CROSS-CULTURAL CORRELATES OF THE OWNERSHIP OF PRIVATE PROPERTY: A LOOK FROM ANOTHER DATA BASE

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Abstract: Swanson's (1966) data base of 39 variables coded on 50 cultures was re-examined for cross-cultural correlates of the private ownership of property. Reliability comparisons were made with Murdock's (1967) *Ethnographic Atlas*. Eliminated were one of Swanson's cultures because of duplicate sampling of a culture cluster, and seven variables because of doubtful reliability. A conservative statistical analysis ($p < .0003$) showed the social institution of private ownership to be a positive correlate of (1) social classes, (2) agriculture in grain, (3) supernatural sanctions for morality, (4) primogeniture, (5) active ancestral spirits, (6) sovereign organization, (7) size of population, and a negative correlate of (8) collecting and gathering, (9) outgroup intimacy and (10) hunting. Theories that private property is a function of patriarchy were not supported, nor were arguments that property regimes are advanced by exogamy and other intimate interactions with alien people.

Résumé: La base de données créée par Swanson (1966) et composée de 39 variables codées sur 50 cultures a été réexaminée afin de dégager les corrélations transculturelles de la possession privée de la propriété. Des comparaisons de fiabilité ont été faites à l'aide de l'«Ethnographic Atlas» de Murdock (1967). Une des cultures étudiées par Swanson a été éliminées à cause d'un prélèvement d'échantillons répété sur le même groupe culturel, et sept variables ont été éliminées à cause d'une fiabilité douteuse. Une analyse statistique conservatrice ($p < .0003$) a démontré l'institution sociale de la possession privée comme une corrélation positive 1) des classes sociales, 2) de l'agriculture des céréales, 3) des sanctions surnaturelles sur la mortalité, 4) de la primogeniture, 5) des esprits ancestraux actifs, 6) de l'organisation d'un souverain, 7) de la grandeur de la population, et comme une corrélation négative 8) de la chasse et de la cueillette, 9) de l'in-

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timité en dehors du groupe et 10) de la chasse. Ni les théories de la propriété privée comme une fonction du patriarcat, ni les arguments démontrant que les régimes basés sur la propriété sont maintenus par l'exogamie et d'autres interactions intimes avec des peuples étrangers n'ont été soutenus.

Introduction

Property is one of the most enduring and cross-disciplinary topics in the social sciences (Rudmin 1988a, 1988b; Rudmin, Belk and Furby 1987). However, as noted by Murdock (1949) and by Levinson and Malone (1980), there have been few cross-cultural, quantitative studies of property. Those that have been done have lacked appropriate sampling, appropriate measures of coder reliability and appropriate inferential statistics. This was certainly the case for Hobhouse, Wheeler and Ginsberg's 1915 study of *The Material Culture and Social Institutions of the Simpler Peoples* and for Simmons' 1937 empirical confirmation of Sumner and Keller's (1927) theories.

However, even as recently as the 1960s, Swanson's (1966) study, *The Birth of the Gods*, suffers from similar shortcomings. In that study, the method of sampling was to canvas expert opinion on the ethnographic completeness and the cultural independence of the 556 societies Murdock (1957) had tentatively grouped into 50 world regions. Considering only recommended ethnographies, societies were randomly sampled to represent each of the 50 regions. However, three regions had no suitable candidates, and, rather than proceeding with a sample of 47, three regions were randomly selected for duplicate representation. Coder reliability was determined by a post hoc analysis of only 20 of the 50 societies, and none of the 11 identified unreliable variables were deleted from the analysis or discussion. Finally, the inferential statistic used in the Swanson (1966) study was the chi-square, even though many of the variables were capable of ordinal scale statistical analysis. Swanson (1966) reported that private property was related to only three variables: "Social Classes" ($p = .01$), "Primary Source of Food" ($p = .02$) and "Amount of Bride Price" ($p = .10$). This last variable had missing data for 40 percent of the sample and had a non-significant reliability correlation of $r = .24$ ($n = 20$, $p > .10$).

Since future comparative research on property rests on the accumulated observations of prior research, it is necessary that the historical record be corrected and made available for confident use. The purpose of the present study was to reanalyze Swanson's data base in order to identify cross-cultural correlates of the ownership of private property. This study is but one step in establishing a replicated record of correlations upon which future multivariate, interpretive and experimental studies might be based.

