
Social Behaviors Associated with Hereditary Community Leadership

Herbert Barry, III

University of Pittsburgh

ABSTRACT

Hereditary community leadership is homoarchical prior designation of the next leader. Other homoarchical customs are subordination of the community to a higher government and kinship affiliation limited to either paternal or maternal relatives. The alternative heterarchical choices are election or another method of selecting the new leader, political independence of the community, and choice of kinship affiliation.

In a world sample of more than 100 diverse communities, predictors of hereditary community leadership are permission of premarital heterosexual intercourse by females, small population of the community, two or more social classes or castes, and praying or violence as a component of community ceremonies. These predictors suggest that homoarchical hereditary leadership enables more permissiveness toward unmarried women, is more feasible in small community populations, and supports the homoarchical customs of social stratification and emotional ceremonies.

Two homoarchical attributes, political subordination and unilineal kinship, characterize the largest number of communities. Homoarchical subordination of the community is generally a prerequisite for high levels of cultural complexity. In subordinated communities, cultural complexity is diminished by the combination of two additional homoarchical customs, unilineal kinship and hereditary leadership. The optimal situation appears to be a combination of homoarchical stability with heterarchical freedom of choice. In contemporary large nations, the adverse effects of multiple levels of government above the community might be counteracted by maximal community autonomy and by the heterarchic customs of choice of kinship affiliation and selection of community leadership.

Social Evolution & History, Vol. 4 No. 2, September 2005 3–17

© 2005 'Uchitel' Publishing House

INTRODUCTION

Diverse customs have been recorded in a 'standard sample' of 186 communities (Murdock and White 1969). Many variables have been coded on these communities. Reports are in the Journal 'Ethnology' and in a book edited by Barry and Schlegel (1980).

A code reported by Murdock and Wilson (1972) specifies several procedures for succession of the community leader. Hereditary designation is represented by two procedures, son of the former leader and son of a sister of the former leader. The next leader therefore is homoarchically determined prior to the need for a new leader. Several other procedures constitute heterarchical selection of the new leader. The selection methods include formal election, consensus, and choice by some of the community members.

Heterarchical choices are generally preferred by the present author and by most other residents of contemporary nations. The homoarchical custom of hereditary designation of the community leader has obvious disadvantages. It is not influenced by the qualifications of the next leader, nor by the situation when a new leader is needed. The widespread existence of hereditary community leadership indicates advantages of homoarchical hereditary designation for some communities. Designation of the new leader in advance maximizes stability and continuity of the community leadership. When the new leader is needed, hereditary succession may prevent competition and warfare by rivals.

The standard sample of 186 communities includes many communities with hereditary succession of leadership and many other communities with nonhereditary procedures to choose the successor. The communities vary in many other aspects of social behavior. The distinction between homoarchical hereditary designation and heterarchical selection of the new leader can be related to the corresponding distinction between homoarchical political subordination and heterarchical political independence, and between homoarchical unilineal kinship and heterarchical choice of kinship affiliation.

METHODS

The measure of local political succession is the last of 16 codes described by Murdock and Wilson (1972). Hereditary designation

combines two codes, 'Succession tends to be hereditary, by a son or other patrilineal kinsman of the predecessor', and 'Succession tends to be hereditary, by a sister's son or other matrilineal kinsman of the predecessor'.

Nonhereditary choice combines five codes, 'Succession is based primarily upon seniority or age, as under gerontocracy', 'Succession is based on divination, dreams, or the like', 'Succession is not appointive or hereditary but is achieved primarily by informal consensus or the recognition of leadership qualities on the basis of the acquisition of personal influence, wealth, or prestige', 'Succession is not appointive or hereditary but is achieved through some formal electoral process, *e.g.*, selection by a council or body of electors', 'Succession tends to be hereditary, but passes not to a particular category of kinsman but to a member of a ruling lineage or other privileged group selected for his personal qualifications by some electoral or appointive procedure'.

