

Introduction

We have become accustomed to imagining archaeological descriptions of Chaco and its ruined settlements, its pots, its walls, even its astronomical alignments, as corresponding to actual historical social forms. Yet the people and their social arrangements seem largely absent, off-stage producers of the material record, as it were. We know there was extensive exchange among settlements and sites—great houses, small houses, center and periphery. But how were exchange processes articulated? What were the social relationships within and among particular settlements? And how were fieldwork, housework, and ritual events socially configured? In short, what was the structure of Chacoan social life? Answering these questions is no easy task, but the effort, I believe, is important if we are to reconnect the people to the place. My aim in this chapter is to provide a framework to consider Chaco's system of social organization.

The core target of social-structural analysis for more than a century has been kinship. Kinship systems provide a code for understanding social structures, particularly in societies of lesser complexity than the state. My main concern here is how kinship might shed new light on these Chacoan settlement sites, their internal components, and their interconnections. In brief, my thesis is that two major kinship systems—"Crow" and "Iroquois"—are suggested by certain architectural features, notably at two exemplar cases: Pueblo Bonito and Wiji. My approach is two-pronged, addressing: 1) kinship theory itself, and 2) Pueblo, especially Hopi, social organization—a comparison, I argue, that is not so much ethnographic analogy but ethnological homology. And in this regard, I think the conventional distinction between Eastern and Western Pueblos (both per se, and as model for Chaco) is overdrawn.

Puebloan kinship systems are the subject of debate, but the "Crow" type plays a major role. Fred Eggan's landmark study (1950) inferred Crow-matrilineal kinship at the heart of all Pueblo social organization. Recent studies of Crow-Omaha systems contain significant implications for the emergence of sociopolitical complexity in the Southwest.

Houses, kivas, plazas (i): Pluralism

Chaco's settlement architecture is various (e.g., Lekson et al 2006), but two prominent great-house forms feature D and E-shapes (figure 1). Pueblo

Bonito (D) and Wijiji (E) are especially noticeable in this contrast. Pueblo Bonito is marked by a plurality of round kivas distributed throughout the central part of the structure. At Wijiji, two kivas are arranged as mirror images on opposite sides of a strikingly binary architectural pattern. Two points may be taken as given. First, much Chaco architecture is deliberate and reflects particular alignments, astronomical and otherwise (e.g., Van Dyke 2008). Second, as a general matter, American Indian architecture—archaeologically, historically, and ethnographically—typically incorporates conscious symbolic projections of social structural forms (e.g., Morgan 1881, Nabokov and Easton 1989). On these grounds alone, a hypothesis that Chacoan architecture contains correspondences with social structural features seems worth investigating.

The extent to which Pueblo Bonito (figure 2) was a residential site remains in dispute, as well as its population size (e.g., Windes 1984, Bernardini 1999, Mills 2002). Even if Pueblo Bonito were not primarily residential, but received regular (annual, seasonal, etc.) population influxes attached to differentiable architectural units within the pueblo, the arrangement of spaces should reflect social structural principles. This is certainly the case, for example, with the present situation at the Hopi village of Wàlpi on First Mesa: there are very few year-round residents, but many families return to their houses during ceremonial periods. This partly results from modern conditions: people prefer to live at Polacca below First Mesa, where they have running water and electricity. But the pattern of residing away from the main pueblos in field-houses at varying distances during the agricultural season, only returning to the main centers for ceremonies, is an old-established one among the Pueblos.

In its overall plan and distribution of kivas, Pueblo Bonito expresses a combination of two obvious social patterns: pluralism and dualism (east-west). The same set of contrastive architectural components is evident here as at the historic Pueblos: 1) between rectangular and circular rooms, fairly interpreted as an opposition between "houses" and "kivas" - whether or not all rectangular structures were domestic or all round structures were ritual centers; and 2) between built structures and open spaces, the latter of which, as "plazas," probably served as both quotidian and ritual spaces. At Hopi, the same patterns (sans circular buildings) appear in every settlement, each associated with a contrastive term whose stem, ki-, refers to built spaces: kiihu (house), kiva, and kiisonvi (plaza)—are all arranged to comprise a kitsoki (pueblo or town). All have multiple uses, both everyday

and special-purpose; none is intrinsically more or less sacred or profane, but their use-functions reflect a series of binary oppositions. The kiihu is private, domestic, familial, and female-centered. The kiva is private, semi-collective, often ritual, and male-centered. The kiisonvi is public, collective, both female and male, and alternately secular and ritual. The kiihu is the space of the domestic economy. The kiva is the men's workshop, and a space of clan, ritual-sodality and political action. And the kiisonvi is the space of society—where it imagines, and in ritual contexts, performs itself, as a whole entity uniting the various differentiated components. We might summarize this as three intersecting axes of oppositions: 1) kiihu : kiva :: female : male; 2) kiihu : kiisonvi :: familial : collective; 3) kiva : kiisonvi :: private : public. Within this paradigm, great kivas—not a recent Hopi architectural form, but present in Hopi history, notably on the Mogollon Rim (Herr 2001)—correspond most closely to plazas.

At a Hopi village like Orayvi in 1900 (figure 3), there were approximately 200 kiikihu (houses, pl.), comprising single-rooms and room-suites on linked stories in clustered room-blocks (Whiteley 2008: 195-240). Some houses were more important than others: as named clanhouses, they were often the repositories of sacred paraphernalia that indexed the ritual knowledge controlled by the leading segment of the clan associated with the house. Other houses were less important, though all buildings were marked by sacred features, and all houses were associated with people belonging to totemically named social groups (Bear, Sun, Badger, etc.). In a sense, the houses were related to each other as the people who dwelt in and owned them: one house was "in-law" to another, or its "niece," or "sibling" (given Hopi matriliney and female house-ownership, the house-relationships are most easily thought of as female kin and affines [in-laws]).

Set off from the houses and exterior to the room-blocks stood fourteen below-ground kivas, not necessarily associated with the individual house-blocks and their familial occupants to which they stood adjacent. Ritual specialization and specific matrilineal associations differentiated the kivas from each other, and some were more important than others, especially the mong.kiva (chief kiva), Sakwalenvi (Blue Flute place). Like persons, all kivas were individually named, after totemic imagery of their clan owners. As male clanhouses and/or ritual-sodality chambers, kivas relate to each other in similar fashion as houses, but not so exclusively, since ordinary sodality members include many clans, although each sodality is owned by the leading clan of the same or related name as the clan and kiva (as, for example, with

Orayvi's Snake clan, Snake sodality, and Snake kiva). Kivas are the nexus of multiple intersecting kinship relations. However, alliance in ritual is often predicated on marriage alliance (Whiteley in press). Katsin kiva (Katsina kiva) and Hotstitsivi (Zigzag place), for example, were "in-laws," as owned respectively by the Parrot-Katsina and Badger clans, who are joint leaders of the Powamuy ceremony (performed by the Katsina and Powamuy sodalities). More than this, though, these two clans also exhibit a pattern of intermarriages.

The principal kiisonvi lay at the heart of the village, surrounded by the most important clanhouses on three enclosed sides. Another kiisonvi stood adjacent to a set of kivas away from the "downtown" room-blocks, and was used for special purposes (notably, the Snake/Antelope and Flute ceremonies). Like other parts of a Hopi village, built structures and spaces are in a sense animate: kiihu as a symbolic concept (referring not only to physical form) appears in many ritual contexts.

Orayvi was far less architecturally regular than Pueblo Bonito, and a clear dual opposition between settlement segments—like Bonito's center-line bifurcation between east and west sides—is less apparent from its built spaces per se, although elements of dual organization are definitely present in several ritual patterns (Whiteley 2008: 826-829). Overall, however, discernible similarities are suggested between the organization of space at Bonito and at Orayvi.

Houses, kivas, plazas (ii): Dualism

Contrasting with Pueblo Bonito, Wijiji (figure 4) is one of the most obviously dualist Pueblo ruins in the Southwest. In its two-kiva pattern built on opposing wings of the E-form, it most suggests the two-kiva system of the Rio Grande Keresan Pueblos, associated with a division into named ritual moieties (Turquoise and Squash). Social dualism has generally been easier to imagine in archaeological reconstructions of the Puebloan past, since it tends to be readily noticeable in the form exhibited at Wijiji (cf. Fowles 2005).