Method

In the present study, the independence of the sampled societies and the reliability of the codings of the variables were established by comparison to data in Murdock's (1967) *Ethnographic Atlas*. This source was used in preference to Murdock's (1981) more recent *Atlas of World Cultures* for two reasons. First, the *Atlas of World Cultures* includes only 563 cultures and groups them into 150 "provinces" based on criteria of geographic sampling symmetry, i.e., six world regions with 25 cultural provinces per region. The *Ethnographic Atlas*, however, covers 862 cultures and groups them into 412 "culture clusters" based on criteria of cultural similarity due to common derivations and cultural contact. The present study was better served by the greater number of cultures and cultural groups, and by the focus on similarity criteria. Secondly, the *Atlas of World Cultures* eliminated codings for the inheritance of land, and presents only codings for the inheritance of chattel. This may have been in response to Murdock's (1967:59) own criticism of land codings. However, for the present study, Murdock's property inheritance codes were used, with demonstrable reliability, only to establish whether or not property could be privately owned. Coded information on the details of inheritance practices was not used.

Comparable data were available in Murdock's (1967) *Ethnographic Atlas* for all of Swanson's societies except the Romans, the Karen and the Carib. Murdock's codings on the Romans, however, are available in *Ethnography* (1968 7:218-224) and in the *Atlas of World Cultures* (1981:112-113). These sources were used to correct *Ethnographic Atlas* (1967) codings of nine other cultures. Note that the *Atlas of World Cultures* does have errors and must be used with circumspection. For example, the Nyakyusa are given a value of "T" on variable 39 (Type of Animal Husbandry) but there is no coding for "T" on that variable. The worst error encountered was that variables seven through 28 for the Buka are copied from the same variables for the Trobrianders. These two are adjacent entries in the *Ethnographic Atlas* from which the *Atlas of World Cultures* was selectively copied.

Although Swanson overrepresented three of the 50 world culture groups that Murdock had defined in 1957, there was only one instance of overrepresentation of the 412 world culture clusters defined in the 1967 *Ethnographic Atlas*. Both the Carrier and the Kaska belong to the Carrier-Nahani cluster. To resolve this on a criterion of least missing data, the Carrier were eliminated from analysis in this study and the Kaska retained.

For 42 of the societies, Swanson and Murdock used corresponding names. For three more societies—the Hottentot, the Samoyed and the Timbira—Swanson's culture names correspond to Murdock's culture cluster names, but these clusters each contain only one culture. However, for an-

Table 1

Swanson's Sample		Murdock's *Ethnographic Atlas* Sample			
		Culture Clusters		Local Societies	
Name	Missing Data	Code	Name	Name	Code
African Societies					
Hottentot	0	3	Hottentot	Nama	Aa 3
Zulu (post-Shaka)	0	4	Nguni	Zulu	Ab12
Lozi	0	8	Barotseland	Lozi	Ab 3
Bemba	4	14	Bemba-Lamba	Bemba	Ac 3
Nyakyusa	0	17	Ngonde	Nyakyusa	Ad 6
Ganda	0	28	E. Lacustrine Bantu	Ganda	Ad 7
Ga (Temma)	0	45	Akan	Ga	Af43
Tallensi	3	59	Grusi	Tallensi	Ag 4
Tiv	1	64	Tiv-Jukun	Tiv	Ah 3
Azande	0	72	Azande	Azande	Ai 3
Nuer	0	78	N. Nilotes	Nuer	Aj 3
Nandi	3*	83	Nandi	Nandi	Aj 7
Ancient Egyptians	9	113	Ancient Egypt	Egyptians	Cd 6
Eurasian Societies					
Romans (Augustin)	8*	116	Italians	Romans	Ce 3
Israelites (Judges)	6*	137	Jews	Hebrews	Cj 3
Samoyed	4	150	Samoyed	Yorak	Ec 4
Miao (Ch'uan)	5*	166	Miao-Yao	Miao	Ed 4
Lepcha	6	171	Sikkim	Lepcha	Ee 3
Toda	2	180	Nilgiri Hills	Toda	Eg 4
Karen (hill tribes)	4	195	Karen	—	Ei —
Oceanic Societies					
Tanala (Menabe)	0	184	Malagasy	Tanala	Eh 3
Ifugao	1	209	Highland Luzon	Ifugao	Ia 3
Iban	1	212	Borneo	Iban	Ib 1
Arunta	0	230	Central Australia	Aranda	Id 1
Orokaiva	4*	240	E. Papuans	Orokaiva	Ie 9
Arapesh	1	241	North Papuans	Arapesh	Ie 3
Ifaluk	1*	247	Central Caroline Is.	Ifaluk	If 4
Dobu	3	256	Massim	Dobuans	Ig 5
Marquesan	1*	276	E. Polynesians	Marquesans	Ij 3
North American Societies					
Copper Eskimo	0	279	Central & E. Eskimo	Copper Eskimo	Na 3
Kaska	0	284	Carrier-Nahani	Kaska	Na 4
Carrier	4#	284	Carrier-Nahani	Carrier	Na19

Table 1 (continued)

