

APPENDICES TO CHAPTER II

Appendix 2-1: Ethnographic Data for Foraging Economics: My Codes

The discussion in this appendix refers to tables SA-1 and SA-3, which are found elsewhere on this CD-rom and which contain all the codings for the foraging societies on EXCEL spreadsheets. The individual codings for this appendix were made from information usually found in primary ethnographic sources. In some cases the ethnographer would make some factual statement or evaluation that I found difficult to understand or interpret and, as a result, I am not completely sure about my codings. Therefore, for each characteristic of the society I provide two pieces of information: the rating and my (subjective) confidence in how closely my coding corresponds with what the ethnographer recorded, with A = quite confident; B = somewhat confident; C = not at all confident (my ratings may represent only an educated guess or interpolation). For some variables, such as sharing, I am not very confident about the accuracy of the original sources, as indicated in the notes about them. The number of each paragraph of explanation designates the corresponding data column in the table. For analysis of the “intermediate” societies, I also include several variables defined in Table SA-3.

1-1. Name of society. From Murdock and White (1969).

1-2. Number of society in the Standard Cross-Cultural Sample. From Murdock and White (1969).

1-3. Economic system. These evaluations are derived from the cluster analysis. 1 = classic foragers; 2 = transition foragers; 3 = human-wealth-oriented foragers; 4 = other-world-oriented foragers; 5 = politically-oriented foragers; 6=physical-wealth-oriented foragers. An A in column 1-3b indicates that in the ten runs of the cluster program, the particular society ended up in the

designated cluster at least 80 percent of the times; a B indicates 70 percent or more of the runs; a C indicates that the program placed the society in a particular cluster 60 percent of the time. In this case I have placed the society in the particular cluster where it was most often found, but have not included it in the regression calculations determining the characteristics of the cluster. One society, the Northern Paiute, was placed 50 percent of the time among the classic foragers and 50 percent of the time among the transition foragers. I have not classified this society or used it in any of the regressions except for development elasticities.

1-4. Distribution of wealth: 1 = general equality; 2 = some differences in wealth; 3 = considerable differences in wealth. These codings are quite subjective on my part since ethnologists have different standards as to what constitutes a significant difference in wealth.

1-5. Food sharing/redistribution: This variable runs from 0 through 4 and is a composite including both food shared on the spot when foraged and food shared in camp. These two components receive weights of one-third and two-thirds respectively. On-the-spot food sharing was estimated by determining the customary rules for sharing foraged foodstuffs foraged through gathering, hunting, and fishing respectively and then weighting the results by the percentage of food coming from each source (SA2, 7 through 9). The food shared in camp was a rough estimate, as it was difficult to quantify the vague adjectives used by the ethnographer to describe the situation. The confidence ratings in column 5b reflect how well I believe that I captured what the ethnographer meant; because of different standards used by the ethnographers, I do not have a great deal of confidence in the overall ratings. In some societies (but not in the sample), food is redistributed through the chief. This represents a type of food sharing in camp.

1-6. Market exchange or barter. Various forms of market exchange appeared to form a

Guttman scale: little internal market exchange occurred in the absence of considerable external market exchange, while the reverse did not hold. 1 = little or no market exchange; 2 = market exchange but primarily with few external traders; 3 = market exchange with many external agents (a = significant amount of food obtained through exchange); 4 = external market exchange plus some internal market exchange as well; 5 = considerable internal and external market exchange.

1-7. Taxation or tribute. 0 = political leader had no special rights to part of foraging produce of others; 1 = political leader had special rights to part of foraging produce of others, which can either be redistributed or kept for personal use.

1-8. Possession of land. A composite variable running from 0 through 4. Calculated by recoding column SA1-14 (recoded so that 0 = no territoriality; 1 = territory claimed by tribal; 2 = territory claimed by subtribal group, such as band; 3 = territory claimed by small or large family group) and column SA1-15 (recoded so that 0 = private ownership by nuclear families or individuals of land nonexistent, unimportant, or not critical; 0.5 = private ownership of large areas or formal land claims; 1 = all or important parts of land privately owned). These two recoded variables were then summed.

