				N.A. 1815	M.N.A. Notes
				N.A. 1500	" "
				N.A. 1866	" "
				N.A. 1991	" "
				N.A. 3501	" "
Ariz K	2	3920	.000519	N.A. 3331	M.N.A. Notes
				Fort Defiance 15:5	Kaemlein 1967

INVENTORY OF JEDDITO-BEARING SITES IN THE SOUTHWEST (cont.)

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
Ariz N	11	3990	.00275	Tuzigoot	Caywood and Spicer 1935
				Clarkdale	Kaemlein 1967
				N.A. 9469	M.N.A. notes
				N.A. 1722	" "
				N.A. 7303	" "
				N.A. 5422-23	" "
				N.A. 9869	" "
				N.A. 3940	" "
				AZN:16:6	Kaemlein 1967
				Tank Canyon	Pilles 1968
				Bishop Canyon	" "
Ariz O	44	3990	.0110	Kinnikinnick	Wilson et al. 1961
				N.A. 9854	M.N.A. notes
				N.A. 1259	" "
				N.A. 1268	" "
				N.A. 1269	" "
				N.A. 4395	" "
				N.A. 4160	" "
				N.A. 9467	" "
				N.A. 979	" "
				N.A. 1265	" "
				N.A. 1266	" "
				N.A. 1267	" "
				N.A. 1270	" "
				N.A. 5550	" "
				Cornville	Kaemlein 1967
				Oak Creek Junction	" "
				Bridgeport	" "

INVENTORY OF JEDDITO-BEARING SITES IN THE SOUTHWEST (cont.)

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
Ariz O cont.				Beaver Creek	Heep 1967
				N.A. 4613	M.N.A. notes
				Verde:4:1	Kaemlein 1967
					Beal 1967
				Chavez Pass	Colton 1946
				N.A. 1273	M.N.A. notes
				N.A. 4620	" "
				Jackson Ranch	" "
				Iron Rock Ruin	Kaemlein 1967
				Limestone Ruin	" "
				Indian Dome Ruin	" "
				Montezuma's Castle	M.N.A. notes
				Verde Valley area	Gladwin 1930
				N.A. 4605	M.N.A. notes
				N.A. 8959	" "
				Cavate	" "
				N.A. 4389	" "
				N.A. 9876	" "
				N.A. 9870	" "
				N.A. 9873	" "
				N.A. 9875	" "
				Hutch Mesa Area	Pilles 1968
				N.A. 1720	M.N.A. notes
				N.A. 1749	" "
				N.A. 2806	" "
				N.A. 4328	" "
				Rye Creek Ruin	Kaemlein 1967
				Spring Creek	" "

INVENTORY OF JEDDITO-BEARING SITES IN THE SOUTHWEST (cont.)

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
Ariz P	6	3990	.0015	Holbrook 12:2	Kaemlein 1967
				Showlow	Haury and Hargrave 1931
				Pinedale	" "
				Chevellon	Martin and Willis 1940
				Whipple Ruin	M.N.A. notes
				Shumway	" "
Ariz Q	4	3990	.0010	Puerco Ruin	Schroeder 1961
				Stone-ax Pueblo	M.N.A. notes
				Table Rock Pueblo	Martin and Rinaldo 1960
				Hooper Ranch	Martin et al. 1961
Ariz T	1	4060	.000246	Pueblo Grande	Heizer 1967
Ariz U	2	4060	.000492	Roosevelt	Kaemlein 1967
				Los Muertos	Haury 1945
Ariz V	2	4060	.000492	Kinishba	Baldwin 1937
				Bylas	Johnson and Wasley 1966
Ariz W	1	4060	.000246	Point of Pines	Wendorf 1950
Ariz AA	1	4130	.000242	Casa Grande	Ambler N.D. Gladwin 1928 Hargrave 1932
N. Mex. A	1	3920	.000255	L.A. 681 (Sanostee)	Peckham 1968

INVENTORY OF JEDDITO BEARING SITES IN THE SOUTHWEST (cont.)