Swanson's Sample		Murdock's *Ethnographic Atlas* Sample			
		Culture Clusters		Local Societies	
Name	Missing Data	Code	Name	Name	Code
Yurok	1	295	N.W. California	Yoruk	Nb 4
Pomo (northern)	2	298	Pomo-Yuki	N. Pomo	Nc17
Yokuts	0	299	Miwok-Yokuts	Yokuts	Nc 3
Shoshoni (Basin-plat.)	2	304	Central Great Basin	Agaiduka	Nd46
Nez Perce	4	309	Sahaptin	Nez Perces	Nd20
Blackfoot (post-horse)	1	313	N.W. Plains	Blackfoot	Ne12
Winnebago	3	319	Prairie Siouans	Winnebago	Nf 2
Iroquois (Seneca)	1	321	Iroquois	Iroquois	Ng10
Zuni	1	330	W. Pueblos	Zuni	Nh 4
Aztec	1*	341	Aztec	Aztec	Nj 2
South American Societies					
Cuna	2	351	Cuna	Cuna	Sa 1
Carib	0	–	–	–	S- –
Yagua	1	377	Peba	Yagua	Se 4
Aymara	3*	387	Aymara	Aymara	Sf 2
Yahgan	1	390	Yahgan	Yahgan	Sg 1
Lengua	4	393	Mascoi	Lengua	Sh 9
Trumai	0*	404	Trumai	Trumai	Si 2
Timbira	2	408	Timbira	Ramcocamecra	Sj 4

* Data corrections from *Ethnography* (1967:481-487; 1968:218-224) and *Atlas of World Cultures* (1981).

\# Society deleted for duplicate sampling of culture cluster.

other three societies, decisions about matching the two samples were based on Swanson's (1966) and Murdock's (1967) reference sources, the latter appearing in *Ethnography* (Vols. 1-10). Thus, Swanson's Arunta are, presumably, Murdock's Aranda (If 1), the Israelites are the Hebrews (Cj 3) and the Shoshoni seem to be the Agaiduka (Nd46). For the Karen cluster, Swanson's data refer to the hill tribes and Murdock's to the plains tribes. Since Swanson (1966:36) specifically noted that these two societies have great cultural differences, it appears that Murdock has no appropriate match for Swanson's Karen codings. Finally, Swanson (1966) neglected to cite references for the Carib and it is thus unrecorded whether he was referring to one of the two Antillean Carib societies in Murdock's cluster 353 or to one of the seven Guiana Carib societies in Murdock's cluster 366.

By the "three-degree rule," societies in a holocultural sample should be separated by at least three degrees latitude and three degrees of longitude (more in higher longitudes) to obviate contact contamination (Murdock

1967:4). This heuristic was violated by the Northern Pomo (39N, 123W) and the Yurok (41N, 124W). However, neither of these societies was eliminated from the analysis for this violation. First, the "three-degree rule" rests on the questionable assumption that equal units of distance represent equal units of resistance to cultural borrowing for different societies of the world. Secondly, Murdock's culture clusters already incorporate considerations of cultural borrowing due to "intimate and prolonged cultural contact" (Murdock 1981:44). Thirdly, the two cultures in violation do not fall within the same broadly defined geographical provinces defined in the *Atlas of World Cultures* (1981). Fourthly, the ethnographic experts that nominated societies for Swanson's (1966) stratified random sampling had been instructed to eliminate those societies which had experienced cultural conversions on the variables of interest. Finally, there are questions of the validity and reliability of locating societies by points of longitude and latitude. Comparing the *Ethnographic Atlas* (1967) and the *Atlas of World Cultures* (1981), corrections on these measures were necessary for 17 of the 45 societies with available measures. Corrections were of the magnitude of 20 degrees for the Yurak and 10 degrees for the Nyakyusa. With such a frequency and range of measurement error, decisions based on differences of three degrees are inappropriate.

The data for this study came from Swanson's (1966:194-217) Appendix I. The two general principles underlying the data transformations in preparation for this study were: (1) to disentangle nominal codings and (2) to maximize ordinal range. For example, Swanson's "Principle Source of Food" (variable 1) contained nine nominal categories. As shown in Table 2, these were transformed into seven ordinal variables. Four of them were allowed more than a binary ordinal range because Swanson (1966:197) had compound codings for "Hunting or Fishing and Root Crops" and "Hunting or Fishing and Grain Crops," which could be interpreted as moderate levels of these characteristics. As shown in Table 2, Swanson's "Matri-Family" (variable 22), "Unlegitimated Contacts" (variable 24), "High Gods" (variable 25), "Active Ancestral Spirits" (variable 29) and "Reincarnation" (variable 30) were also transformed to disentangle nominal codings.