1-9. Food storage. 1 = no storage or short-term storage (for several days) or storage only of luxury foods; 2 = food storage in one season to last over other seasons for nourishment purposes; 3 = food storage covering more than a year's nourishment needs (surplus could be used for other purposes such as ceremonial use).

1-10. Slave holding. 1 = no slaves at focus date (an a indicates slavery in the past); 2 = presence of slaves, but usually held only by elite; 3 = presence of slaves and all could hold. If male war captives were treated well (for instance, among the Abipone) so that they would not flee, or if

female war captives were given to men in the society but were not treated differently than other wives, I code these cases as 1.5 . In some cases, such as the Yukaghir, it proved difficult to determine the extent of slavery and how far back in the past it was given up. For the analysis in the text, I counted those foraging societies that practiced slavery in the past as “slaveholding” because of the way in property rights were structured, even if a particular type of property was no longer recognized. It turned out that this decision had no impact on the results.

1-11. Economically valuable intangibles wealth, especially curing techniques. 1 = knowledge widely shared; 2 = knowledge specialized but economically unimportant to owner; 3 = knowledge specialized and constituted an important source of income. In some cases it was reported that curers were paid or given a present, but the amount of the payment was unclear. In this case, I had to make a guess about the extent from the context of the activity.

1-12. Extent of bridewealth. 1 = none, small gifts, mutual exchange of gifts, or a substitute form of compensation such as bride service; 2 = some, but not significant wealth involved; 3 = significant wealth involved.

1-13. Inheritance of movable property. 1 = very little; most movable property destroyed or buried with corpse; 2 = some property inherited, some destroyed or buried; 3 = significant share of movable property inherited.

1-14. Territoriality and predominant unit of land holding. 0 = no significant territoriality; 1 = territory claimed by tribe as a whole; 2 = territory claimed by subgroups of tribe larger than the band; 3 = territory claimed by band or local group; 4 = territory claimed by extended family, gens, or clan; 5 = territory claimed by small families or individuals.

1-15. Importance of private land holding by individuals or families. 1 = private land

either nonexistent, unimportant, or casual; 2 = particular (noncritical) areas or sites held privately, such as individual trees; 3 = large areas held privately, but also some large community land; 4 = most land divided privately (individuals or families).

1-16. Political centralization. A composite variable running from 0 through 4 equally weighting (a) the political leader's relative wealth, (b) his power (whether the leader was weak and operated through influence, weak and worked with a council, strong but worked with a council, strong and ruled alone); (c) the formal nature of political leadership (leadership was informal, leader selected in semi-formal or formal process, or leadership inherited); and (d) the extent of power (strictly local, over several local groups, or over tribe).

1-17. Social differentiation of free individuals (i.e., excluding slaves). 1 = general egalitarianism; 2 = individuals or families ranked; 3 = at least two distinct classes with considerable inheritance of status. There were no societies with castes.

1-18. Fixity of residence/nomadism. The basic distinction is between societies with and without permanent homes. Among the former, some societies roamed the entire year (= 1), while others had a "stationary encampment" for some months and then roamed the remainder of the year (= 2). Among groups with this fission-fusion pattern, it is often possible to distinguish those societies where the whole group roamed and came together (= 2a), those where the stationary encampment was larger than the roaming group (= 2b), and those where the stationary encampment was smaller than the roaming group (= 2c). In some cases no information was available on this matter (= 2d). Among societies having a permanent home, it is often possible to distinguish between those who were nomadic during part of the year (= 3), those who moved between 2 or more permanent homes (= 4), and those with a single permanent home from which they seldom moved

away.(= 5a if community periodically moved; = 5b if remained in same location for many years).