Two remaining codes are 'There is no community headman or council' and 'Succession to the office of headman, if such or an approximate equivalent exists, is through appointment (not merely acquiescence) by some higher political authority'. Communities with either of these two codes are omitted from the comparison because they indicate no community leadership, or selection of the leader by a government to which the community is subordinated.

The measure of kinship is from code 10 reported by Murdock and Wilson (1972). Unilineal kinship combines two codes, paternal and maternal kinship, depending on whether the principal consanguineal kin groups are based on patrilineal descent (patrilineages) or on matrilineal descent (matrilineages). Choice of kinship combines three codes. (1) Bilateral descent, 'ancestor-oriented descent groups are absent, and kinsmen are aggregated only by consanguineal and/or affinal ties between individuals, as in personal kindreds or kiths'. (2) Ambilineal descent (ramages). (3) Double descent (presence of both patrilineal and matrilineal descent groups).

Subordination of the community to higher government is from the ninth measure of cultural complexity reported by Murdock and Provost (1973). The community is defined as independent if it is coded as stateless, combining two codes, 'composed of politically

organized autonomous local communities' and 'political authority is not centralized even on the local level but is dispersed among households or other small component units'. The community is defined as subordinated if one or more administrative levels are recognized above that of the local community.

Two other measures tested for relationships with hereditary community leadership were obtained from other codes described by Murdock and Wilson (1972). Population of the focal or typical community is Code 3. A small community contains fewer than 400 persons. A large community contains 400 or more persons. Ceremonial elements are defined in code 14. Praying or violence combines three codes: 'Cannibalism, human sacrifice, and/or the ceremonial killing of war captives, widows, or other victims', 'Sacrifice (other than human), prayer, laudation, and/or other forms of propitiating spirits, deities, or ghosts of the dead, whatever their specific purpose (*e.g.*, atonement, foretelling the future, pleas for help, thanksgiving)', 'Self-torture, self-mutilation, or comparable extreme masochistic behavior, not including fasting or other forms of self-abnegation'. Absence of praying or violence combines the remaining three codes: 'Distribution or exchange of property other than food', 'Feasting and/or drinking (other than cannibalistic), including the distribution of food for subsequent consumption', 'Music, dancing, games, and/or dramatic performances'.

Sexual permissiveness for girls is from a code by Murdock on attitude toward premarital sexual intercourse by females (1967). 'Yes' combines three codes: freely allowed, allowed, trial marriage. 'No' combines the other three codes: early marriage, forbidden, weakly censured.

Social classes or castes are from the tenth measure of cultural complexity reported by Murdock and Provost (1973). 'Yes' combines three codes for one or more social classes or castes. 'No' combines two codes, egalitarian and 'Formal class distinctions are lacking among freemen, but hereditary slavery prevails and/or there are important status differences based on the possession or distribution of wealth'.

Among the total sample of 186 communities, 27 communities were omitted from the data analyses because the codes indicated no

community leader or appointment of the leader by a higher government authority. Relationships of hereditary community leadership with four predictors omitted 40 additional communities because there was insufficient information for measurement of sex permissiveness for girls. The analyses were limited to the remaining 119 communities. An advantage of the reduced sample size is that it contains the communities with the best information on the social behaviors that are measured.

Statistical analyses of the findings used the SPSS (1994) package of programs for computers. Hereditary designation of leadership is a dichotomous measure because the other categories do not form an ordinal scale and some of the categories contained very few communities. A log linear analysis related this dependent variable with the predictors. In order to simplify the analyses, all of the predictors are also dichotomous measures. The standard Pearsonian correlation coefficient was used because it is a valid measure for dichotomous scores in addition to quantitative scores. Partial correlation of hereditary designation of leader with each predictor, adjusting for the effects of all the other predictors, measures the degree to which each variable independently predicts whether community leadership is hereditary.

Statistical significance was tested by the more demanding criterion of two tails, testing probability of a chance difference in either direction, instead of one tail, testing probability of a chance difference limited to the same direction as was observed.

RESULTS

The relationship of hereditary community leadership with each of four dichotomous variables is shown in Table 1. The correlation with hereditary leadership is positive for all four predictors. The difference from zero correlation is statistically significant for three of the four predictors.