Other Chacoan sites comprising single, dual, triple or even multiple kivas which are arranged in apparently paired oppositions across a central architectural axis may also indicate dualist social forms (figure 5). Let us note in passing Lévi-Strauss's (1963) emphasis that moiety organization is often asymmetrical, occurring "concentrically" (in the social imagination and/or in the symbolic organization of social space) or involving a third element. Lévi-Strauss ascribes "concentric dualism" and triadic structures to

emergent "asymmetric" forms of marriage exchange (see below). Kin Ya'a, an outlier great house on Dutton Plateau, expresses an evident dualist or linked triadic pattern: its two circular structures standing on opposite sides of the ordered rectangular room block seem to mirror each other, with a third in the center, perhaps serving to unite the other two (the fourth round structure, a "tower kiva" [surely an oxymoron], should not be confused with actual kivas). In the E-shaped great house Kin Bineola, twelve miles south of downtown Chaco, the multiple kivas within the room-blocks also suggest an arrangement into two opposing sets, and with one great kiva on the exterior. Hungo Pavi's evident original E-shape and apparently two-kiva system—one interior to the main room-block, the other exterior but within the walled plaza—also strongly suggests a dual pattern. Chetro Ketl, somewhat like Bonito in this regard, suggests both dualism and pluralism in its architectural structure.

Efforts to infer dualism in archaeological sites like Wiji, on the model of Keresan and Tewa moieties and dual (or single) kiva systems, have been direct (e.g., Lowell 1996, Ware 2001, Fowles 2005). But like earlier archaeological attempts to identify matrilineal lineages (e.g., Vivian 1970, 1990), or more recently matrilocality (Peregrine 2001), the interest has typically been framed in terms of groups (moieties or lineages) rather than processes of social reproduction through time. Various forms of dualism (kinship-based and otherwise) for organizing social life, are globally pervasive (e.g., Maybury-Lewis and Almagor 1989). And as a principle in Native American world-views, symbolic arrangements of space, ritual practices, and social forms, dualism is thoroughly pervasive (e.g., Lévi-Strauss 1963, 1995). Social-structural pluralism, however, seems harder to grasp archaeologically. Does each Pueblo Bonito kiva and adjacent rectangular room-set represent a Prudden-unit component, all of which were somehow inexplicably welded together into a complex? This seems doubtful: the aggregation is too cohesive, the architectural arrangement too regular. Did Pueblo Bonito have named clans, clan-sets, ritual sodalities, or moieties, which are reflected in its architecture? It seems very likely they did.

Pueblo Bonito and Wiji thus bookend my primary question, which concerns underlying social structural dualism and pluralism at Chaco Canyon specifically, and in the Puebloan Southwest more generally. Obviously, there are implications beyond the San Juan Basin, and imagining these two as a contrastive pair does not exhaust the possibilities. But what we do (or at least did—see below) know from more than a century of ethnological research

is that kinship provided the "idiom" and the structures for social organization and reproduction in all societies prior to (and in many cases after) the development of full-fledged stratification. Structurally, some key kinship-system types, represent markedly dual and plural forms, and the latter especially seem to occupy a cusp of sociopolitical complexity.

Kinship Desuetude

Kinship is dead. Long live kinship.

James D. Faubion (1996)

With a classic case of paradigm fatigue, in the 1980's ethnologists threw out the baby with the bathwater. The immediate catalyst was David Schneider's critique (1984), which, in keeping with other skeptical claims about universalism during that period, targeted anthropological study of kinship as culturally biased, built on European folk theories. The critique opened a useful path for new ways of thinking about relatedness, including emphases on the "house," on the body, and on ideas of shared substance (e.g., Carsten and Hugh-Jones 1995, Franklin and McKinnon 2000). But it also precipitated the abandonment of some of the most rigorous methodological and analytical approaches anthropology had developed over more than a century. The abandonment is perhaps most visible in graduate departments, few of which continue to teach this previously core aspect of the discipline. Yet kinship, or under some other name like relatedness, is a protean human concern, simultaneously (ethno-)biological and social, synchronic and diachronic, structural and agentive—the perhaps primary ontological frame of existence and experience in all cultures from birth on. It is for such reasons that kinship never truly died, and is currently in the midst of a renaissance (e.g., Godelier 2004, Allen et al 2008, Barry 2008, Héran 2009, Kronenfeld 2009, Jones and Milicic 2011).

News of the renaissance appears not yet to have reached archaeologists or else it has been greeted with little enthusiasm. Prior attempts to model kinship structures to Ancestral Pueblo sites were greeted with much skepticism (Sebastian 1992:3). Use of contemporary Pueblo social organization as a source of "ethnographic analogy" was dismissed, from doubt that, after four centuries of colonization, the modern Pueblos truly represented comparable forms to the societies of a thousand years ago. That doubt is justifiable, but the fact remains that there are significant continuities, in material practice, architectural forms, economy, and symbolism: multi-story

house complexes, kivas, prayer-sticks, floodplain and irrigation agriculture, and ceramic and basketry techniques, among other things, show that the modern Pueblos represent ethnological homologies with Chaco Canyon, rather than ethnographic analogies (see below).

Even at the height of kinship theory's popularity in archaeology, in the 1960's, archaeological applications mostly derived from Eggan's (1950) influential "descent-theory" analysis of Pueblo social organization. This explicitly structural-functionalist model emphasized corporate matrilineal descent groups, and it was such groups, with their putative joint estates in land and resources, which archaeologists sought to locate in the material record (see Longacre 1970:passim, and see Ware 2001, Peregrine 2001, Mills 2002, Judge and Cordell 2006). Structural-functionalism's main shortcoming was its inability to model diachrony, or to identify possible processes of change. On the other hand, "alliance theory" (e.g., Lévi-Strauss 1969 [1949])—representing an opposing view to "descent theory"—was directly concerned with social reproduction and social networks over time, yet largely went unused. Longacre's landmark *Reconstructing Prehistoric Pueblo Societies* (1970), for example, includes not one single reference to Lévi-Strauss's theory, despite its prominence in concurrent social anthropology.

Kinship: Basic Premises

I have already thrown out a few words of kinship jargon, and in view of the recent diminution of awareness, it may be well to restate a few general points. Kinship systems comprise four intersecting axes: terminology, descent, marriage, and residence:

1) Terminology. Worldwide only a limited number of basic types are generally recognized, named for the societies where they were originally described: Iroquois, Hawaiian, Eskimo, Sudanese, Crow, and Omaha are the core six. Apart from Eskimo and Sudanese (dubbed "descriptive"), all the others are "classificatory," in Morgan's sense, "extending" the same kinship terms from primary relatives to all members of society, via a generative logic of reciprocals (e.g., Read 2001). Figure 6 shows the diagnostic differences, using a male-speaker's classification of female siblings and cousins. In the "Eskimo" system (the standard American and European pattern), Ego distinguishes "sister" from "cousins," all of whom are grouped together with the same term (indeed, without a gender marker). In an "Iroquois" system, by contrast, Ego calls "sister" both his own female siblings and his parallel cousins (cousins via a same-sex link: father's brother's daughter [FBD], or

mother's sister's daughter [MZD]). The Iroquois "cousin" term is reserved only for cross-cousins (i.e., related by a cross-sex link: father's sister's daughter [FZD] or mother's brother's daughter [MBD]). In the "Sudanese" system, each of Ego-male's female relatives gets a different term. The "Hawaiian" or "generational" system is the opposite: all get the same term.

The distinction of parallel from cross relatives—Morgan's (1871) revolutionary discovery—has come to be indexed as "crossness." Crossness marks other systems as well as Iroquois (Crow, Omaha, Dravidian, and Cheyenne—see below). "Crow" and "Omaha" share some basic groupings with Iroquois (figure 6), but add inter-generational "skewing:" one cross-cousin (FZD for Crow, MBD for Omaha) is distinguished from the other and grouped with relatives in generations both above and below. Omaha skews down the opposite line. As mirror images, Crow and Omaha are often treated as a pair, dubbed "Crow-Omaha."

