

CULTURE CHANGE AND PERSONALITY MODIFICATION AMONG THE JAMES BAY CREE¹

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Introduction

Students of culture-personality must deal with disparate classes of phenomena. *Cultural Processes*, such as residence rules and economic activities, are patterns of interpersonal behavior whose genesis lie in the history of a tribe. *Personality Processes*, such as ego defenses, tendencies to introversion vs. extroversion, are attributes of individuals whose genesis lie in the history of that particular person. Since the history of any person is contingent upon many cultural processes, it is reasonable to suppose that culture-personality relationships may exist. This paper is a methodological study dealing with the isolation and verification of such relationships.

At the outset, we postulate that non-random associations between cultural and personality processes are reflections of culture-personality relationships. The degree of randomness of such associations can be assessed from two points of view. In the first, the protagonists of a cultural process are grouped together. The frequency of a given personality attribute occurring among these people is then determined. This process can be repeated with several different cultural processes. If the ratio of this frequency to the number of people in each group tends to remain the same, the personality process in question is randomly distributed with respect to the different cultural processes. Thus no culture-personality relationship is indicated. If, on the other hand, this ratio varies markedly when different cultural processes are considered, then such an asymmetry of distribution would constitute evidence for a culture-personality relationship.

In the second, tribal members are grouped according to some psychological criterion. Asymmetries in the occurrence of cultural processes among these groups can then be determined. A variant of this approach will be used in this paper. The question arises how such a grouping is to be carried out. Conceivably one might "measure" each subject according to some extrinsic criterion such as "degree of introversion," and then rank them in conformance to their score. Another approach would exploit some intrinsic properties of the groups' behavior—measuring each person not against an extrinsic criterion but rather against the collective behavior of the other

¹ This paper is based on a dissertation presented to the faculty of the graduate school of Yale University, in candidacy for the degree of Doctor of Philosophy. The field work was financed by the Department of Anthropology, and the writer wishes to express his gratitude for the support of this research. My thesis advisors Dr. Edward M. Bruner and Dr. David E. Hunt criticized the evolution of the dissertation. Dr. Floyd G. Lounsbury and Dr. Alfred F. Glixman clarified many obscurities in the quantitative methods developed here. The census data used in this paper was collected in collaboration with Dr. John J. Honigsmann during the 1955 field season.

tribal members. This would permit the investigation of homogeneity of behavior within a tribe. Inversely, a member's idiosyncratic behavior could serve as a criterion for grouping him according to a psychological variable.

The purpose of developing a formal technique of grouping people is to resolve the antecedent conditions of a hypothesis into a concrete form; the technique is an operational definition of certain antecedent conditions. Asymmetries in the occurrence of cultural processes can then be interpreted as the consequent conditions, and the stability of the relationship between antecedents and consequents evaluated in several empirical contexts. One may hope that such investigations will eventually suggest general principles from which other empirical relationships may in turn be deduced; i.e. that anthropologists will be able to predict, as well as merely to organize phenomenon. For example the laws of reflection and refraction in optics are statements of empirical regularities between antecedent and consequent conditions. However Fermat interpreted both laws in terms of a general principle of least action. From this principle Hamilton in turn predicted the phenomenon of conical refraction, whose existence had not previously been suspected.

The aim of this paper is somewhat more modest. It discusses a hypothesis which suggested itself in the course of field work, and the evaluation of a more general principle abstracted from it.

Hypothesis

During the summer of 1954 the writer traveled into the North for the first time. The village was called Great Whale River, at the southeastern corner of Hudson Bay, Canada. It was chosen because Cree Indians and Eskimo lived side by side, making it an anthropological laboratory where the characteristics of one tribe can be placed in perspective against the other. These characteristics became evident soon after the writer's plane landed in the river. Both Cree and Eskimo lined up on the sand dunes by the river, and inspected the new arrivals closely. However the group which pulled the freight canoes onto the beach, and clustered around the visitor, was made up entirely of Eskimo. The Cree stood further off, a silent, wary, group. After the initial excitement had worn off, and the plane had left the river, the Cree drifted back to their camps. The Eskimo were still around, chatting among themselves, and listening to the visitor getting acquainted with the Hudson's Bay Company manager and the local missionary. The Eskimo accompanied the ethnographer in searching for a suitable campsite. They helped erect the tent and stayed behind to look the new camp over after the ethnographer had left. The Cree were nowhere to be seen.