Partial correlation is a technique for measuring the degree to which each of the five measures is a predictor, independent of the other measures. The partial correlation of a selected independent variable with each of the other three independent variables is an adjusted correlation coefficient with the dependent variable.

Table 1

The numbers are shown of communities coded Yes and No for hereditary community leadership, followed by the percentage of communities coded Yes. Four predictors of hereditary leadership are identified in successive groups of lines. Separate categories for each predictor, Yes and No, are followed by the numbers of communities with and without hereditary leadership, and the percentage coded Yes.

	Hereditary Leadership		
	Yes	No	% Yes
Total sample of 119 communities	55	64	46 %
Sexual Permissiveness for Girls			
Yes	33	16	67 % ***
No	22	48	31 %
Small Population of Community			
Yes	37	28	57 % *
No	18	36	33 %
Social Classes or Castes			
Yes	25	24	51 %
No	30	40	43 %
Praying or Violence in Ceremonies			
Yes	29	20	59 % **
No	26	44	37 %

* $p < .05$ ** $p < .01$ *** $p < .001$

The top line of correlation coefficients in Table 2 shows the effects of the partial correlation, adjusting the correlation for each predictor by its correlations with the other predictors. All four adjusted correlation coefficients with hereditary leadership differ significantly from zero. The second line shows the original, unadjusted correlations of hereditary leadership with the predictors. The subsequent lines show the correlations of the predictors with each other.

Table 2

Correlations of hereditary leadership with four predictors are shown for 119 communities with a dichotomous score on each of the five variables.

	Sexual Permiss.	Small Popul.	Social Stratification	Praying or Violence
Hereditary (Adjusted)	.33 **	.26 **	.23 *	.23 *
Hereditary (Unadjusted).	.35 ***	.24 *	.08	.22 *
Sexual Permissiveness		.18 *	-.11	.10
Small Population			-.35 *	-.03
Social Stratification				-.08

* $p < .05$ ** $p < .01$ *** $p < .001$

Premarital sexual permissiveness for females is the predictor that has the highest unadjusted correlation of .35 with hereditary leadership. The adjusted correlation is slightly lower, .33, because sexual permissiveness has positive correlations with two of the three other predictors. A positive correlation between predictors detracts from the adjusted predictive effect of both, especially for the predictor that has a lower correlation with the dependent variable.

Negative correlations with the other predictors increase the adjusted correlation. Social stratification has a negative correlation with each of the other three predictors. One of the three negative correlations, with small population, is statistically significant. The adjusted correlation with hereditary leadership, .23, therefore is much higher than the unadjusted correlation of .08.

Social stratification, one of the predictors of homoarchic hereditary leadership, is also a homoarchic social structure. Two of the other predictors also may be interpreted as homoarchic. A small community population is less diverse and likely to be more cohesive. In community ceremonies, praying and violence are intense emotional expressions shared by the members of the community.

One predictor, permissiveness of premarital sexual intercourse by women, confers heterarchical choice. Homoarchic control focused on married adults might involve compensatory freedom for unmarried youths. A hereditary leader and predetermined social status of the community residents might diminish the need to control the sexual behavior of youths.

Table 3

Columns identify four groups of communities, which differ in whether they are subordinated to a higher government or independent and whether they are unilineal (Unilin) or have other kinship affiliation. Lines show the total numbers of communities in each group, followed by the numbers that differ in the designated variables.

	Subordinated		Independent		Total
	Unilin	Other	Unilin	Other	
Total Number	49	23	18	29	119
Hereditary Leader					
Yes	26	10	8	11	55
No	23	13	10	18	64
Sex Permissiveness					
Yes	21	6	12	10	49
No	28	17	6	19	70
Small Population					
Yes	20	9	11	25	65
No	29	14	7	4	54
Social Stratification					
Yes	29	16	2	2	49
No	20	7	16	27	70
Praying or Violence					
Yes	22	10	7	10	49
No	27	13	11	19	70

Two homoarchical variables, unilineal descent and subordination of the community to a higher level of government, are not good predictors of hereditary community leadership. Table 3 divides the sample of 119 communities into four groups. The politically subordinated and independent communities are divided into two subgroups, with unilineal kinship and choice of kinship affiliation.