Of Swanson's three measures of "Superior Gods" (variables 26, 27 and 28), the first two were combined by summation. The third measure coded those gods "which are not described with enough precision to be certain" and was therefore omitted. Although Swanson (1966:222-226) favoured summation of variables by OR functions, summation by AND functions was used in this re-analysis in order to maximize ordinal range. As recommended by Swanson (1966), "Exuvial Magic" (variable 31), "Cannibalism" (variable 32), "Taking of Scalps or Bones of Victims" (variable 33)

Table 2

Col.	Swanson's Variables	Ordinal Range	Missing Data (n = 49)	Reliability Estimates: Swanson r (n = 20)	Murdock r	Murdock n	Murdock col.
1	Principle Source of Food	nominal	0	.70[b]			
	– Collecting & Gathering#	(0 to 1)	0		.29[a]	47	7
	– Fishing#	(0 to 2)	0		.26[a]	47	9
	– Herding#	(0 to 1)	0		.49[b]	47	10
	– Agriculture in Root Crops#	(0 to 2)	0		.76[b]	34	29
	– Agriculture in Grain Crops#	(0 to 2)	0		.62[b]	34	29
	– Hunting#	(0 to 2)	0		.43[b]	47	8
	– Tree cultivation#	(0 to 1)	0		.85[b]	34	29
2	Amount of Food Produced#	(0 to 3)	7	.58[b]			
3	Degree of Threat from Armed Attacks by Alien Societies	(0 to 2)	2	.31 ns			
4	Size of Population#	(0 to 3)	1	.68[b]	.59[b]	34	31
5	Unit of Settlement#	(0 to 3)	0	.89[b]	.26[a]	47	30
6	Individually Owned Property#	(0 to 2)	1	.50[a]	.54[b]	40	74
7	Debts#	(0 to 2)	8	.45[a]			
8	Amount of Bride Price	(0 to 2)	19	.24 ns	.39[b]	29	12
9	Social Classes#	(0 to 1)	1	.66[b]	.50[b]	44	67
10	Specialties in Non-communal Activities#	(0 to 3)	0	.48[a]			
11	Specialties in Communal Activities#	(0 to 9)	1	.83[b]			
12	Sovereign Organization#	(0 to 9)	0	.54[a]	.58[b]	47	32+33
13	Nature of Third Sovereign Organization: Territorial	(0 to 6)	3	.17 ns			
14	Nature of Third Sovereign Organization: Kinship	(0 to 8)	5	–.15 ns			
15	Nature of Ultimate Sovereign Organization: Territorial	(0 to 6)	0	.07 ns			
16	Nature of Ultimate Sovereign Organization: Kinship	(0 to 8)	8	.30 ns			
17	Non-sovereign Organizations#	(0 to 9)	0	.84[b]			
18	Non-sovereign Communal Organizations#	(0 to 6)	0	.84[b]			
19	Sovereign Kinship Organizations#	(0 to 9)	2	.73[b]			
20	Ultimately Sovereign Group Organized on Kinship#	(0 to 1)	8	.52[a]			

Table 2 (continued)

Col.	Swanson's Variables	Ordinal Range	Missing Data (n = 49)	Reliability Estimates: Swanson r (n = 20)	Murdock r	Murdock n	Murdock col.
21	Unorganized Kinship Aggregations#	(0 to 8)	2	.51[a]			
22	Matri-Family	nominal	2	.58[b]			
	– Matriarchy#	(0 to 1)	2		.61[b]	45	17
	– Polyandry & Adelphogamy#	(0 to 1)	2		.81[b]	45	14
23	Primogeniture#	(0 to 1)	1	.79[b]	.45[b]	33	75+77
24	Unlegitimated Contacts	nominal	0	.62[b]			
	– Outgroup Intimacy#	(0 to 1)	0				
	– Ingroup Tensions#	(0 to 1)	0				
25	High Gods	nominal	11	.81[b]			
	– Active in Human Affairs#	(0 to 1)	11		.77[b]	33	34
26	Superior Gods I	(0 to 9)	1	.87[b]			
27	Superior Gods II	(0 to 9)	3	.93[b]			
—	Superior Gods# (26+27)	(0 to 18)	3				
28	Superior Gods III	(0 to 9)	3	.67[b]			
29	Active Ancestral Spirits	nominal	1	.66[b]			
	– Aid/Punish or Invoked#	(0 to 1)	1				
30	Reincarnation	nominal					
	– As Animal or Person#	(0 to 1)	0	.88[b]			
31	Exuvial Magic	(0 to 1)	0	.28 ns			
32	Cannibalism	(0 to 1)	0	.28 ns			
33	Taking Scalps or Bones of Victims	(0 to 1)	0	.38 ns			
34	Head-hunting	(0 to 1)	0	1.00[b]			
—	Immanence of Soul# (31+32+33+34)	(0 to 4)	0	.66[b]			
35	Human Sacrifice	(0 to 1)	0	.40 ns			
36	Prevalence of Witchcraft#	(0 to 2)	0	.52[a]			
37	Supernatural Sanctions on Morality: Health Effects	(0 to 1)	0	.66[b]			
38	Supernatural Sanctions on Morality: Afterlife Effects	(0 to 1)	3	.39 ns			
39	Supernatural Sanctions on Morality: Other Effects	(0 to 1)	2	.60[b]			
—	Supernatural Sanctions on Morality# (37+38+39)	(0 to 3)	5	.67[b]			

Included in correlational analysis; ns $p > .05$; a $p < .05$; b $p < .01$.

and "Head-hunting" (variable 34) were combined as "Immanence of the Soul." The three measures of "Supernatural Sanctions for Morality" (variables 37, 38 and 39) were similarly combined by the AND function.