Only some hours later did the first Cree initiate a contact. He was a young man who had learned some English while hospitalized in the south,

and now offered his services as an interpreter and informant. His family was the first group of Cree who accepted my presence, and only slowly did other members of the tribe follow their lead.

The Eskimo, in spite of the language barrier, were fairly accessible and demonstrated their technology, such as preparing skins, with considerable pride. No such uniform reaction occurred among the Cree. Some of them came to accept me, others never lost their air of suspicion. The friendly attitude of my interpreter was clearly idiosyncratic compared to that of the majority of Cree, who tended to exhibit a rather homogeneous air of suspicion.

This disparity in attitudes within the Cree community can be understood by considering the history of the people involved. My interpreter was accustomed to dealing with whites. No doubt his experiences in a Canadian hospital contributed to his sophistication. In other words his life entailed a much wider range of cultural phenomena than that of the other Great Whale River Cree.

One can draw two conclusions from this example. First, a correlation between wider cultural experiences and a decrease in suspicion is indicated. Somewhat less obvious is the second, that wider cultural experiences are associated with idiosyncratic emotional reactions whereas more restricted experiences are associated with homogeneous reactions to a stranger.

The second, somewhat more general hypothesis does not mention the specific emotional reactions of the people, as does the first. Rather it is an abstract describing the distribution of emotional reactions among different groups of tribal members; where each group is characterized by having experienced different cultural processes. As such the second hypothesis has a wider field of application than the first, which merely discusses a single concrete association between cultural and personality processes. The evaluation of this second hypothesis will be carried out with data from Attawapiskat, another Cree community.

Method

Before proceeding to the data there are a number of procedures to be clarified. In particular a more explicit definition of "personality processes" must be developed. This can most readily be done in terms of an operational definition. Second, a formal method for describing the distribution of such processes must be clarified so that a sample of tribal members can be grouped according to their tendency to exhibit homogeneous vs. idiosyncratic personality processes. When these objectives have been attained it will be possible to consider the data from a second Cree community and evaluate the asymmetry in cultural processes among these groups.

The deduction of personality processes from a corpus of non-Western data is a hazardous procedure. However such data can be classified into broad categories which very likely reflect different personality processes.

Such data must be elicited in a variety of stimulus situations, in order to sample a range of personality processes displayed by a subject. These situations must be the same for all of the subjects in the sample. Ideally these stimulus situations should arise spontaneously in the day to day life of the people. However the need for comparable data and the limited time available in field work suggest the use of a standard interview such as the Thematic Apperception Test. Accordingly a set of TAT plates, developed by William Henry for research among American Indian groups, was used in this study (Henry, 1947).

Each of the 12 plates showed some Indians engaged in a variety of activities. The subject was asked to make up a story about this activity. It was postulated that the treatment of the story reflected some of the personality processes evoked in the subject by this task.

The TAT protocols were collected by the writer and his wife in the summer of 1955, among the Cree living at Attawapiskat on the west shore of James Bay, Canada. Four interpreters were used to collect the TAT protocols. One was an elderly conservative man, two were younger and relatively acculturated men, and one was a girl. The male interpreters primarily solicited subjects in their own age and sex group. These were interviewed by the writer. The female interpreter worked with the writer's wife, and collected protocols from both the young and older women. Considerable effort was made by both of us to conduct interviews in all of the segments of the community. Forty subjects contributed protocols, resulting in a total of 480 stories.

These stories could be sorted into seven different categories, according to their treatment by the subject. Three of these categories dealt with the handling of aggression—by the repression of a conflict, by its displacement onto others, or by its unmodified expression. Others included the expression of fantasy, and of social interaction. Two final categories dealt with ineffectual activity, by the actors in the story, or by the storyteller himself. The criteria used to sort the stories into these are as follows:

(A) The subject starts to describe a conflict, but does not carry it to a resolution. This can take the form of changing the story to a neutral theme, or saying that he does not know what happened next.

(B) The subject does not annihilate a conflict but rather repudiates any personal connection with it. The conflict remains, but is ascribed to another person, another age, or another tribe.