1-19. Average size of most significant local group. The population codes are: 1 = < 50; 2 = 50-99; 3 = 100-149; 4 = 150-199; 5 = 200-249; 6 = over 250. Unfortunately, for certain societies, the estimates by others of “size of community” for certain societies vary enormously with each other (an extreme example is the Tehuelche, see Cooper 1946: 144 ff). It seems likely that for nomadic societies exhibiting an annual fission-fusion pattern of residence, the community population data may refer to the society during different phases of this process. Because anthropologists differ in their definitions of “tribe,” “band,” “camp,” and “local group,” it is necessary to specify my concepts more concretely. I define the “local group” as the agglomeration of people whose members spend the most time together; “band” as the grouping that combines the local groups for at least several months of the year (the band and the local group may be coterminous); and “tribe” as a group of bands with a sense of social identity. My “community size” variable refers only to the local group. For those nomadic societies exhibiting a fission-fusion pattern (coded 2 in column 18), I append an ‘a’ to designate that the larger assemblage was the local group and a ‘b’ when the smaller assemblage was the “local group.” For other cases, this ambiguity does not arise.

1-20. Contact with the West. This coding refers only to the pinpointed year, since contact with the West varied greatly over time. 1 = relatively little contact with white traders, missionaries, or colonial officials; 2 = sufficient contact with white traders, missionaries, or colonial officials to have an important impact on the economy.

1-21. Presence of gambling. 1 = none or little; 2 = some; 3 = considerable. In many cases the ethnographies did not mention gambling. Sometimes, however, games in general were described in detail and if gambling was not mentioned, so we can be fairly sure (= B) that it did not occur.

Sometimes, gambling was not mentioned, and it also did not seem consistent with the rest of the daily life described in the ethnographies, in which case I guessed that gambling did not occur and gave this coding a rating of C. In some cases (coded 1.5), gambling occurred among some groups of the society but not others; in other cases (coded 2.5), gambling occurred but its importance is difficult to judge.

1-22. Presence of potlatch. “Potlatch” covers those ceremonies in which large quantities of property are given away or destroyed by the owner to demonstrate the owners wealth and thus prestige. 1 = not present; 2 = present but property given away and not destroyed; 3 = property either given away or destroyed. Many of the sample societies held feasts, dances, or other ceremonies in which gifts were given; coding problems arise in deciding how extensive and institutionalized was such gift giving.

1-23. Rights of women. 1 = women have sole right to choose own husband; 2 = family has dominant rights in selecting a woman’s husband; 3 = men in the family use their rights in determining a woman’s husband to obtain a spouse for themselves. Overall I am uncertain about these codings, because it not clear in the original sources whether and to what degree a women could refuse to enter into the marriage arranged for her.

1-24. Transportation of stored food. 1 = no storage or stored food carried on back; 1a = no storage, although transportation was available; 2 = use of horses, sleds, or boats to transport stored foods; 2a = food storage occurred but transportation was not necessary since the group was settled in a single location or the distance between permanent homes was not very great.

1-25. Demand-sharing. 1 = yes, if an article was requested in some way, it was usually handed over. This could occur in the form either of direct asking, considerable scrounging, or

tolerated theft. 2 = demand-sharing occurred only for certain goods, for instance, food; 3 = demand reciprocity - if an article was requested, the recipient gave a gift before asking; 4 = only the chief or leader required to honor requests; 5 = no demand-sharing. This variable was difficult to code, in major part because most ethnologists did not directly record such information and it was necessary to read between the lines.

Appendix 2-2: Ethnographic Data for Foraging Economics: Other Codes

The ethnographic data for foragers coded by others are contained in Table SA-2; they were drawn from Divale and Gray (2001) (World Cultures - CD-rom). In the explanation below, I use the letter “V” to designate the number of the variable on this disk and, since this disk may not be generally available. I also include the original source of the coding. The number at the beginning of each paragraph of explanation designates the column in the table to which the paragraph refers. A blank space indicates that no coding was made.