To the standard six types, two more have been definitively added: Dravidian and Cheyenne (for others see, e.g., Viveiros de Castro 1998). Lounsbury (1964) importantly distinguished "Dravidian" from "Iroquois" proper,¹ with a critical difference being the terminological equation of cross-cousin with spouse/sibling-in-law. "Cheyenne" looks like the Hawaiian system in Ego's generation, where all cross, parallel, and sibling distinctions are "neutralized." But unlike Hawaiian, Cheyenne retains a distinction between cross and parallel relatives in the generations above and below Ego. This suggests the underlying form of a Cheyenne system is Iroquois; the former probably evolved from the latter over time, losing the cross-parallel distinction in Generation 0.

Of particular interest here are those systems that share the distinctive feature of crossness: Iroquois, Dravidian, Crow-Omaha, and Cheyenne.

2) Descent. Kinship-based social systems typically designate a primary mechanism for reckoning descent, and "affiliating" children accordingly. The principal types are: 1) patrilineal, where children of both sexes acquire their primary roles, rights, and duties from their father, who in turn received them from his father; 2) matrilineal, where they acquire their primary roles, rights, and duties from their mother, who in turn received them from her mother; and 3) bilateral, where children acquire primary roles, rights, and duties rights from both sides of the family, without diagnostic distinctions. Descent does not equate directly with a type of kinship terminology (there are patrilineal Iroquois systems, like the Dakota, and

matrilineal ones, like the Seneca and other true Iroquois). However, typically there are close correspondences between Crow-type terminology and matrilineal descent, and between Omaha-type terminology and patrilineal descent. Hopi, Zuni, and the Western Keresans—the foundation of Eggan's conclusions about Pueblo kinship—have Crow terminology and matrilineal descent. Moreover, Fox (1967) has suggested the Eastern Keresan system was incipiently Crow.

In the structural-functionalist model, a descent principle is the basis for corporate social action, notably via "unilineal descent groups"—as for the Nuer, Tallensi, Trobriands, and other famous cases from the ethnographic record. Such corporate groups were treated as the fundamental frame for political, economic, ritual, and all other social action in the types of society in question: in short, they form the core operational structure in small-scale societies. Valuable as that view proved for identifying some types of synchronic structures, it failed to show how these move through time and space: in short, how a social system reproduces itself from one generation to the next, how it creates networks beyond its immediate setting, and how it may transform.

3) Marriage. Marriage is the most fundamental form of exchange between human social groups: as such, it is an intrinsically transitive process, the pivot of social and biological reproduction. All or almost all societies have institutionalized marriage practices. Lévi-Strauss (1969) showed that in non-state societies, marriages provided the major structural mechanism of alliances produced by intergroup exchange, a key to their operation through time. Marriage, as Viveiros de Castro (1998:368) has put it for Amazonian societies, has a consistently "strategic character." In that kin terminologies specify whom one may and may not marry, marriage rules and terminology are indissociable; crossness is especially marked in this regard (Viveiros de Castro 1998).

Lévi-Strauss (1969) postulated two great worldwide structures of "alliance"—referring in the first place to marriage itself, but more broadly to the ties marriages create between social groups and their effect on political and economic structures. "Elementary" structures, he argued, operate by a positive marriage rule, prescribing which category of person one must marry. "Complex" structures (as in Western society) have only a negative rule, proscribing close kin, but otherwise indifferent as to marriageable categories. Elementary structures showed a dualistic pattern often reflective of a social system organized by moieties (figure 7): Moiety A gives its

people as spouses to Moiety B which reciprocates (A↔B). Such "symmetric-prescriptive" elementary structures dovetail with Dravidian-type terminology, and though less rigidly also with Iroquois. Inasmuch as, in Ego's generation, all people in society are divided into "siblings" and "cross-cousins," a Dravidian system prescribes marriage with the cross-cousin category, producing a dual pattern of symmetrical exchange that is easily repeated from generation to generation. In one's own generation, those in one's moiety are all one's siblings and parallel cousins; those in the opposite moiety are one's cross-cousins, from among whom one must marry.

A permutation of elementary alliance, "asymmetric-prescriptive," involves a minimum of three exchanging groups (for example, the Kachin of Highland Burma). Unlike symmetric systems, where both sexes are exchanged between two groups (A↔B), asymmetric-prescriptive alliance introduces a "directionality" of gender: men of Group A marry women of Group B, men of Group B marry women of Group C, and men of Group C marry women of Group A (for men: A→B→C→A; for women: C→B→A→C). Reciprocal exchange flows "indirectly": Group C is responsible for "reciprocating" Group A's transaction with Group B. Such systems are thus marked by "indirect" or "generalized" exchange.

Alliance structures, combining both kin terminology and marriage rules, are now again thought of as subject to evolution (e.g., Allen et al 2008). Crossness of Dravidian type appears to underlie Iroquois, Cheyenne, Crow-Omaha, and asymmetric-prescriptive systems, and evolutionarily to precede them (e.g., Godelier 1998, Trautmann and Whiteley in press b). In this light, Crow-Omaha is twice removed from Dravidian—via a transformation to Iroquois first (Trautmann and Barnes 1998)—and represents an evolutionary step to another kind of (non-elementary) alliance structure. For Lévi-Strauss (1966, 1969), Crow-Omaha alliance was "semi-complex," combining aspects of both elementary and complex structures (Héritier 1981, see below).

4) Residence. The fourth axis of kinship is residence. Kinship systems usually provide a rule of post-marital residence, which is typically concordant with the principle of descent. Matrilineal systems are usually also "matrilocal" or "uxorilocal": i.e., the husband moves into his wife's mother's household, or into a new adjacent household established by his wife (likewise patrilineal systems: typically "patrilocal" or "virilocal").

In concert, the four axes show how powerful the kinship system is overall for the structuring of a social system of small or middle scale, especially. Kinship systems are often the central articulators of political

and economic institutions, as well as of biological reproduction. Until kinship's desuetude, it was generally accepted that kinship systems are the principal mechanism for organizing all human societies (simplistically termed "bands," "tribes," and "chiefdoms") until the appearance of the state (organized, conversely, by a market economy, occupational specialization, stratification by classes, etc.). Ethnographically, kinship systems have been shown to be relatively stable structures through time (Jones 2003). Moreover, a century and a half of ethnography has shown that kinship as an "idiom" or scheme for conceptualizing social relations is pervasive in the vast majority of human societies.

Whether evolutionary transformations among kinship systems are reversible has been a major question recently (e.g., Godelier 1998, 2004). Kinship terminologies do not correlate consistently with sociopolitical forms and economic adaptations: "Eskimo" systems—uniting remotely dispersed Inuit foragers with contemporary Western states—are the prime example. Yet, as Godelier (1998:397) emphasizes, "all the terminologies now known represent different configurations stabilized at various points along different lines of evolution."² If there are systematic relationships among kinship-system types with different "levels of sociocultural integration," this has definite implications for investigating apparently more and apparently less complex archaeological structures.

It seems highly likely that the kinship factors enumerated above were just as important at Chaco Canyon as among societies of small and middle scale anywhere else. Chacoan people surely framed their relationships, their structures of exchange, and both the continuity and transformations of their social orders through time via structures that united and divided them as "kin" and "affines," and provided associated categories and rules for descent, marriage, and residence. Political solidarity among great houses and small was very likely structured and reproduced through marriage-exchange, both within and among the different components comprising the Chacoan sphere.

Pluralism and the Middle Range

I have highlighted Chacoan architecture that exhibits marked dual and plural configurations. It is no coincidence, in my view, that Dravidian, Iroquois, and Crow-Omaha exhibit similar structures in the field of social relations. Unlike Dravidian and Iroquois, which align well with dualist types, Crow-Omaha systems are characteristically plural in their social effects. As "semi-complex," Crow-Omaha systems combine elementary (positive) and complex (negative) marriage rules, without the predictable exchange patterns represented by elementary systems. Instead, Crow-Omaha systems create more intricate networks of marriage alliance, opening out and dispersing ties within a more variegated social field (Lévi-Strauss 1966, 1969, McKinley 1971).

