QUANTITATIVE APPROACH TO A CROSS-SOCIETAL RESEARCH; A COMPARATIVE STUDY OF JAPANESE CHARACTER*

Part I

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CONTENTS

* The results of our study were based on the analysis of two bodies of data: 1. The four national surveys on Japanese national character conducted by the Research Committee on the Study of Japanese National Character. 2. A Sample survey of Japanese-Americans in Hawaii conducted in 1971 by the Research Committee on the Study of Japanese-Americans in Honolulu, Hawaii.

1. Introduction

This is a report based upon surveys undertaken by the Institute of Statistical Mathematics, Tokyo. The purpose of the report is to compare the attitudes of the Japanese and those of the Japanese-Americans in Honolulu, Hawaii.

Presented in the Introduction are:

a. the theoretical framework which guided the entire project,
b. problems regarding the operationalization of the theory; how the theory is used in empirical research, and
c. several specific problems regarding the construction of the questionnaire and the analyses of the survey data.

1.1. *The theoretical framework: National character*

There are a number of theoretical frameworks that are available for the purpose of comparing different societies in terms of the distribution of attitudinal variables. For example, if the political aspect of society is the major theoretical concern, one may find such frameworks as "civic culture" of Almond and Verba useful. If one is interested in social and cultural aspects of society, one may use such a framework as the national character.

Our basic concern in comparing the Japanese and the Japanese-Americans in Hawaii lies in the social and cultural dimensions. More specifically, we are interested in ascertaining the differences in attitudes toward such matters as human relations in general, relations among family members, attitudes toward society and the state in general, the solving of everyday problems, and so on. Thus, the national character is taken as the guiding framework for the research.

National Character

Now the question of what to regard as the (Japanese) national character is to be investigated. We conceive several ways of defining "national character." The first is to regard the differences between the Japanese and non-Japanese peoples as Japanese national character. The second is to regard the opinion distribution in surveys as the topography of the Japanese national character. The third is to view the

opinions which the majority of the Japanese supported as representing the Japanese national character. The fourth is to consider those opinions that remain relatively persistent, regardless of the times of surveys, as those representing the Japanese national character. The fifth approach is to analyze the degree and the direction of changes (including "no change") in opinions in connection with the changing social situations or social environment, and regard the Japanese character as the total picture of these trends. In sum, there seem to be four basic dimensions in defining the national character. They are:

1. Those attitudes and opinions which the majority of the Japanese share or the distribution of opinions and attitudes in general (let us call this the modality dimension).

2. Those attitudes and opinions which remain relatively persistent over time. Let us call this the constancy dimension.

3. Those attitudes and opinions which do not differ depending on demographic and economic variables. This may be called the (intra-societal) homogeneity dimension.

4. Those attitudes and opinions whose modal points and distribution in general distinguish the Japanese from other peoples. This can be called the cross-societal difference dimension.

As a matter of fact, 4 (the cross-societal difference dimension) should be emphasized more than any other dimension for research on the national character. However, the attitudes and opinions should fulfill the three requirements (1–3) in order for them to be considered as components of the national character.

It is hardly conceivable to find those attitudes or opinions which satisfy all the four requirements. That is, there will be no attitudes which remain unchanged over time and which show a perfect homogeneity within a society. Therefore, as far as the second and third requirements are concerned, we have to take the "more or less" criterion. That is, those attitudes which show reasonable constancy and homogeneity will be considered as candidates for components of the national character. Therefore, it is reasonable to define the study of the (Japanese) national character as the search for those attitudes which satisfy constancy, homogeneity, modality, and cross-societal difference.

This search is not as easy as one might expect. First, the accumulation of datawith in a society is mandatory in order to delineate those attitudes which are relatively constant over time and show a reasonable homogeneity. In order to compare different societies, the data and analyses of data should be cumulated. Secondly, even though theories of the national character are developed at the level of conceptual formalization, almost none of them provides us with any particular and specific

attitudes to be compared cross-nationally. In other words, no well defined set of attitudes to be compared has been derived from the theory. The implication is that it remains a matter of trial and error as to what kinds of attitudes and opinions are to be selected for an empirical research of the national character.

For these two reasons, even though the national character syndrome is employed as the guiding framework in this research to the point that we are seeking for those attitudes which show constancy, modality, homogeneity, and cross-societal difference, the conduct of research is rather very "untheoretical" and many "trial and error" processes in the various stages of the research will be found.