2-1. Name of society. From Murdock and White (1969).

2-2. Number of society in the Standard Cross-Cultural Sample. From Murdock and White (1969).

2-3. Pinpointed date. V838, originally from Murdock and White (1969).

2-4. Region. From Murdock and White (1975). 1 = Africa; 2 = Asia; 3 = Oceania/Australia; 4 = North America; 5 = South America; 6 = Europe.

2-5. Latitude. From Murdock and White (1969). A negative number designates the Southern Hemisphere.

2-6. Cultural complexity. This variable was calculated from estimates of societal scale (or complexity) by Robert Carneiro (1970 and unpublished data), who takes into account many hundreds of cultural traits, and the less complete calculations by Murdock and Provost (1973), who take into account ten traits. The starting point was the unpublished sixth edition of Carneiro’s calculations, which he generously supplied me. In this list I interpolated results from Carneiro’s published fourth edition (1970) and fifth edition (reported as variable 22 in Pryor 1977: 337). Altogether, the combined Carneiro samples include 72 of the 186 societies in the SCCS. Fortunately,

the Carneiro and Murdock-Provost scales are highly correlated: when both are transformed into logarithms (which reduces problems of curvature of the scales), the correlation coefficient is 0.93. The Murdock-Provost values, therefore, could be interpolated into the Carneiro scale. Although the Carneiro scale was calculated from a series of societies pinpointed at a particular time, this scale can also be used for an analysis of a single society over time (Carneiro, 1969).

2-7. Percentage of gathered foods in subsistence. V203 (converted to a percentage), originally coded by Murdock (1967) for the Ethnographic Atlas, which appeared in various installments in Ethnology. He apparently made these estimates on the basis of the food bulk, rather than nutritional content.

2-8. Percentage hunted products in subsistence. V204 (converted to a percentage), originally coded by Murdock (1967). See notes for 2-7.

2-9. Percentage of products from fishing and water mammal hunting in subsistence. V205 (converted to a percentage), originally coded by Murdock (1967). See note for 2-7.

2-10. Effective temperature (centigrade). Derived from a formula discussed by Kelly (1995: 66), this measure “provides :a simultaneous measure of the intensity of solar radiation as well as its annual distribution.” It is derived from data of the mean temperature of the hottest and coldest months, V187 and V188, originally from unpublished data of John Whiting.

2-11. Evapotranspiration (millimeters). A measure of available annual water supply, taken from data from the nearest weather station and presented by Thornthwaite and Associates (1962-65).

2-12. Famine threat. An unweighted average of V1265, V1267, V1683, and V1685 after all variables have been recoded on a four point scale, where 1 = low and 4 = high. The original data come from Dirks (1993) and Ember and Ember (1992).

2-13. Agricultural potential. A synthetic indicator running from 4 (low potential) to 23 (high). The original data come from Pryor (1986).

2-14. Female power. V663, originally from unpublished data of Sanday (1981). The data are a Guttman scale of six measures of female power running from 1 (low) through 7 (high).

2-15. Male aggression. V669, also originally from Sanday (1981). The data are a Guttman scale of five measures of male aggression running from 1 (low) through 6 (high).

2-16. Composite of male dominance. V670, also originally from Sanday (1981). This is a composite measure derived from data from columns 14 and 15, where 1 = sexes equal (5 or above on the female power scale, 4 or below on the male aggression scale); 2 = “mythical male” (5 or above on the female power scale, 5 or above on the male aggression scale); 3 = sexes unequal (4 or below on the female power scale).

2-17. Female contribution to subsistence. V890. This is an average of separate estimates by Barry and Schlegel (1982), Whyte (1978), and the Ethnographic Atlas.

2-18. Descent. V70, originally coded by Murdock and Wilson (1972) but categories combined. 0 = no corporate descent; 1 = corporate descent groups (matrilineal, patrilineal, ambilineal, or double descent).