Table 3 shows that the most numerous group of communities has two homoarchical customs, political subordination and unilineal kinship. The numbers of communities are much lower and similar for the other three groups of communities. Premarital heterosexual intercourse by women was more often permitted than forbidden in communities that are politically independent with unilineal kinship. The same behavior was more often forbidden than permitted in the other three groups of communities, especially those that are politically subordinated with choice of kinship affiliation. Social stratification was reported in very few communities that are independent. A large population was reported in very few politically independent communities with choice of kinship affiliation.

The four groups of communities listed in Table 3 are more homogeneous than the total sample. Three of the groups contain too few communities for accurate results from the log linear analysis. It is therefore appropriate to identify the variables that have the highest correlations with hereditary leadership.

In the 49 communities with subordinated government and unilineal kinship, hereditary leadership is most highly correlated with small population of the community ($r = .46$). The next highest correlation is with permission of premarital sexual intercourse by females ($r = .40$). In the 23 communities with subordinated government and choice of kinship, hereditary leadership is most highly correlated with permission of premarital sexual intercourse by females ($r = .68$). The next highest correlation is with a measure of low female participation in subsistence economy activities ($r = .65$). This measure, obtained from codes on subsistence economy (Murdoch and Morrow 1970), is not one of the four predictors for the entire sample.

In the 18 politically independent communities with unilineal kinship, hereditary leadership is most highly correlated with praying or violence in ceremonies ($r = .66$). The next highest correlation is with population per square mile ($r = .50$). This finding for a measure that is not one of the predictors for the entire sample is noteworthy because of the negative correlation of hereditary leadership with population of the community. In the 29 politically independent communities with choice of kinship, hereditary leader-

ship has a high correlation with none of the four predictors. The highest correlations are with absence of a large building ($r = .46$), with lack of a written language ($r = .43$), and with low population per square mile ($r = .40$).

Table 4

Eight groups of communities range from homoarchic political subordination, unilineal kinship, hereditary leader (HL) to heterarchic political independence, choice of kinship, and selected leader (SL). For each group, number of communities is followed by average scores on three measures and on the total of ten measures of cultural complexity.

	Political Subordination				Political Independence			
	Unilineal		Choice		Unilineal		Choice	
	HL	SL	HL	SL	HL	SL	HL	SL
Number	26	23	10	13	8	10	11	18
Writing	1.5	2.5	2.0	1.8	0.4	0.7	0.8	0.6
Urbanization	1.6	2.7	1.9	2.5	1.3	1.0	0.4	0.4
Land Transport	0.5	1.7	1.1	1.4	0.3	0.6	0.5	0.2
Total Complexity	21.2	26.0	24.4	24.7	14.4	11.4	6.3	8.6

Table 4 summarizes the relationship of cultural complexity with three measures of homoarchic structure or heterarchic choice. The columns identify eight groups of communities, ranging from homoarchic in all three measures to heterarchic in all three measures. Cultural complexity of each group of communities is measured by average score on four measures reported by Murdock and Provost (1972). The first three measures are on a scale of 0 to 4. The fourth measure is the average of ten measures on a scale of 0 to 40.

Writing ranges from no writing, records, or mnemonic devices to an indigenous system of true writing and possession of written records. Urbanization ranges from a community population of less than 100 persons to more than 1,000 persons. Land transport ranges from exclusively human carriers to automotive vehicles, such as railroads and trucks.

Table 4 shows that homoarchic subordination of the community to a higher government is a necessary condition for high cultural complexity. Among the four groups of subordinated communities, however, all four measures of average complexity are lowest in the communities with the combination of two other homoarchic variables, unilineal kinship and hereditary leadership. The highest average scores in all four measures of cultural complexity are in the group with unilineal descent and selection of leadership. For the two groups of communities with choice of kinship, all four measures of cultural complexity are higher than for the group with unilineal descent and hereditary leadership and lower than for the group with unilineal descent and selection of leadership. Technological and social development therefore appear to be maximal where homoarchic stability of political subordination and unilineal descent are combined with heterarchic selection of the community leader.