Swanson's coding of uncertain and uncodable data was not consistent and requires explanation. Generally, "X" meant "uncodable" and "Y" meant "uncertain." In the transformations of the data for this study, "X" and "Y" were generally both defined as "missing" data. However, for variables 13, 14, 15, 16, 19 and 21, "X" meant absence of the phenomenon and was therefore transformed to a value of "0." To make room for this transformation, the given ordinal codes were all incremented by one. On four of these variables (14, 16, 19 and 21), an original value of "8" meant "uncertain" and was therefore defined here as "missing." On variable 25, "4" meant that information about high gods is "uncertain" and was therefore defined here as "missing." On variable 29, "1" meant "unspecified" and was therefore defined here as "0," meaning that ancestral spirits could not be classified as aiding or punishing people. For Swanson's (1966:212-213) codings of "Supernatural Sanctions for Morality" (variables 37, 38 and 39), a value of "0" meant "absent or no data." Since only the summation of these three variables was entered into the analysis, "0" was not defined as "missing."

The ordinal ranges of the transformed variables appear in Table 2, along with the amount of missing data for each. Table 2 also shows Swanson's (1966:222-226) reliability correlations for the 20 societies selected for his post hoc reliability testing. To the right of these are the reliability correlations that could be made with comparable variables in Murdock's (1967) data base. Because the data are ordinal, Kendall correlations were used. Because the expectation is for positive correlations, one-tailed estimates of probability were used. Murdock's variables were transformed to give a maximum ordinal range where possible. (See Rudmin 1992 for details.) Based on these two estimates of coder reliability, seven of Swanson's variables were deleted from the analysis: "Degree of Threat from Armed Attacks by Alien Societies" (variable 3), "Amount of Bride Price" (variable 8), "Nature of Third Sovereign Organization: Territorial" (variable 13), "Nature of Third Sovereign Organization: Kinship" (variable 14), "Nature of Ultimate Sovereign Organization: Territorial" (variable 15), "Nature of Ultimate Sovereign Organization: Kinship" (variable 16) and "Human Sacrifice" (variable 35).

Thus, the final holocultural data base for this study consisted of 49 societies representing distinct and independent culture clusters. A total of 32 ordinal variables were available for correlational comparison with "Individually Owned Property."

Table 3
Correlations of Property Variables

	Murdock 74: Land	Murdock 76: Objects
Swanson 6: Property	r = .44[a] n = 40	r = .54[b] n = 40
Murdock 74: Land		r = .60[b] n = 38

a $p < .01$; b $p < .001$.

Results

The objective of the study was to identify those characteristics of societies which are reliable correlates of private ownership practices. Because the primary rationale of this re-analysis was to take advantage of the ordinal nature of the data, yet to be statistically conservative, the statistic of choice was the Kendall correlation. To minimize chance correlations and to compensate for any residual doubts about the reliability of the ethnographies or their coding, correlations were examined for all three available measures of private property: (1) Swanson's "Individually Owned Property" (variable 6), (2) Murdock's "Inheritance of Real Property" (variable 74) and (3) Murdock's "Inheritance of Movable Property" (variable 76). The two Murdock variables were each transformed to a binary presence or absence of private property. As shown in Table 3, the three property variables are strong correlates of one another. Because they have different operational definitions of property and focus on different objects of property, they sample different aspects of the social institution of private ownership. Together they thus comprise a more robust index of property ownership than any one measure alone.

The criteria for a significant correlation of one of the 32 variables under study with the practice of private ownership were: (a) correlations of the same sign on all three property variables—this has a null probability of $p = .25$; (b) significance at $p \leq .05$ on two of the correlations and at $p \leq .15$ on the other—this has a null probability of $p < .001125$. Since (a) and (b) are independent, conjunctive criteria, the likelihood of meeting the combined significance criteria was $.25 \times .001125$, or $p < .0003$, under a null hypothesis of randomly distributed data. With the examination of 32 correlations, the likelihood of a spurious claim of correlation in this study is $p < .009$. One-tailed estimates of probability were used because of the hypothesis that all three property correlations would be in the same direction. With a significance level of $p < .0003$, minimizing Type I error (incorrectly claiming sta-

tistical significance) has been given priority over minimizing Type II error (incorrectly claiming non-significance).