2-19. Household form. V67, originally coded by Murdock and Wilson (1972). 1 = large communal structures; 2 = multifamily dwellings; 3 = single-family dwelling or homestead or multi-dwelling households, each with a married pair; 4 = separate households for each wife or households occupied only by individuals.

2-20. Family form. V68, originally coded by Murdock and Wilson (1972). 1 = basic husband-wife unit, either monogamous or polygynous; 2 = stem family; 3 = small extended family;

4 = large extended family.

2-21. Marriage form. V68, originally coded by Murdock and Wilson (1972). 1 = monogamous, no polygyny; 2 = primarily monogamous, less than 20 percent of marriages polygynous; 3 = more than 20 percent of marriages polygynous.

2-22. Marital consideration. V208, originally coded by Murdock for the Ethnographic Atlas, which was published in various installments in Ethnology. 1 = brideprice or bridewealth to bride's family; 2 = bride service to bride's family; 3 = gift exchange, token brideprice, or exchange of female relative; 4 = dowry to bride from her family.

2-23. Postmarital residence. V69, originally coded by Murdock and Wilson (1972). 1 = matrilocal or uxorilocal (with wife's kin); 2 = ambilocal (with either wife's or husband's kin) or neolocal (separate from kin); 3 = avunculocal (with husband's mother's brother's kin); 4 = patrilocal or virilocal (with husband's kin).

2-24. Cousin marriage. V227, originally coded by Murdock for the Ethnographic Atlas, which appeared in various installments in Ethnology. 1 = marriage allowed to all four cousins; 2 = marriage allowed with three of four cousins; 3 = marriage allowed to two of four cousins; 4 = marriage allowed with one of four cousins; 5 = marriage not allowed with first cousins but perhaps with second cousins; 6 = marriage not allowed with first or second cousins. Some anthropologists have argued to me that some of Murdock's codes for this variable, particularly his coding for marriage allowed to all four cousins, seem dubious.

2-25. Overall frequency of warfare. V1648, originally coded by Ember and Ember (1992) but condensed. 1 = low (Ember scale, 1 to 3); 2 = medium (Ember scale, 3 to 6, which represents warfare once every three to twenty); 3 = high (6 to 18 on the Ember scale, which represents warfare

more often than once every three years)..

2-26. Frequency of internal warfare. V1649. See above for source and codings.

2-27. Frequency of external warfare. V1650. See above for source and coding

Appendix 2-3: Ethnographic Data for “Intermediate” Economies

Table A2-1 Results of the Cluster Analysis for the “Intermediate” Societies

Variable number	Description	Range	Average scores					Total sample	
			Classic	TRN	HWO	IWO	PO		PWO
	Number of societies in sample		0	4	4	1	0	4 13	
2-6	Average level of development (Carneiro scale)	0-600	-	32.5	74.0	32.5	-	156.8	96.1
<u>Systemic dimensions: Averages of distribution dimensions</u>									
1-4	Wealth inequality (1=equal)	1-3	-	1.25	2.00	1.25	-	2.50	1.92
1-5	Food sharing (0=low)	0-4	-	2.57	3.22	2.57	-	2.94	2.91
1-6	Market/barter (1=little)	1-5	-	2.50	2.13	2.50	-	2.88	2.65
1-7	Tax/tribute (0=low)	0-1	-	0.00	0.13	0.00	-	0.75	0.27
<u>Systemic dimensions: Averages of property dimensions</u>									
1-8	Land possession (none=0)	0-4	-	1.13	2.00	1.13	-	3.00	2.04
1-9	Food storage (none=1)	1-3	-	1.50	1.75	1.50	-	2.00	1.77
1-10	Slave holding (1=none)	1-3	-	1.00	2.50	1.00	-	1.38	1.58
1-11	Intang. wealth (1=many hold)	1-3	-	2.25	2.88	2.25	-	2.88	2.69
1-12	Bridewealth (1=none)	1-3	-	1.00	1.00	1.00	-	1.63	1.35
1-13	Inheritance (1=no inherit.)	1-3	-	1.75	2.38	1.75	-	2.75	2.35