In Hopi society—an exemplar of semi-complex alliance for Lévi-Strauss (1969)—marriages are determined by matrilineal clans and their larger groupings (I prefer "clan-sets" or "maximal sets" to "phratries," an historically confused term). Marriage is formally proscribed within one's own set, one's father's set, and one's mother's father's set. In 1906, Orayvi's ca. 30 clans were grouped into nine exogamous sets (table 1). Thus if I (male) am Bear clan, my father Greasewood clan, and my mother's father Badger clan, the three sets including these clans are all prohibited to me: my spouse must belong to one of the other six sets. And unlike an elementary system, Hopi marriage rules are recalibrated with each generation. To continue the example, for my children, the Bear clan remains unmarriageable (as their father's clan), but the ban on marriage with Greasewood and Badger ceases (as their FF's and FMF's clans—two non-prohibited classes). If my wife is Eagle, my children are too, so the Eagle set becomes off-limits for them, and their mother's father's clan-set (let us say Parrot) also. My siblings—who share the same prohibitions as me—will produce different arrays of prohibitions for their children, depending on whom they marry. The effect of these rules, constantly creating, recreating, and interweaving ties among the nine clan-sets is a pluralistic pattern of dispersed alliances.

Especially given the physical proximity of great-houses in downtown Chaco, it seems unlikely that each one—if indeed it was a residential unit—was endogamous, and more likely that its marriage practices embraced a larger social field linking sites to one another in groups. But as a social field comprising plural sites, and as also—in the case of Pueblo Bonito—internally differentiated into plural elements, it seems most probable that marriage exchange followed a plural, semi-complex pattern rather than an elementary

one. Further, if this thesis is correct, there may well have been similar exchanges between downtown and peripheral houses (both great and small), as the axis of articulation for a network based on dispersed alliances.

Crow-Omaha systems in North America have been shown to involve an "opening out" of affinal ties beyond Dravidian and Iroquois systems (Trautmann and Barnes 1998, Ives 1998, Wheeler et al in press). These systems consistently correlate with higher population densities, richer resources, and generally more sedentary societal adaptations. Socio-geographically, Crow-Omaha systems are strikingly associated with the areas of most developed political complexity in late prehistoric North America: the Mississippian Southeast (Creek, Choctaw, Chickasaw, Cherokee, Timucua: e.g., Ensor 2002) and Midwest (Potawatomi, Illinois, Fox, Osage, et al). Elsewhere, these systems coincide with high population density, sedentism, hierarchy, or a mixture of all three, notably among some of the ranked "house societies" of the Northwest Coast (Haida and Tlingit). In California, they occur amid the densest populations of aboriginal North America (Ubelaker 2006). In the Plains, with the lone exception of the Crow proper (who had only recently located to the High Plains and adopted bison-hunting as their chief adaptation), all Crow-Omaha cases occur in the Prairie-Plains river valleys, areas of sedentary agriculture. Indeed, here too homologous ties have been suggested between the Omaha proper and Cahokia, the great Mississippian site at the confluence of the Mississippi and Missouri rivers (e.g., Hall 2004). In aboriginal Australia, the few known cases of Omaha terminology (no Crow) again consistently correlate with relatively higher population densities and richer resources (McConvell and Alpher 2002, McConvell in press).

There are no known instances of states with Crow or Omaha kinship systems. With the Australian and a few other exceptions, the great majority of cases occur in the middle range of sociocultural complexity. Moreover, the Australian Omaha cases all occur in the context of "downstream" territorial expansion (ibid.). This may give a clue about Crow types elsewhere. As mirror images, Crow and Omaha cases in North America, Amazonia, and Africa, often exist in close geographic proximity, including among closely related peoples of the same language family: among Siouan-speakers, the Omaha proper lived close by the Mandan and Hidatsa (Crow systems) for example. This suggests Crow and Omaha systems represent opposite social strategies. If Omaha systems represent an expansionist or outward posture, as their counterpart, Crow systems should be centripetal, attracting people and resources inward.

Among the historically-known Pueblos, this orientation seems apposite. Movement in toward a central place was a fact of 14th century Pueblo life and at earlier moments intermittently also. This is clear for the Hopi area ca. 1300, and is directly echoed in Hopi clan migration narratives and ritual pilgrimages: the narratives always depict final movement from the periphery toward Tuuwanasavi, the earth-center place, where the present Hopi towns stand. Ortiz (1972) emphasizes that the pattern of centripetalism—gathering symbolic and material resources from the periphery and bringing them into the village center—is the distinctive form in all Pueblo ritual (in contrast, for example, to Navajo). Centripetal territorial concentration, especially in terms of the delivery of outlying products to the downtown center, is also consistently represented in archaeological reconstructions of the relations between the Chaco center and its outliers (e.g., Lekson 2006:passim).

Orayvi too was a central place, that for its inhabitants was a capital ("the Jerusalem of the Hopis," as one of my informants put it), to which people residing seasonally in field houses or year-round in colony settlements (e.g., Mũngapi) return, bringing resources with them. This remains strongly marked in the division of distant territories into clan-owned properties—notably for gathering ritual resources—according to the specific ruins associated with each clan's migrations (like Wupatki, Homol'ovi, Nuvakwewtaqa, Keet Seel, Betatakin, and many others). As an architectural expression of multiple in-migrating clans interwoven at the center by semi-complex alliance, Orayvi's pattern of plural kivas and correlated clanhouses (figure 3) would be hard to improve on. In more compressed and regular form, Pueblo Bonito may represent a similar pattern. What then of the more dualist cases and their relationship to the Crow type?

Dualism and the Crow-Omaha Transition

In Amazonia, Australia, and North America, Crow-Omaha systems typically occur in geographic proximity to Iroquois systems. In general, evolutionary models identify early human kinship systems as closest in form to a Dravidian type (e.g., Allen et al 2008: passim). Subsequently the terminological equation of cross-cousins with affines (Allen 1989) was lost, resulting in a transformation to Iroquois type. New comparative analysis of Crow and Omaha systems shows their basis also to lie in the same underlying crossness as Dravidian and Iroquois (Trautmann and Whiteley in press b). Alternate realizations of Crow, Omaha, and Iroquois features among closely related societies thus appear as strategic alternatives. This pattern is especially

remarked in eastern Amazonia (Turner 1979, da Matta 1982, Coelho de Souza in press), the locus classicus of South American Crow-Omaha systems, and not coincidentally, in my view, of large-scale horticulture and "urbanized" chiefdoms in late prehistoric and early historic times (Roosevelt 1993).

Among the Amazonian Gê cases, dualism of Dravidian style is evidenced by moieties based on descent and/or ritual, and plural alliance structures may co-exist with patterns of dualism centered in cognatic households (Coelho de Souza in press). In this context Crow-Omaha and Iroquois are "social technologies" (Godelier 2004), i.e., strategically mobilized in agentive processes to procure certain social outcomes (Trautmann and Whiteley in press b). A "full-fledged" Crow or Omaha system only occurs when these social technologies are coordinate with the systematic, strategic production of marriage alliances. Crow and Omaha systems are thus evolved variations on an Iroquois (and ultimately, Dravidian) base.

Both the Amazonian variations and the social technology perspective are extraordinarily resonant with Fox's sense of the Keresan Pueblo social system and its relation to the Western Pueblo type (below). The possibility of adaptive oscillation between Dravidian-Iroquois dualism and Crow-Omaha pluralism in alliance structures is a key feature of these arguments. This, it seems to me, is isomorphous with the architectural patterns of dualism and pluralism identified in Chaco settlement architecture.

Pueblo Homologies

The Amazonian cases provide useful "ethnographic analogies" to the Puebloan Southwest, both prehistorically and more recently. But as noted above, the modern Pueblos themselves are in important respects homologous continuations from Chaco, not analogous metaphors lacking in common derivation. Correlating historic and contemporary Pueblo models with prehistoric Puebloan societies should thus be reconceived for what it is: not ethnographic analogy, but ethnological homology.