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
N. Mex. B	4	3920	.00102	L.A. 4361 (Bancos Canyon)	Dittert et al. 1961
				L.A. 4404 (La Jara Creek)	" "
				L.A. 4195 (Navajo Reservoir)	" "
				Gallegos Mesa	Dittert 1968
N. Mex. D	1	3850	.000259	Picuris Pueblo	Dick 1965
N. Mex. G	1	3990	.00025	Hawikuh	Peckham 1968
N. Mex. H	1	3990	.00025	Laguna Pueblo	Dittert 1968
N. Mex. I	6	3990	.0015	Hummingbird	Ellis 1959 Brody 1967 Peckham 1968
				4 mi. south of Hummingbird	Brody 1967
				Unshagi Pueblo	Smiley et al. 1953
				L.A. 922 (Santo Domingo)	Peckham 1968
				Alameda	" "
				Arenal	" "
N. Mex. J	2	3990	.0005	Pecos	Kidder 1936
				Galisteo Pueblo	Peckham 1968
N. Mex. M	1	4060	.000246	Quemado	Denson 1957

INVENTORY OF JEDDITO-BEARING SITES IN THE SOUTHWEST (cont.)

QUAD	NO. OF KNOWN JEDDITO SITES	SQ. MILES IN QUAD	RATIO OF SITES TO SQ. MILES	SITES	REFERENCES
N. Mex. N	3	4060	.000738	Acoma	Ruppé and Dittert 1952
				L.A. 415 (S.Garcia)	Peckham 1968
				L.A. 2572 (S. Garcia)	" "
N. Mex. O	3	4060	.000738	Pottery Mound	Hibben 1955 Brody 1967 Peckham 1968
				Mountainair	Toulouse 1949
				Gran Quivira	Peckham 1968
N. Mex. Y	1	4130	.000242	Pottsville	Peckham 1968
Colo W	1	3850	.00026	Railroad Site	Dittert and Eddy 1963

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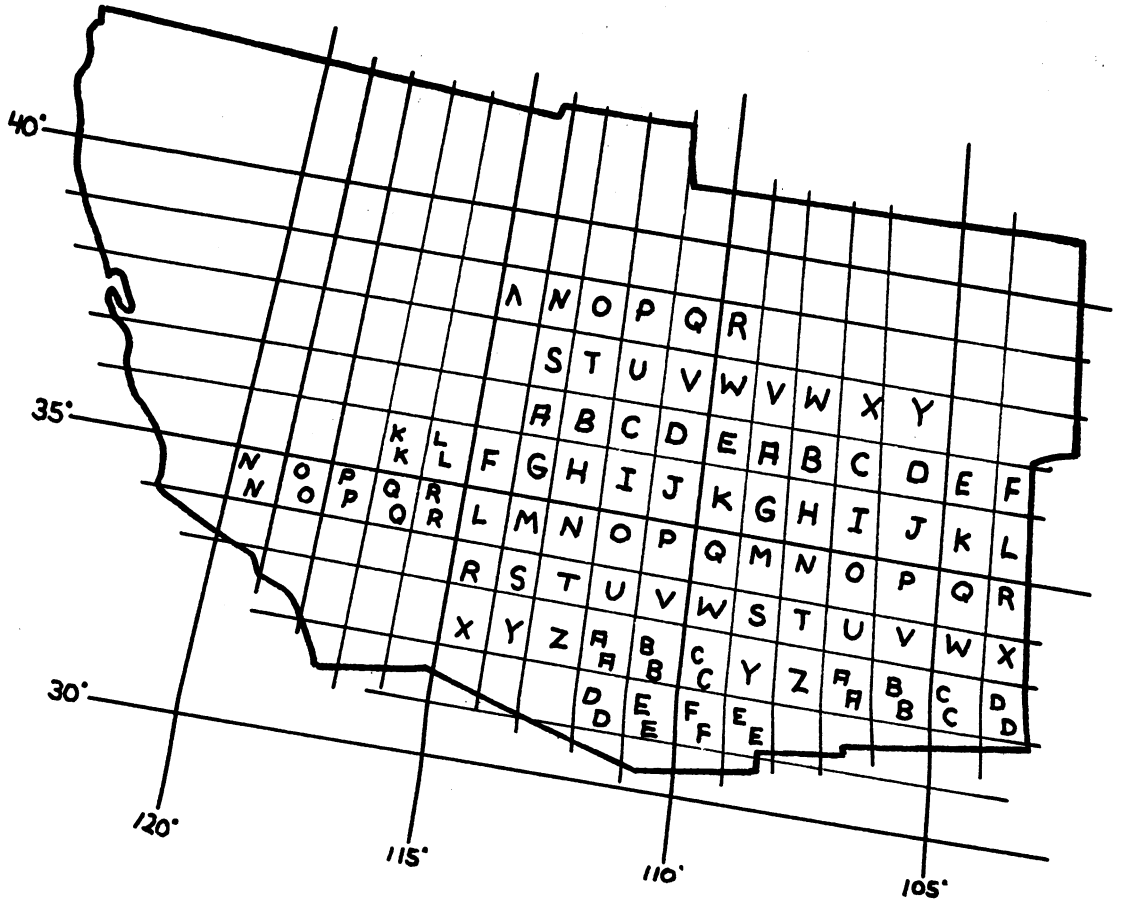
EDITOR'S NOTE: Further acknowledgements and a bibliography for the inventory are available from the author on request.