Notes: TRN = transitional system; HWO = human-wealth-oriented; IWO = intangible-wealth-oriented; PO = politically-oriented; PWO = physical-wealth-oriented. These labels for economic system are explained in the text. The individual codings are described in greater detail in Appendix 2-1. External Appendix Tables SA-3 gives the values for the different societies and indicators. For this supervised cluster analysis I use the archetype average technique for the calculations.

BIBLIOGRAPHY FOR APPENDICES TO CHAPTER II

- Barry, Herbert III, and Alice Schlegel**, eds. 1980. Cross-Cultural Samples and Codes. Pittsburgh: University of Pittsburgh Press.
- 1982. "Cross-Cultural Codes on Contributions by Women to Subsistence." Ethnology 21: 165-88.
- Carneiro, Robert L.** 1969. "The Measurement of Cultural Development in the Ancient Near East and in Anglo-Saxon England," Transactions of the New York Academy of Sciences, Series II, vol. 31, no. 8: 1013-23.
- . 1970. "Scale Analysis, Evolutionary Sequences, and the Rating of Cultures." Pp. 834-72 in Naroll and Cohen, 1970.
- Cooper, John M.** 1946. "Patagonia and Pampean Hunters." Pp. 127-60 in Julian H. Steward, ed., Handbook of South American Indians, vol. 1, The Marginal Tribes. Smithsonian Institution, Bureau of American Ethnology, Bulletin 143. Washington, D.C.: GPO.
- Dirks, Robert.** 1993. "Starvation and Famine: Cross-Cultural Codes and Some Hypotheses Tests." Cross-Cultural Research 27: 28-69.
- Divale, William and J. Patrick Gray.** 2001. World Cultures: CD-rom. Jamaica, N.Y.
- Ember, Carol R., and Melvin Ember.** 1992. "Codebook for 'Warfare, Aggression, and Resource Problems': Cross-Cultural Codes." Behavior Science Research 26: 169-85.
- Kelly, Robert.** 1995. The Foraging Spectrum: Diversity in Hunter-Gatherer Lifeways. Washington, D.C.: Smithsonian Institution Press.
- Murdock, George Peter.** 1967. Ethnographic Atlas. Pittsburgh: University of Pittsburgh Press.
- Murdock, George P., and Caterina Provost.** 1973. "Measurement of Cultural Complexity."

Ethnology 12: 379-92.

Murdock, George P., and Douglas R White. 1969. "The Standard Cross-Cultural Sample and Its Codes." Ethnology 8: 329-69; also pp. 3-45 in Barry and Schlegel, 1980.

Murdock, George P., and Suzanne F. Wilson. 1972. Settlement Patterns and Community Organizations: Cross-Cultural Codes 3. Ethnology 11: 254-95.

Naroll, Raoul, and Ronald Cohen, eds. 1970. A Handbook of Method in Cultural Anthropology. Garden City, N.Y.: Natural History Press.

Pryor, Frederic L. 1977. The Origins of the Economy: A Comparative Study of Distribution in Primitive and Peasant Economies. New York: Academic Press.

---. 1986. "The Adoption of Agriculture: Some Theoretical and Empirical Evidence." American Anthropologist 88, no. 4 (December): 879-97.

Sanday, Peggy Reeves. 1981. Female Power and Male Dominance: On the Origins of Sexual Inequality. New York: Cambridge University Press.

Thorntwaite, C. W., and Associates, Laboratory of Climatology. 1962-65. Average Climatic Water Balance Data of the Continents. Parts 1-8. Centerton, N.J.: Thorntwaite and Associates.

Whyte, Martin E. 1978. "Cross-Cultural Codes Dealing with the Relative Status of Women." Ethnology 17: 211-37.