Modern Pueblo structures exhibit various intersecting patterns of duality and plurality, but—and this has been a key problem for analysis of inter-Pueblo similarities—overt dualism is not clearly associated with exogamy. Fox (1967) contested Eggan's view that Eastern Pueblo social organization had shifted toward an Eskimo-bilateral pattern out of colonial influence, and instead suggested the Keresans represented an autonomous, double-descent form (i.e., both Omaha-patrilineal and Crow-matrilineal, associated with moieties, on the one hand, and clans, on the other) that had

developed from an Iroquois, and even Dravidian proto-form. Fox showed that Keresan kin term usage included both Crow and generational (i.e., Cheyenne) terminology, and posited that, instead of declining from a Crow type, Keresan social organization was incipiently Crow-matrilineal; further, the patri-moieties, he claimed, were once exogamous, with prescriptive cross-cousin marriage. Fox suggested that intersecting patrilineal and matrilineal descent lines and a symmetric rule of exchange could be generalized for all Crow systems.

Orayvi's marriage practices show both dispersed alliances—in which all the nine clan-sets are intermarried—together with a simultaneous tendency to prefer classificatory cross-cousin marriage, resulting in repeating alliances between pairs of clan-sets over the generations (Whiteley in press). Notwithstanding Lévi-Strauss's characterization of semi-complex marriage rules, in actual marriage practices, the Orayvi pattern corresponds exactly with those shown by other detailed studies of Crow-Omaha cases (Héritier 1981). And it directly reflects the tension of opposing forces McKinley (1971) has identified for these systems in general: that they seek, in contradictory fashion, both to expand on and retain their existing alliances at the same time.

The same alliance pattern noted for Orayvi occurs also at Zuni and Laguna—other exemplar cases of Western Pueblo social organization for Eggan—where Parsons (1932:384) identifies a preference for (classificatory) cross-cousin marriage. Of great interest in this regard is her report of the Laguna perspective that cross-cousin and affine terms are conceptualized as equivalent (i.e., Dravidian). Parsons (1932:79) certainly regarded all Pueblo kin terminologies (even at Taos and among the northern Tewa) as marked by elements of crossness (e.g., Parsons 1924).³ In short, I agree with Eggan that the Eastern Pueblos lost kinship patterns under colonial pressure, but I think these patterns were likely only full-fledged Crow under certain adaptive conditions, and otherwise would have oscillated between a Crow-plural and Iroquois-dual form.⁴ What this means in practice is that Eastern and Western Pueblo social structures are far less divergent than the conventional wisdom has allowed, and are more alternate strategic realizations of the same underlying kinship technologies, as among the Amazonian Gê. In that regard, the dual kiva system of the Rio Grande Keresans and Tewa may be read as approximating a social system with Iroquois crossness, which became neutralized in kin terminology but preserved in

ritual and political institutions. This brings us back to Chaco and the Pueblo Bonito-Wijiji contrast.

Pueblo Dualism ↔ Pluralism

The interrelated Dravidian-Iroquois-Crow possibilities seem to be a deep-structure model hard-wired in Pueblo social thought. It was this model, I suggest, that articulated the production of variant social forms with their architectural corollaries at Chaco. As systems developed and diversified their alliance structures, especially in association with hierarchical patterns of sociopolitical complexity, they adopted a full-fledged Crow semi-complex form. Before that stage was reached, a more Iroquois or even Dravidian model was the likely form, going back into Basketmaker times, and, if Allen's tetradic model of original human kinship (e.g., Allen 1989) is correct, much earlier. That Dravidianate dualism retained echoes even after a transition to Crow pluralism is suggested by Pueblo Bonito bifurcation. More than this, however, Wijiji suggests the transition was not irreversible.

Wijiji is a late Chacoan house and was only occupied for a generation or so. Pueblo Bonito, by contrast, developed over several hundred years. New Hopi villages initially exhibit significant dualism (see, e.g., Whiteley 2008:117): either in terms of their foundation by paired clans linked by marriage alliance (Mùñqapi, Supawlavi), and/or ritually organized by single or dual kivas (Paaqavi, Sitsom'ovi, Supawlavi, Kiqötsmovi). Supawlavi, on Second Mesa, is a prime case in this regard, founded as a colony of Songòopavi in the 18th century, by the intermarried Bear and Sun Forehead clans. At least since the early 20th century, Supawlavi has also married with Musangnuvi and with its mother village, Songòopavi (Beaglehole 1935), but had it not done so, the two-clan system would have made 'reversion' to a moiety-type pattern of cross-cousin marriage a likely outcome. At first, Supawlavi built two kivas—as did Sitsom'ovi after its founding (from Wàlpi) in the 18th century, and as did Paaqavi in the early years after its founding (from Orayvi) in 1909 (a third was added later). Sitsom'ovi and Paaqavi were not "two-clan" populations, although there are some clear elements of clan dualism in Orayvi's social structure that were replicated in the constitution of the daughter villages (Whiteley 2008:828-829). Mùñqapi and Kiqötsmovi followed a similar pattern in the construction of dual kivas to Paaqavi, building first one community kiva, followed shortly thereafter by a second, and then quite a lot later, a third. All three reflect dualist variations of the type described (for alliance structures) by Lévi-Strauss.

If Wijiji was the colony of a larger, plurally-organized mother town (like Pueblo Bonito, Pueblo del Arroyo, or Chetro Ketl), the same type of transition, in a different but related architectural modality, may be recognized. Plural Orayvi gave rise to two-kiva Paaqavi and (originally) two-clan Mùngapi; plural Songòopavi birthed two-clan and two-kiva Supawlavi; plural Wàlpi gave rise to two-kiva Sitsom'ovi. Had Chaco remained occupied and expanded, we might predict that Wijiji's dual organization would have expanded by the inclusion of other social units, and transformed into a Crow-plural type pattern, with a more dispersed alliance structure linking settlements to each other and, as shown at Pueblo Bonito, a multiple kiva system that echoed the multiple origins of alliance partners. But the population would have always retained the structural capacity, in the social technology of the Crow-Iroquois tension, to revert to a simpler alliance structure as historical circumstances dictated.

Conclusion

There is every reason to assume—since they were not states—that Ancestral Pueblo social systems, including the most highly developed versions at Chaco Canyon, were articulated through principles and rules of kinship. Pueblo Bonito, both in its settlement dualism and its kiva pluralism, looks like a Crow-Omaha semi-complex system, and the inference—strengthened by the plausible arguments of Vivian (1970, 1990) and Peregrine (2001) for matrilineality and matrilocality—seems more likely that it is Crow. All those goods brought from the periphery to the center would suggest that people too were a primary subject of alliances (in marriage) in these social transactions. Wijiji by contrast looks like a dual moiety system, either of the Hopi colony type, or one more directly based in a system of symmetrical exchange reflected in Eastern Keresan and Tewa moiety kivas, or perhaps both.

It seems likely that emergent sociopolitical complexity at Chaco was built on a semi-complex kinship system of Crow type, and its capacity, as a social technology, to develop dispersed alliances both within the immediate social environment and throughout the Chacoan system as a whole. Indeed that "system," insofar as it was solidary, was in all probability constituted by marriage alliance, among both great and small houses. For a time at least, formation of new colonies could successfully deploy oscillating dual-plural modalities to maintain and extend social networks. A Dravidianate system, I infer, goes far back into the Puebloan past, from which Iroquois and Crow-Omaha forms crystallized and/or receded under historical forces of an

environmental, demographic, or social nature, or all three. I infer that Rio Grande moiety systems evolved from kinship moieties, particularly since crossness seems to underlie even the most bilateral Rio Grande kin terminologies.