Table 4
Significant Kendall Correlations with Property Variables

Swanson's variables that correlate with property	Property Variables					
	From Swanson		From Murdock			
	6. Property		74. Land		76. Objects	
	r	n	r	n	r	n
1. Collecting & Gathering	$-.35^{b}$	48	$-.37^{b}$	41	$-.68^{c}$	41
1. Agriculture in Grain	$.34^{b}$	48	$.59^{c}$	41	$.41^{b}$	41
1. Hunting	$-.18\#$	48	$-.52^{c}$	41	$-.31^{a}$	41
4. Size of Population	$.14\#$	47	$.50^{c}$	40	$.34^{b}$	40
9. Social Classes	$.49^{c}$	47	$.32^{a}$	40	$.25\#$	40
12. Sovereign Organization	$.17\#$	48	$.44^{c}$	41	$.35^{b}$	41
23. Primogeniture	$.22\#$	47	$.32^{a}$	40	$.29^{a}$	40
24. Outgroup Intimacy	$-.21\#$	48	$-.47^{c}$	41^{c}	$-.58^{c}$	41
29. Active Ancestral Spirits	$.19\#$	47	$.48^{c}$	40	$.46^{b}$	40
37-39. Supernatural Sanctions for Morality	$.34^{b}$	43	$.41^{b}$	38	$.36^{b}$	37

$.05 < p < .15$; a| $p < .05$; b $p < .01$; c $p < .001$.

With this conservative statistical analysis, 10 variables were found to correlate with the private ownership of property. Only for "Amount of Food Produced" (variable 2) did one of Swanson's variables correlate with his "Individually Owned Property" (variable 6) and not meet significance criteria with Murdock's other two property measures. (Correlational statistics for these appear in the discussion.) As shown in Table 4, three of the 10 significant correlations were negative correlates and seven were positive. Because the correlations were non-parametric, because they entailed from one to six missing cases, because the *n* of cases was small (ranging from 37 to 48), and because "Collecting and Gathering," "Hunting" and "Agriculture in Grain" were ipsative measures taken from a single nominal coding, multivariate techniques were not pursued.

Discussion

There are inherent uncertainties in these types of cross-cultural studies that must be borne in mind. (See Rudmin 1992 for a more elaborate discussion.) First, there is the lack of random sampling. Although conceptually the population of study is all human cultures, operationally the population of study is a relatively limited set of recommended ethnographies. The opportunities

and decisions to prepare ethnographies on some cultures and not others, subsequent evaluations and selection of those ethnographies, and the identification of the cultural groupings, are all products of informed opinion and unknown bias. Hopefully, the very numbers of people and decisions involved preclude any systematic bias in the results. Secondly, there is the difficulty of interpreting correlational studies. It is never evident from the correlations themselves whether they represent relationships of cause, effect, underlying factors or antithetical concomitance (i.e., counterbalances or compensations).

Finally, there is concern about the validity of the ethnographies themselves. This is particularly worrisome when the topic of research is the ownership of property. Almost all the ethnographies in any holocultural samples were produced in the 19th and 20th centuries when many peoples of the world were being dispossessed of their property by Western nations and when Western thought itself was ideologically split over the issue of communism. (See Rudmin 1988b and 1992 for history and data on this.) These background conditions do not encourage hope that ethnographic reports of property practices and inferences of private ownership are objective, unbiased and accurate. For example, consider Averkieva's (1961) ideological critique of Speck and Eiseley's (1939) claim that Canadian Algonkian peoples had property rights in land. Alternatively, consider the fact that Murdock's (1967) *Ethnographic Atlas*, based on ethnographies selected for quality and reliability, shows that all indexed Australian aboriginal societies lack ownership in land, even though more recent ethnographic work debunks that belief (see Williams and Hunn 1982). Thus, the findings of this and other holocultural studies of property are not conclusive. Confidence will only come from repeated replications, drawing on different ethnographic records and on other types of data.

The re-analyses of the older cross-cultural data bases well serve this search for replication and convergence. At the very least they identify variables and relationships for subsequent independent study. Swanson's (1966:218-219) own chi-square analysis of his data base reported that "Individual Ownership of Property" was related to only three of his variables: (1) "Social Classes" ($p = .01$), (2) "Primary Source of Food" ($p = .02$) and (3) "Amount of Bride Price" ($p = .10$). Ordinal analysis of the same data in the present study confirmed the first two of these reports. "Individual Ownership of Property" was most strongly correlated with "Social Classes" ($r = .49$, $n = 47$, $p < .001$) and with two variables drawn from Swanson's "Primary Source of Food" codings, i.e., collecting and gathering ($r = -.35$, $n = 48$, $p < .01$) and agriculture in grain ($r = .34$, $n = 48$, $p < .01$). It is not possible to make confident claims about the variable "Amount of Bride Price" because of doubtful coding reliability and excessive missing data.