(C) The subject tells a story in which strong action is taken with little or no modification of impulse.

(D) The subject uses a less concrete approach in making up a story. This includes wish fulfillment or the use of imaginative rather than literal plots.

(E) The subject describes empathic, socio-centered activities.

(F) The subject tells a story in which the persons are unable to carry out purposeful behavior because of senility or confusion.

(G) The subject gives a static description of the picture and makes no attempt to tell a story.

An eighth type (H) was scored by exclusion. Since it was not possible to tell if this represented a single reaction or not, it was not used in the formal analysis.

The distribution of these treatments within the Attawapiskat sample can be described with the following method. Since the TAT interview presented each subject with 12 situations in a fixed order, their treatment can be described with a column of 12 letters. The 40 columns of all of the Cree in the sample can be grouped together as a rectangular array.

Table No. 1. Each row of this array describes the treatment used by the entire sample in describing one of the TAT plates. The frequency of each treatment in a row is readily determined. This information can be stored by replacing each letter in the array by the frequency of its occurrence in that row.

When this transformation has been carried out independently in each of the 12 rows, we can realize the implications of the 40 columns. Each column now reflects the relative frequency of the treatments used by a subject in describing all of the 12 TAT plates.

Consider the subject who consistently used idiosyncratic treatments, i.e. ones which occur infrequently in the rows of the array. The column representing his behavior will consist of low numbers. A subject who consistently uses widely shared treatments will, on the other hand, be represented by a column of higher numbers.

Hence the sum of the 12 numbers in each column is a measure of the distribution of treatments used by that subject for all 12 TAT plates. There will be 40 such numbers, one for each Cree in the sample. These numbers have been arranged in ascending order and recorded in Table No. 2. This sequence ranks the Cree in the sample according to their tendency to use widely shared treatments.

Table No. 2. Each type of treatment very likely reflects a different personality process. Hence this sequence ranks the subjects according to their tendency to exhibit idiosyncratic or widely shared personality processes

in a standard interview situation. The hypothesis to be tested states that within this sequence there are at least two groups of people who have experienced different cultural processes in their personal history. Furthermore the group exhibiting idiosyncratic responses will have had a wider range of cultural experiences than the other.

Cultural Experiences of the Attawapiskat Cree

Attawapiskat is located on the west coast of James Bay, about halfway between the railhead at Moosonee and Great Whale River to the north. Attawapiskat is a large community located in flat, forested land, whereas Great Whale River is a small trading post on the tundra very close to the timber line. There is a large Catholic mission at Attawapiskat, which provides opportunities for wage labor and facilities such as saw mills and medical care. The 20-bed hospital is staffed by Catholic nuns. While the primary economic activity of the Cree in both villages is fur trapping, Attawapiskat appears far more acculturated than does the Great Whale River community. Hence it offers a more diversified sample of people with which to test the hypothesis.

The yearly cycle of the Attawapiskat Cree alternates between bush and trading post. During the winter most of the Cree are scattered throughout the bush, living in small enclaves and tending their trap lines. During the summer they return to the trading post to visit friends and to repair equipment. A few people remain at the post all year around. These include young school children at boarding school, old people living on a government pension, and a few who carry on wage work for the whites.

Many of the Attawapiskat Cree have had some formal schooling at a Catholic mission, and the children at present attend the boarding school at Fort George or Fort Albany. A major item of instruction is the Catholic liturgy; the Indians know about 18 different plain-song masses by heart, and sing the Latin texts fluently.

We may return to the hypothesis which is to be tested with data from these Attawapiskat Cree. A sample of them have been ranked according to the strength of their tendency to exhibit idiosyncratic personality processes in a standardized interview situation. The hypothesis states that within this sample there exist two groups of subjects such that the tendency to use idiosyncratic responses is greater in one group than in the other, i.e. that these groups tend to cluster at opposite ends of the ranked sequence of subjects. Furthermore it states that there will be asymmetries in the distribution of cultural processes between these two groups, such that wider cultural experiences are associated with the "idiosyncratic" group and that more restricted experiences are associated with the "homogeneous" group.