The "house" model has proven very effective for the re-analysis of Chacoan social forms (Heitman and Plog 2005). Its direct counterpart in the kinship dimension of Lévi-Straussian thought is Crow-Omaha semi-complex alliance. The coincidence of Crow semi-complexity and house societies is directly attested on the Northwest Coast, the origin for Lévi-Strauss's sense of the "house" (Lévi-Strauss 1982). The powerful nineteenth century Haida and Tlingit great houses combined institutionalized hierarchy, matrilineal descent, matrilocality, residence, Crow terminology, and exogamous clans grouped into moieties. Similarly, among Amazonian Gê social systems, another source of useful analogues for the Puebloan Southwest, house societies co-occur with semi-complex alliance, moieties, and Crow-Omaha terminology (Lea 1995, Coelho de Souza in press).

Our ability to model Chacoan social organization will always be limited by the nature of the evidence. But Pueblo ethnological homologies and apposite ethnographic analogies can help develop genuinely useful hypotheses coordinate with the global anthropological record. While perhaps not testable in the strict sense, these offer the possibility of more comprehensive explanation than hitherto generated. What we can say with certainty is that kinship and its structural articulation of alliance patterns in non-state societies provide crucial concepts to decode the arrangement of social space among the people who lived, moved, and had their being at Chacoan houses, great and small.

¹ Note that "Iroquois" in this context refers to the terminology type, not to the Iroquois people themselves.

² Evolutionary analyses of kinship systems begin with Morgan (1871). Others notably include: White 1939, Murdock 1949, Lane and Lane 1959, Service 1960, Kryukov 1968, 1998, Dole 1972, Allen 1989, Fox 1994, Hage 1999, Allen et al 2008.

³ My full argument here goes beyond the present scope; I will take it up in another context.

⁴ Moieties and pseudo-moieties can form by aggregation, of course, an argument preferred by some Southwestern archaeologists (e.g., Lowell 1996, Fowles 2005). But if reproduced from one generation to the next by marriage, and operative within a kinship idiom, they would gravitate to the same Dravidian-Iroquois form as if produced autogenously.

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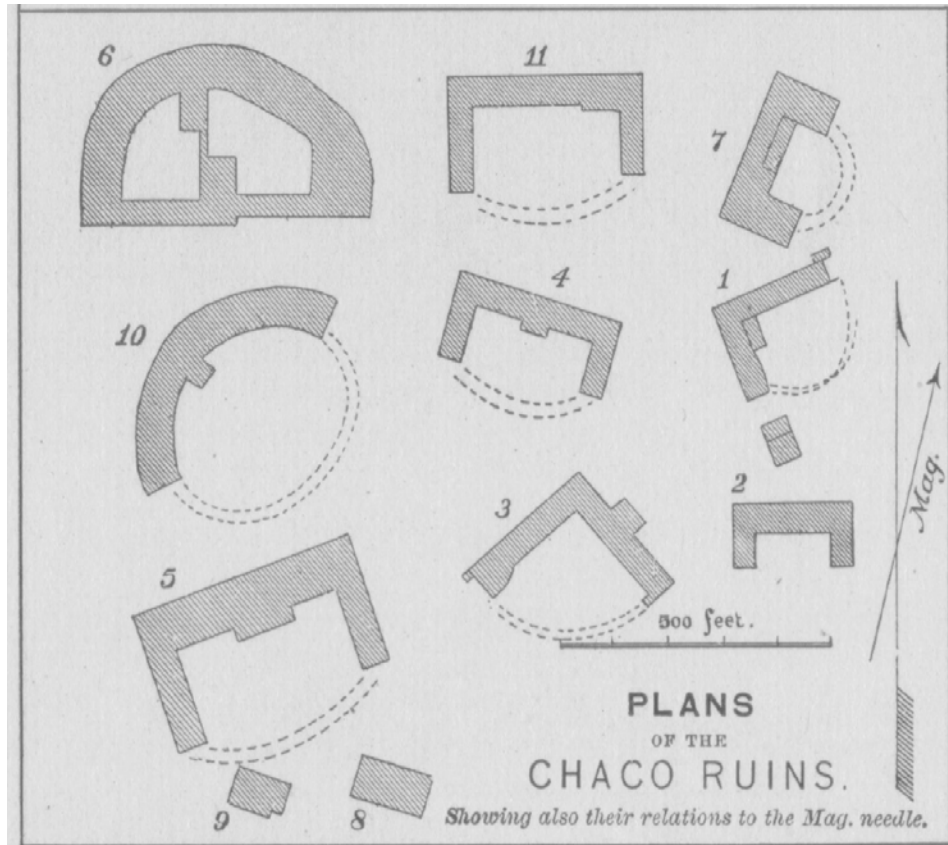


Figure 1. Lewis Henry Morgan's (1881) representation of Chacoan plans

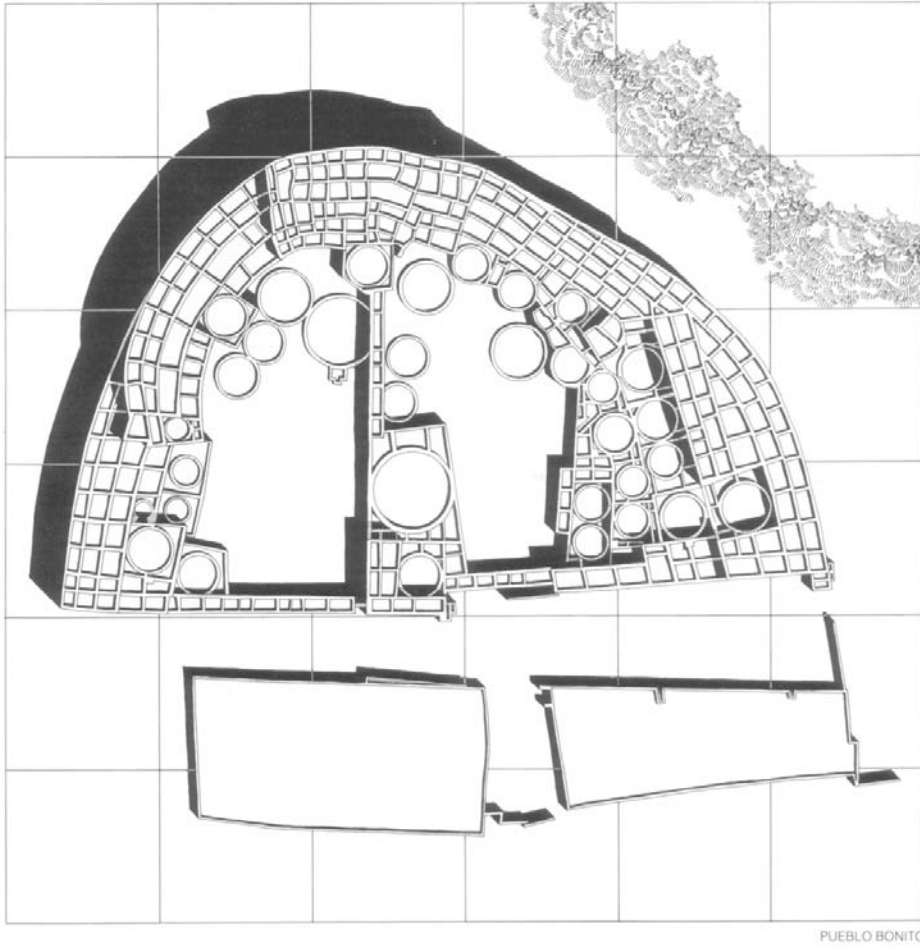


Figure 2. Pueblo Bonito plan (W.N. Morgan 1994)