Table 5

Communities that are politically subordinated with choice of kinship affiliation are divided into those with hereditary and selected leadership.

Hereditary Leadership			Selected Leadership		
Wolof	21	Circum-Mediterr.	Ashanti	19	Africa
Babylonians	45	Circum-Mediterr.	Basques	50	Circum-Medit.
Toda	61	East Eurasia	Siamese	76	East Eurasia
Burmese	71	East Eurasia	Javanese	83	Insular Pacific
Khmer	75	East Eurasia	Samoans	106	Insular Pacific
Maori	104	Insular Pacific	Gilbertese	107	Insular Pacific
Marquesans	105	Insular Pacific	Atayal	113	Insular Pacific
Yapese	110	Insular Pacific	Japanese	117	East Eurasia
Inca	171	South America	Gros Ventre	140	North America
Tupinamba	177	South America	Chiricahua	148	North America
			Aztec	153	North America
			Miskito	156	South America
			Cuna	158	South America

In the four groups of politically independent communities, the measure of urbanization shows that average community population is lowest where political independence is combined with kinship

choice. For the other three measures, the differences among the four groups are generally small and inconsistent.

Residents of the Russian Federation, the United States of America, and other industrialized nations live in a politically subordinated community and can choose kinship affiliation. The communities with the same attributes are listed in Table 5. The name of each community is followed by the code number in the sample, 1–186, and the geographical area.

The 23 communities with hereditary or selected leadership listed in Table 5 include at least one in each of six world regions. Most of the communities are components of a chiefdom or small state rather than of a contemporary nation.

Four of the 13 communities with selected leadership are components of contemporary nations. The Basques are an ethnic minority group represented by the mountain village of Vera de Bidasoa in Spain in 1934. The Siamese are represented by the Central Thai village of Kadai, Thailand, about 1955. The Javanese are represented by the town of Pare in central Java, Indonesia, in 1954. The Japanese are represented by the village of Nijke in Okayama prefecture, Japan, in 1950.

Two of the communities with hereditary leadership are components of ancient empires. They are the Babylonians, represented by the city of Babylon in 1750 B.C., and the Inca, represented by the vicinity of Cuzco in 1530 A.D.

A few additional communities in contemporary nations are not included because of insufficient information. Hereditary leadership was not coded for the Irish (number 51, Circum-Mediterranean, County Clare in 1932) and Russians (number 54, Circum-Mediterranean, peasant village of Viriatino in 1955). Permissiveness of premarital sexual intercourse by females was not coded for the Armenians (number 56, vicinity of Erevan in Armenia and Azerbaijan in 1843) and Manchu (number 115, Aigun district of northern Manchuria, China, in 1915).

DISCUSSION

Hereditary community leadership is a homoarchical custom, designating the successor during the tenure of the leader. Nonhereditary choice of the leader is a heterarchical action when the leadership position has become vacant. Communities with he-

editary designation of the leader may be expected to differ from communities that select the leader by other cultural customs. Accordingly, four customs have been identified as independent variables, which predict whether the dependent variable, community leadership, is a hereditary designation in advance or is chosen when the vacancy occurs.

The four predictors are associated with hereditary leadership in many diverse communities. A possible interpretation is that hereditary leadership is an adaptive custom in communities where premarital intercourse is permitted for females, or where the community population is small, or where social classes or castes exist, or where praying or violence occur in community ceremonies. This interpretation implies that the dependent variable, hereditary leadership, is caused by the four predictors.

The correlations of the predictors with hereditary leadership do not specify why these customs are associated. Hereditary leadership might be the cause, and one or more of the predictors might be adaptive consequences. A different variable that was not included, such as a dangerous environment or an aggressive neighboring community, might be the cause of both the hereditary leadership and the predictors.

Hereditary leadership was designated as the dependent variable because it is a custom that can change each time a new leader is needed. The predictors appear to be more stable cultural situations or customs. The statistical analysis is equivalent, however, whichever of the five variables is designated as the dependent variable.