Two groups which meet these conditions exist in the sample. One consists of people who spend a gregarious winter in the bush, camping in enclaves larger than the nuclear family. These people have experienced a good deal of mission schooling (mean 2.3 years). They exhibit idiosyncratic personality processes. The other consists of people who spend a more isolated winter in the bush, camping with their nuclear family only. They have experienced substantially less mission schooling (mean 1.0 year). They exhibit homogeneous personality processes. There is no statistically significant difference in age or sex between these two groups. Such a non-random association between winter residence pattern and the diversity of emotional expression tends to confirm the hypothesis which arose from the Great Whale River data.

Acculturation, in the form of mission school experience, would seem a reasonable parameter accounting for this culture-personality relationship. The mission school removes children far from their native village for ten months during the winter. Their parents are scattered throughout the bush; there is no such thing as weekend visits home. Instead they meet children from all parts of James Bay and thus experience a far wider range of culture than an Indian living only in one village. The persistence of gregarious habits, reflected in the winter camping pattern of later life, is scarcely unexpected.

A substantial amount of mission schooling would enlarge the emotional experience of an Indian child. Emotional reactions to self and to others are thoroughly explored in the teaching of Christian ethics. Such an experience would very likely broaden the range of emotional expression. This would explain diversification or emotional expression among the group with substantial mission training.

Statistical Considerations

Confirmation of the hypothesis consists of proving that there exist two groups of subjects in the sample such that the people camping in larger enclaves differ significantly from those camping with their nuclear family only in (1) the strength of their tendency to exhibit idiosyncratic responses, and (2) the number of years of mission schooling experienced.

We postulated that a culture-personality relation would be reflected in the non-random association between cultural and personality processes. For example suppose that one group of subjects has experienced cultural process "A", and the second a complementary cultural process "B". Further, suppose that it is possible to rank all of these subjects in a single sequence according to some psychological criterion variable (such as the tendency to exhibit idiosyncratic responses). Should the cultural process experienced by these ranked subjects be intermixed: ABABAB, then a random associa-

tion between the personality and cultural processes exists. However if they are dispersed: AAABBB, then a non-random association exists.

Actual sequences are rarely as clearcut, so that a more formal definition of randomness (or its absence) must be used. There exist several alternatives, depending on whether a linear or non-linear relationship between culture and personality is being tested, and on the level of measurement (nominal, ordinal, equal-interval) attained by the criterion variable. In the present case the hypothesis is linear and the criterion variable attains an ordinal level of measurement. Under these circumstances the probability that the relationship between the personality variable and the cultural processes is non-random can be evaluated with the Mann-Whitney "U" test (1947). This test indicates whether one of two variables is stochastically larger than the other, i.e. whether the empirical data tends to an AAABBB sequence. It evaluates the number of protagonists of an "A" process which precede each protagonist of a "B" process. The sum of these numbers will be larger for an AAABBB sequence than for an ABABAB sequence (9 vs. 6). This sum can be transformed into the desired probability value.

The Cree have been ranked according to the strength of their tendency to exhibit idiosyncratic responses (Table No. 2). If we abstract from this table the subjects who wintered in the bush, it is possible to form a sequence describing which alternative camping pattern was used by each subject—cultural process "O" (camping in a wider enclave) or "N" (camping with nuclear family only). This data has the form: O,O,O,N,N,N,N,O,O,O,O,N,O,O,O,N,N,N,N,O,N,O,N,N,N. The number of "N's" which precede each "O" of this sequence are: 0,0,0,4,4,4,4,5,5,5,10,11. The sum of these numbers yields the statistic "U", equal to 52 in this case. This "U" can be converted to a probability value, equal to $p=0.0495$ for these numbers of subjects. In other words the chances are 19 out of 20 that one variable is stochastically larger than the other, i.e. that a non-random association between the personality variable and the two alternatives of the cultural variable exists. Further, it is evident that the subjects who camped with their nuclear family only tend to cluster at the upper (homogeneous) end of this sequence, whereas the other group tends to cluster at the lower (idiosyncratic) end.