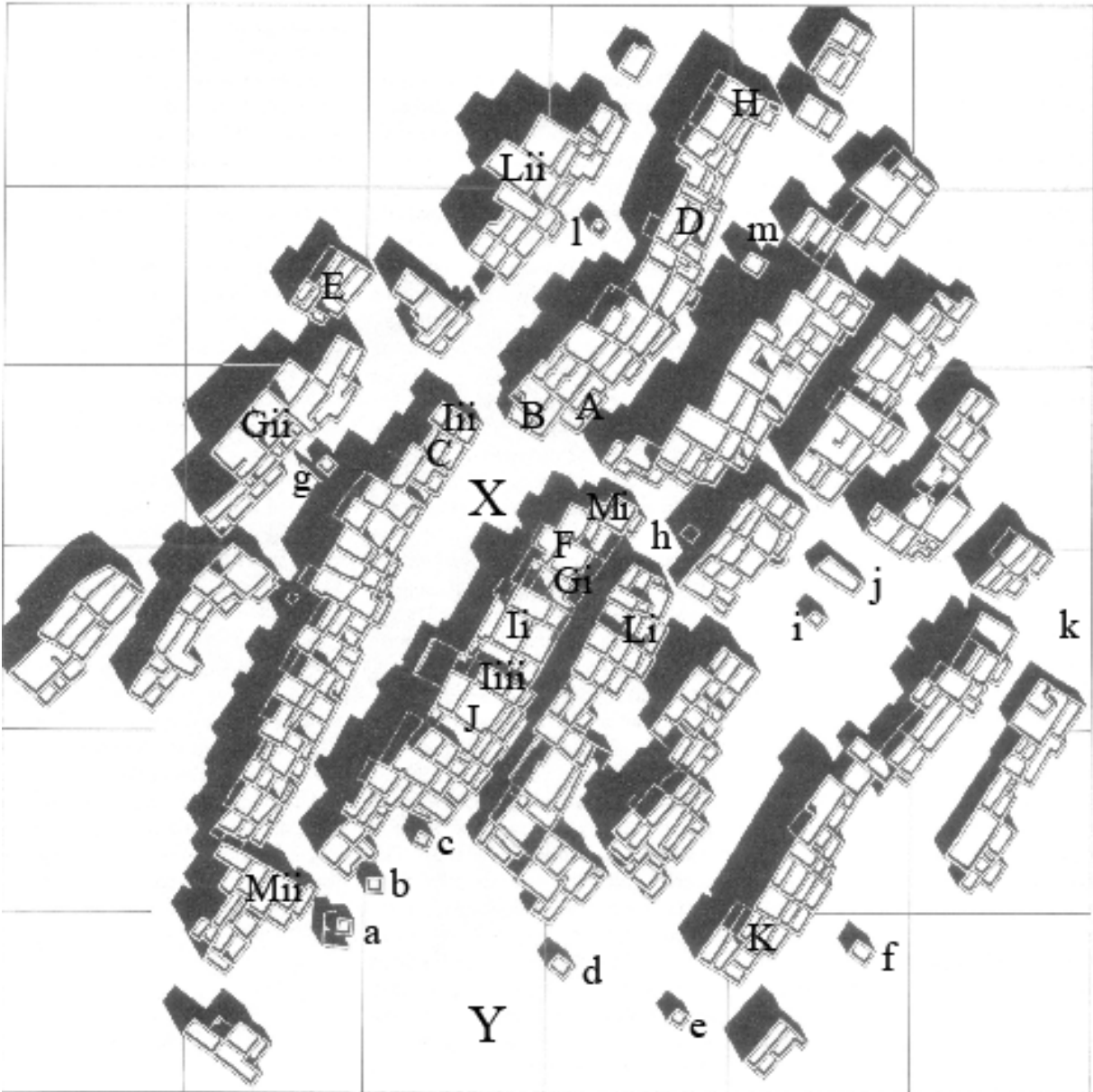


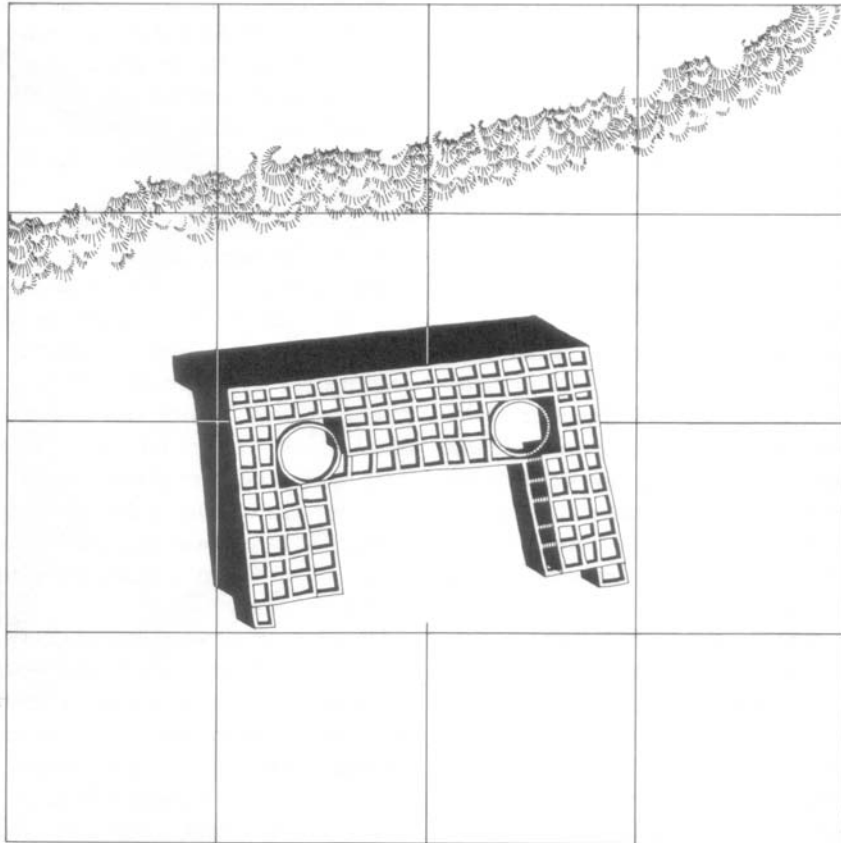
Figure 3: Orayvi ca. 1900 (base W.N. Morgan 1994, from Mindeleff 1891)

X Main kiisonvi; Y "Snake" kiisonvi

Kiva-clanhouse correlations (Whiteley 2008:passim):

Kiva	Clanhouse
a Hotstitsivi	A Badger
b Sakwalenvi	B Spider

c Naasavi	C Bow
d Marawkiva	D Lizard
e Tsu'kiva	E Snake
f Kwankiva	F Maasaw
g Pongovi/Tawa'ovi	Gi Sun/Gii Bear
h Tawkiva	H Parrot
i Hawiwvi	Ii Sparrowhawk/Iii Squash/Iiii Crane
j Is.kiva	J Coyote
k Katsinkiva	K Katsina
[not on base map]	
l Wiklapi	Li Rabbitbrush/Lii Kookop
m Hanokiva	Mi Piikyas/Mii Eagle



Wijiji

Figure 4. Wijiji plan (W.N. Morgan 1994)