The log linear analysis identifies multiple predictors that are independently associated with the dependent variable. It is based on the assumption that the association of each predictor with the dependent variable is not attributable to a stronger or similar association of the predictor with one or more other predictors. The four predictors therefore have lower correlations with each other than with the dependent variable.

Since the multiple predictors are all associated with the same dependent variable, the predictors should tend to be positively associated with each other. The positive association with the dependent variable therefore is diminished when a predictor's correlations with the other predictors are adjusted by the partial correlation coefficient. Conversely, the adjusted correlation with the dependent

variable is higher than the original correlation for a predictor that is negatively associated with the other predictors. An example is the predictor of social stratification. The high partial correlation, adjusting for the negative correlations with the other predictors, reveals a predictor that is not apparent from the original very low correlation with hereditary leadership.

A combination of homoarchic structure and predictability with heterarchic freedom of choice appears to be optimal. Contemporary large nations have homoarchic subordination of the community and heterarchic choice of kinship affiliations. Election of community leaders is prevalent in contemporary large nations. This heterarchic custom may be preferable because of the several levels of subordination of communities to the large nation. Barry (2003) reported that adverse effects of subordination of communities increased with larger numbers of levels of subordination to higher governments. Selection of the community leader may be beneficial because it is a heterarchic attribute of self-government by the community.

The standard sample of communities predominantly represents small, tribal societies that are becoming extinct in the present era of large nations and of worldwide travel and communication. The representatives of contemporary large nations are mostly small villages. Korotayev *et al.* (2004) have recently added several Siberian tribes to the Ethnographic Atlas (Murdock 1967), which contains more than a thousand societies. Another desirable addition would be urban communities. In large cities, the community should be defined as a neighborhood instead of the entire city. Differences can be analyzed among different neighborhoods in the same city, different cities in the same country, and cities in different countries.

An advantage of the standard sample of 186 communities is its inclusion of a broad range of cultural variations. Independent tribal communities reveal customs that are not influenced by subordination to higher levels of government. Customs such as unilineal descent and polygyny are rare in contemporary nations but they are important cultural adaptations. The relationships among variables in the standard sample provide useful information about social adaptations although most of the communities in this sample are not similar to communities in contemporary large nations.

ACKNOWLEDGEMENTS

This study was reported in Panel I, Heterarchy and Homoarchy as Evolutionary Trajectories, convened by Dmitri M. Bondarenko and Carole L. Crumley, in the Third International Conference on Hierarchy and Power in the History of Civilizations, in Moscow, Russian Federation, on 18 June 2004.

Statistical analyses were performed at the Computing Services and Systems Development, University of Pittsburgh.

REFERENCES

- Barry, H., III
2003. Community Customs Associated with Political Subordination. *Social Evolution & History* 2: 116–130.
- Barry, H., III, and Schlegel, A. (eds.)
1980. *Cross-Cultural Samples and Codes*. Pittsburgh, PA: University of Pittsburgh Press.
- Korotayev, A., Kazankov, A., Borinskaya, S., Khalturina, D., and Bondarenko, D.
2004. Ethnographic Atlas XXX: Peoples of Siberia. *Ethnology* 43: 83–92.
- Murdock, G. P.
1967. *Ethnographic Atlas*. Pittsburgh, PA: University of Pittsburgh Press.
- Murdock, G. P., and Morrow, D. O.
1970. Subsistence Economy and Supportive Practices: Cross-Cultural Codes 1. *Ethnology* 9: 302–330.
- Murdock, G. P., and Provost, C.
1973. Measurement of Cultural Complexity. *Ethnology* 12: 379–392.
- Murdock, G. P., and White, D. R.
1969. Standard Cross-Cultural Sample. *Ethnology* 8: 329–369.
- Murdock, G. P., and Wilson, S. F.
1972. Settlement Patterns and Community Organization: Cross-Cultural Codes 3. *Ethnology* 11: 254–295.
- SPSS Inc.
1994. *SPSS 6.1. Syntax Reference Guide*. Chicago: SPSS.