If these same subjects are ranked according to the number of years of mission schooling attained, one can form a sequence describing their camping patterns. It is then possible to test the hypothesis that the protagonists of process "N" tend to cluster at the lower end, whereas the protagonists of process "O" tend to cluster at the upper end of this sequence. In other words we can test whether the protagonists of "N" experienced less mission schooling than the protagonists of "O". The data has the form: N,N,N,N,O,O,N,N,N,N,N,N,O,O,N,N,O,O,O,O,N,O,O,O,O. The statistic "U" equals 28 in this case,

TABLE 1

Interview situation	Subjects																																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
1	H	B	E	A	D	C	E	A	B	H	C	A	E	E	A	C	E	E	A	E	E	A	E	E	A	E	E	A	A	E	A	E	E	E	E	E	F	C	B	B	E
2	H	H	H	D	C	A	H	H	C	C	A	H	A	B	H	H	D	H	H	F	H	H	B	E	H	H	E	C	B	C	D	E	B	C	B	B					
3	H	H	H	E	C	C	E	E	D	H	H	C	E	C	H	H	D	E	C	B	E	H	E	C	A	E	E	E	C	E	F	E	C	H							
4	H	C	H	H	B	E	C	F	F	D	H	C	H	E	F	H	F	D	A	F	D	F	F	H	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
5	G	D	G	D	B	C	H	C	F	B	G	G	G	G	G	D	D	B	B	G	G	H	G	D	G	H	H	B	H	D	B	D	G	D	G						
6	G	H	H	F	B	C	H	H	F	H	F	H	E	H	F	F	F	C	F	C	H	F	H	C	F	A	F	E	C	H	F	F	F	H	F						
7	G	H	G	H	D	E	C	C	H	C	C	H	H	F	G	H	C	H	A	C	C	C	H	H	A	H	E	C	C	C	B	C	C								
8	H	H	A	C	C	C	D	H	A	C	H	E	C	A	H	E	B	F	C	B	E	H	E	A	C	A	E	A	E	E	A	H	E	H	A	E	E				
9	G	B	E	A	B	C	B	C	A	C	C	A	H	E	H	C	H	D	C	E	E	A	E	H	B	F	E	E	E	E	A	H	A	D	A	E	E				
10	G	F	H	H	C	B	H	E	E	F	D	H	A	E	E	H	H	F	A	C	C	F	C	B	H	A	B	F	C	E	C	E	F	C	F	A	A	E			
11	H	H	H	H	F	B	C	H	H	F	H	—	C	C	H	C	B	D	H	G	D	H	H	H	F	H	H	F	C	C	C	H	C	D	F	F	H				
12	G	F	G	B	G	C	C	F	A	H	H	D	F	B	H	D	G	C	B	F	H	B	B	C	G	B	H	B	B	H	D	P	C	D	B	B	B	B	F		

TABLE 2
Attawapiskat Cree Sociological Data

Subject	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Score	26	33	54	55	59	60	63	65	70	72	73	73	75	76	78	79	79	80	82	86
Sex	M	M	M	M	M	M	M	F	M	M	M	M	F	F	F	M	M	F	F	M
Age	75	53	24	26	37	41	31	18	51	40	43	61	16	24	68	32	60	40	30	14
Years Schooling	0	1	?	3	2	0	3	0	1	1	0	2	2	8	1	3	1	1	4	3
Winter Location	T	T	?	BO	BO	BO	BN	T	BN	BN	T	T	BN	BO	BO	BO	BO	BN	BO	T

Subject	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	87	92	93	93	94	94	97	97	99	100	101	102	105	108	109	112	113	114	114	129
Sex	M	M	M	M	M	M	M	F	M	F	M	M	M	M	M	M	M	F	F	F
Age	28	36	47	25	46	68	21	79	69	65	54	12	31	26	24	46	65	34	67	57
Years Schooling	2	0	1	2	2	1	?	0	1	0	0	0	2	1	2	0	0	1	1	1
Winter Location	BO	BO	BN	BN	T	BN	BN	T	T	T	BN	T	BO	BN	BO	BN	BN	BN	?	T

Key

M	Male
F	Female
T	Town
BO	Bush, with others
BN	Bush, nuclear family only

which is equivalent to a probability value of 0.01. In other words the chances are 99 out of 100 that the subjects who camped with their nuclear family only have experienced less mission schooling than the subjects who wintered in a wider enclave.

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