This re-analysis of Swanson's 1966 study substantially replicated a similar re-analysis of Simmons' 1937 study of 109 variables coded on 71 societies (Rudmin 1992). Because the two samples have only nine societies in common, they are well suited for replication comparisons. Of the 10 variables found here to be significant correlates of private ownership, five had comparable variables in Simmons' (1937) study. This study's correlations of private ownership with "Agriculture in Grain" replicated the significant correlations in Simmons' data of private ownership of land and of objects with his measures of "Agriculture" and of "Use of Grain for Food." This study's correlations of private ownership with "Social Classes" replicated the significant correlations in Simmons' data of private ownership of land and of objects with his measure "Castes and Classes."

This study's correlations of private ownership with "Collecting and Gathering," with "Hunting," and with "Primogeniture" were supported by Simmons' data, though not as robustly as the replications just discussed. Simmons' measure "Collection" had Kendall correlations with "Private Property in Objects" of $r = -.20$ ($n = 44$, $p < .10$) and with "Private Property in Land" of $r = -.43$ ($n = 40$, $p = .001$). Simmons' measure "Hunting" had correlations with "Private Property in Objects" of $r = -.18$ ($n = 60$, $p < .10$) and with "Private Property in Land" of $r = -.42$ ($n = 52$, $p < .001$). Simmons' measure "Primogeniture" had correlations with "Private Property in Objects" of $r = .20$ ($n = 42$, $p < .10$) and with "Private Property in Land" of $r = .03$ ($n = 37$, $p > .40$).

Replication comparisons should also consider those significant correlations in Simmons' data that were capable of replication here. The re-analysis of Simmons' data found 21 robust correlates with the institution of private property (Rudmin 1992). Of these, five had comparable variables in Swanson's data. The replications based on Simmons' measures of agriculture, grain production and social stratification have already been discussed. However, Simmons' data also showed "Constancy of Food Supply" and "Debt-relations" to be positively correlated with private property in objects and in land. In the present study, Swanson's "Amount of Food Produced" had positive correlations with "Individual Ownership of Property" ($r = .30$, $n = 41$, $p < .05$), with Murdock's measure of property rights in land ($r = .20$, $n = 36$, $p < .10$) and with Murdock's measure of property rights in objects ($r = .20$, $n = 36$, $p < .10$). Swanson's measure of "Debts" had positive correlations with "Individual Ownership of Property" ($r = .22$, $n = 41$, $p < .10$), with Murdock's measure of property rights in land ($n = 36$, $r = .36$, $p < .05$) and with Murdock's measure of property rights in objects ($r = .21$, $n = 37$, $p < .10$).

Thus, conservative re-analyses of two independent holocultural data bases have both found that social stratification and agriculture in grain are

positive correlates of the institution of private ownership. There is also reason for confidence that debts and abundant food are positive correlates of private ownership, and that hunting and gathering are negative correlates.

One of the general findings of Rudmin's (1992) re-analysis of Simmons' (1937) data was that there was little support for theories that private property is a patriarchal institution and that it entails the subjugation of women. Such theories have long been advocated by a diversity of scholars, from 19th century social philosophers (e.g., Morgan 1877; Engels 1920; Sumner and Keller 1927) to contemporary feminists (e.g., Hirschon 1984; Coontz and Henderson 1986). In Simmons' data, 32 of the 89 variables examined were gender defined, yet only two appeared as significant correlates of private ownership. "Patrilineal Residence" was positively correlated with private property and clustered with variables of social and material stratification. "Marriage by Capture" was negatively correlated with private property and clustered with variables of social security. One of Simmons' variables was explicitly defined as "Subjugation or Inferiority of Women;" it had a clear pattern of non-correlation with the four available measures of private ownership (Rudmin 1992).

The present re-analysis of Swanson's data also found little support for gender theories of property. "Matriarchy" was distinguished from "Polyandry and Adelphogamy" in Swanson's coding of "Matri-family." Both showed good reliability with Murdock's comparable variables. Yet, "Matriarchy" (value "1" on variable 22) had weak correlations with Swanson's "Individually Owned Property" ($r = -.10$, $n = 47$, $p > .20$), with Murdock's measure of property rights in land ($r = .00$, $n = 39$, $p = .50$) and with Murdock's measure of property rights in objects ($r = -.08$, $n = 40$, $p > .30$). Swanson's measure "Polyandry & Adelphogamy" (value "2" on variable 22) similarly had weak correlations with Swanson's "Individually Owned Property" ($r = .13$, $n = 47$, $p > .10$), with Murdock's measure of property rights in land ($r = .00$, $n = 39$, $p = .50$) and with Murdock's measure of property rights in objects ($r = .11$, $n = 40$, $p > .20$). It should be noted here that "Primogeniture" was not restricted to male heirs in Swanson's coding, and the positive correlation of "Primogeniture" with property should not therefore be interpreted as a misogynous private property practice. In combination, these findings do not support theories that the institution of private ownership correlates with the oppression of women.