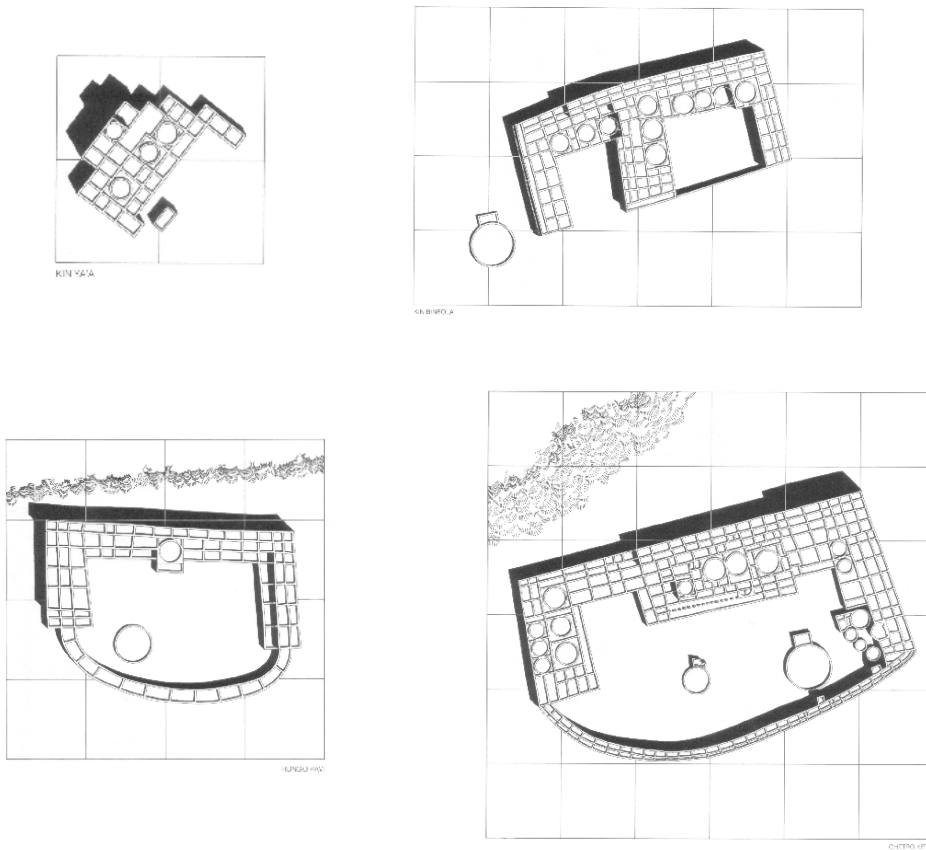


Figure 5: Four Chacoan plans: Kin Ya'a, Kin Bineola, Hungo Pavi, and Chetro Ketl (W.N. Morgan 1994)

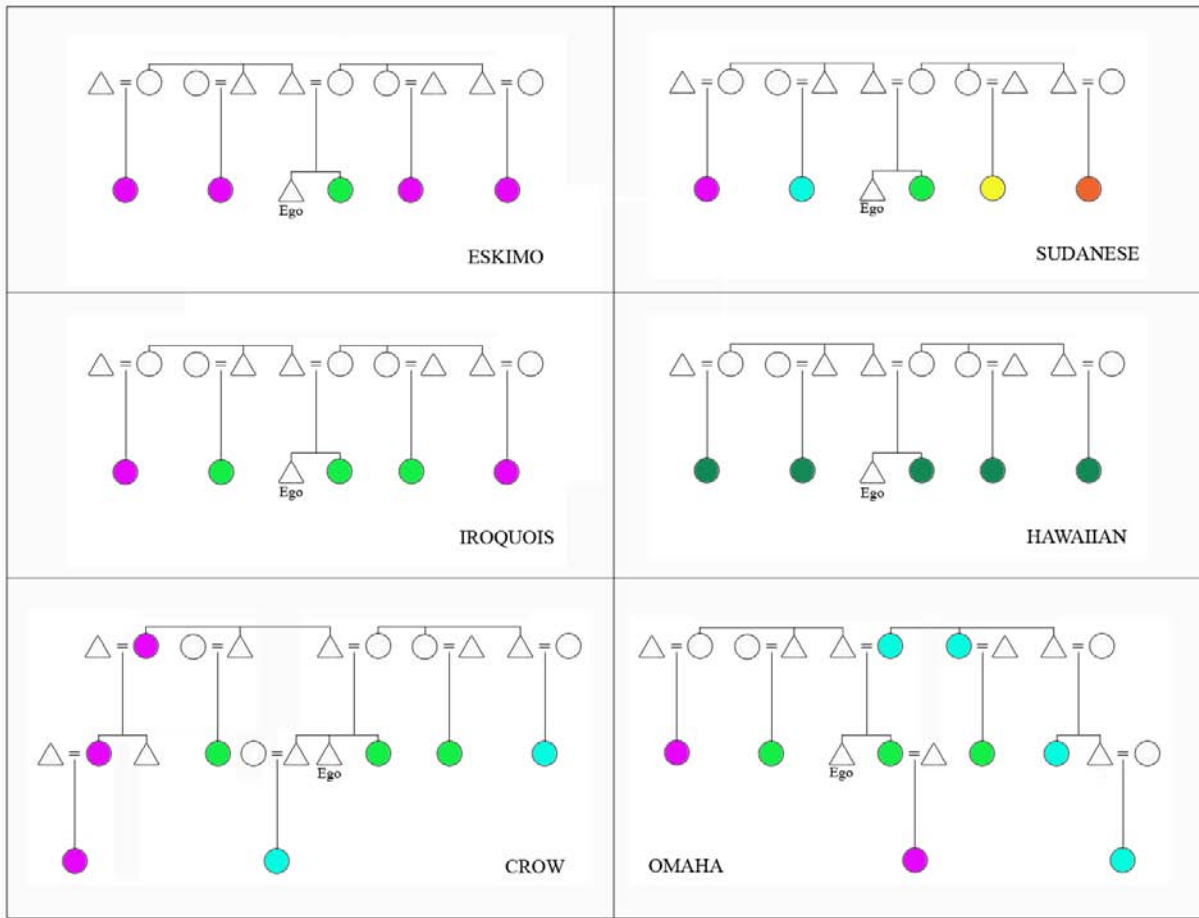


Figure 6: Sister-cousin classifications, Ego-male (after Driver and Massey 1957: Diag. 12)

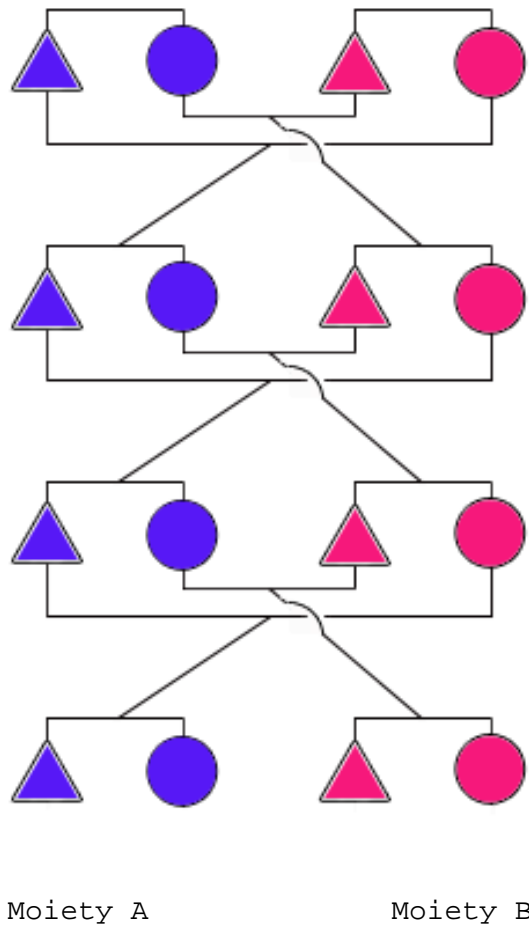


Figure 7. Symmetric elementary alliance: sibling-exchange cross-cousin marriage, shown with patrilineal moieties

<u>Set</u>	<u>ngyam</u> ("clan")	<u>Trans.</u>	<u>Set</u>	<u>ngyam</u> ("clan")	<u>Trans.</u>
I	<i>Tap-</i> <i>Katsin-</i> <i>Kyar-</i> <i>Angwus-</i>	Rabbit Katsina Parrot Crow	VI	<i>Mas-</i> <i>Kookop-</i> <i>Hoo-</i> <i>Lee-</i> <i>Is-</i> <i>Paa'is-</i>	Maasaw "Fire" Cedar Millet Coyote Desert Fox
II	<i>Hon-</i> <i>Kookyang-</i>	Bear Spider	VII	<i>Honan-</i> <i>Polii-</i>	Badger Butterfly
III	<i>Tuwa-</i> <i>Tsu'-</i> <i>Kuukuts-</i>	Sand Snake Lizard	VIII	<i>Piikyas-</i> <i>Patki-</i> <i>Siva'p-</i>	Young Corn "Water" Rabbitbrush
IV	<i>Tawa-</i> <i>Kwaa-</i>	Sun Eagle	IX	<i>Kyel-</i> <i>Atok-</i> <i>Pat-</i>	Sparrowhawk Crane Squash
V	<i>Tep-</i> <i>Paaqap-</i> <i>Awat-</i>	Greasewood Reed Bow			

Table 1: Orayvi clans and clan-sets in 1900