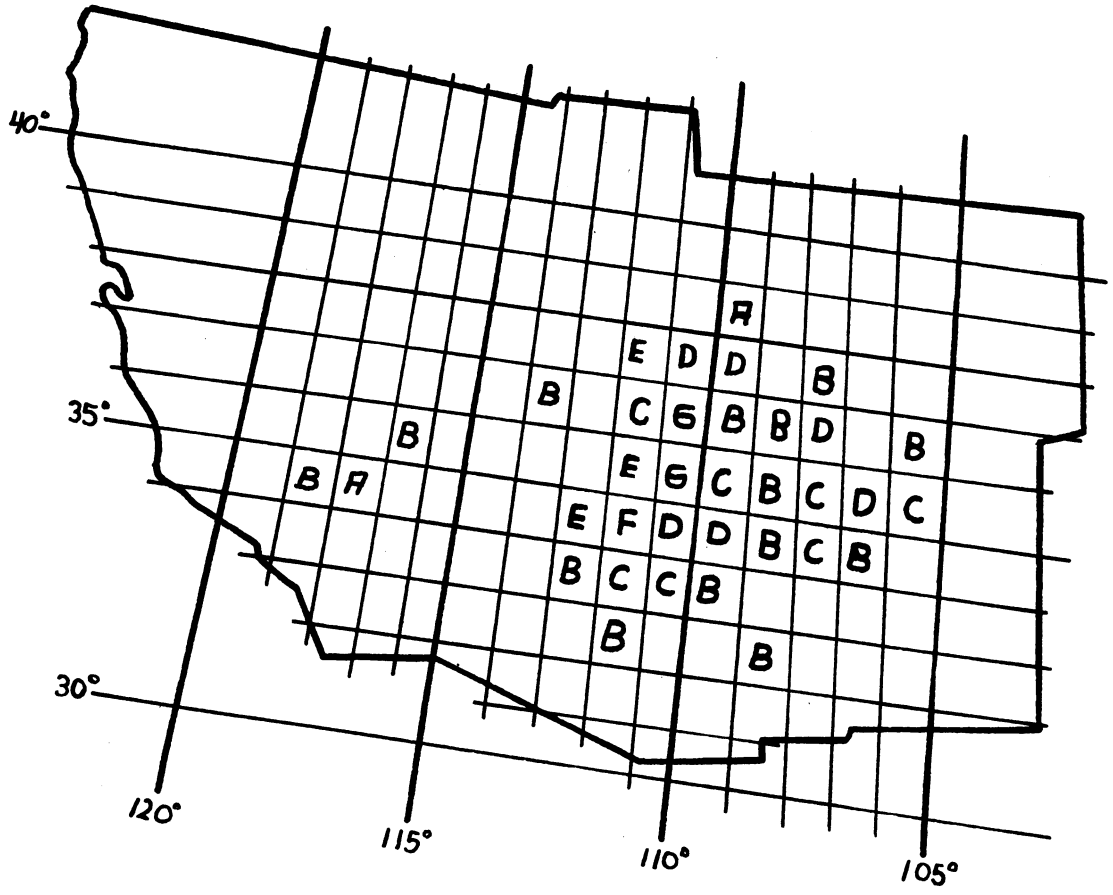
QUAD SYSTEM

FIG. #1



RATIO OF JEDDITO-BEARING SITES TO SQUARE MILES

FIG. #2



LEGEND:

A	B	C	D	E	F	G
unknown	.0002	.0005	.001	.002	.01	1.0