Swanson's data may also challenge a theory of property proposed by George Herbert Mead (1982). He argued that exogamy, slavery and other social practices that brought alien people intimately into the community caused property to develop into abstract, rule-governed, defensive relationships between people in respect to property. Although Mead is not clear on this, it seems that he is arguing that such abstract relationships enhanced the

development of abstract property, i.e., money, which accentuates the defensiveness and hostility of ownership because money can belong to anyone:

> Abstractness is given to the social relation involved in property through associating it with hostility. Previously property was a concrete social relation. The abstract property relation came into marriage and slavery through bringing in the outsider, one who has no rights in the group, no personality that gave him or her a place in the group. . . . Abstractness always carries with it a degree of hostility. The attitude of the possession of money is an attitude of hostility toward all the rest of mankind. Money is for anyone who cares to seize and hold it. Its very abstractness puts the possessor in the attitude of defense. . . . The abstractness of the relation of property always carries with it hostility just in proportion to the abstractness. (Mead 1982:87-88)

Swanson's variable "Unlegitimated Contacts" (variable 24) includes a nominal coding for what is here called "Outgroup Intimacy" (value "2"). This characterizes those societies in which:

> a) People are required to obtain (or frequently do obtain) a spouse from an ultimately sovereign group other than their own. b) There is a requirement that different, ultimately sovereign groups join together for the conduct of important rituals and ceremonies (e.g., rituals for the initiation of the young). (Swanson 1966:209)

"Outgroup Intimacy" is fortuitously close to Mead's notion of contact with personalities from outside the group. As shown in Table 4, "Outgroup Intimacy" had a strong *negative* correlation with private ownership. It is not contact with those outside the organic relationships of the group, but the absence of such contact that correlates with individual ownership of property. This suggests that property is very much a phenomenon of ingroup social relations. Indeed, there were weak but consistently positive correlations between "Ingroup Tensions" (value "1" on variable 24) and Swanson's measure of ownership ($r = .07$, $n = 48$, $p < .30$), Murdock's measure of ownership of land ($r = .27$, $n = 42$, $p < .05$) and Murdock's measure of ownership of objects ($r = .22$, $n = 41$, $p < .10$). It seems that individuals within large, closed societies are regulating behaviours among themselves by means of the conventions, laws and physical restrictions of property.

Clearly, this finding is not a test of Mead's hypothesis, since there is no measure available for the abstractness of property. However, Toennies' (1957) earlier version of Mead's theory well accords with the data. He distinguished between concrete possession in an interpersonal, familiar, organic community and abstract property in an impersonal, legalistic, formalized society. From the strong negative correlations of "Outgroup Intimacy" with "Size of Population" ($r = -.53$, $n = 48$, $p < .001$) and with "Sovereign Organization" ($r = -.54$, $n = 49$, $p < .001$), it might be speculated that prop-

erty correlates negatively with "Outgroup Intimacy" because in large, dense populations, with social economies and complex political organization, the personalities of many people are unknown and alien to one another. The "ingroup" is so large that the personalities are not known and the organic relationships give way to formal, abstract relationships. In such a context, private property might provide a system for the abstract regulation of behaviour and the impersonal ordering of people.

That "Active Ancestral Spirits" and "Supernatural Sanctions for Morality" both correlated with private ownership reinforces this speculation that property serves internal social factors in large, populated, politically organized societies. As used in this study, "Active Ancestral Spirits" is defined by belief that spirits "aid or punish living humans" or "are invoked by the living to assist in earthly affairs" (Swanson 1966:211). Ancestral spirits are familiar and personal and their interventions in social relations would be at the personal level. They are micro-regulators, as is private ownership. However, the "Supernatural Sanctions for Morality" operate at more corporate, societal levels. As defined by Swanson (1966), these entail rewards and punishments for helping or harming members of one's own society. This variable correlated with private ownership but also with the two measures of social stratification, namely "Social Classes" ($r = .46$, $n = 43$, $p = .001$) and "Primogeniture" ($r = .24$, $n = 43$, $p < .05$). "Supernatural Sanctions for Morality" thus appear to be macro-regulators, as is private ownership.

Much of the historical and ideological controversy over private property arises from its micro- and macro-regulatory functions. As discussed in Rudmin (1988b), private property is favoured for its power and control where individual autonomy is valued. In capitalist rhetoric, property is the foundation of freedom, a micro-regulator of other people. But as communist theory argues, that same dominance and control can antithetically be the foundation of oppressive class structure. Property is a macro-regulator of social classes.

However, such speculations as these are very much premature. The behavioural and cultural contexts and correlates of ownership first need to be established before they can be interpreted and used to inform political and socio-economic theory. This present study contributes in a small way to that enterprise.

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