Given the stage of the development of empirical research on the national character, the constancy, homogeneity, and modality (or distribution of attitudes in general) *within a society* (in this case, the Japanese society) are going to be emphasized as much as the cross-societal differences (in this case, between the Japanese and the Japanese-Americans in Hawaii). Thus, we are going to describe the distribution, change over time, and differences due to demographic variables of a certain set of attitudes within Japanese society. This is because we consider it to be the first and essential step toward valid and meaningful cross-societal research.

1.2. *The questionnaire*

Because of the lack of empirical analyses of the national character, there is no agreed upon set of items for the questionnaire when one tries to delineate the national character from survey research. Therefore, we collected approximately 3,000 concepts which are considered to be components of the Japanese national character. These concepts were organized in question items and pre-tested and finalized into the questionnaire.

In formulating the questionnaire, the following points were taken into account.

a. For the most part, the object of questions is to create a situation which any respondent can meaningfully relate to something he experiences very often or almost daily. The respondent is asked, if confronted with the situation, which way he would respond or which view best represents his evaluation of the situation. Another set of questions, instead of creating a certain situation, merely presents a set of different views of world and the respondent is asked to choose the one that best represents his own.

b. In creating a situation in questions, we distinguished two types of situation. One of the two types of situation is very general in nature while the second type is intended to be specific in that it creates

the situation in which the Japanese would respond in a clearly different way as compared to non-Japanese peoples.

c. Our method of investigation is likely to be influenced to a large extent by the language used in the questionnaire and the wording in the multiple choice questions. The language in this case has more to do with the verbal exchange between the interviewer and the respondent and the circumstances under which the interview is conducted than the written wording of the question. In such cases, what we transmit or what the respondent considers to be (or to have been) transmitted is not only what is expressed in the questionnaire but also the figurative or metaphorical interpretation which the question may imply. This fact, instead of proving to be disadvantageous, provides us in some cases with an advantage in our analysis. The figurative and metaphorical references mentioned above are closely associated with the tacit understanding a sentence or question, one must recognize the underlying meaning which the sentence implies. Or, one does recognize underlying meaning any way. This is the basic reason we expect different responses from the same questions to arise; different responses are due to differences in society and culture. In other words, the investigation makes it possible for us to study what common ways of thinking we tacitly hold as well as the extent to which we share such ways of thinking.

d. Thus, our purpose is not simply to find the percentage of the "yes"s or "no"s in the responses to a certain question but also to identify the commonly shared pattern which comes out of the "yes" or "no" answers. In short, our purpose is to delineate the topography of the way of thinking of the Japanese and other peoples.

1.3. *Response pattern*

Now, it is clear that it is not sufficient to analyze only the distribution of the "yes"s and "no"s of individual questions in order to delineate or identify the commonly shared pattern in the way of thinking. The "response" pattern to a set of questions which is commonly utilized in public opinion polls would be one of the candidates to identify the commonly shared way of thinking.

The internal process within an individual leading to a certain overt response to a given question cannot be known to the investigator. Conceptually, the process can be viewed in the following way: when a person makes a certain response to a given question, it can be considered to be an outcome of a certain process of the respondent's way of thinking. If the respondent answers a set of questions and some pattern emerges, we can guess the way of thinking of the respondent as seen from his response pattern.

If the patterns of response are quite different, then one would say that there is no similarity or commonality in the way of thinking among the respondents. However, if the respondents are divided into groups each of which demonstrates the same response pattern, it would be expected that a group of respondents has a same kind of way of thinking as compared to the other groups.

In formulating the questionnaire, the question patterns are intentionally created expecting that the respondents, if they are consistent, will show a clear response pattern.

1.4. *Summary*

We are going to use several types of indicators for the comparative purposes.

1. the distribution of responses,
2. the scale composed of a set of questions, and
3. the response pattern to several questions.

We are going to examine, on the basis of these indicators, the stability and changes over time and carry out cross-national or cross-cultural comparison, and examine as well intra-societal differences in order to obtain comprehension of the way of thinking of the Japanese through their similarities and dissimilarities to other national or ethnic groups and the Japanese-Americans in Hawaii in particular. In particular, we are going to carry out the following investigations.

1) What are the answers which were chosen by the majority of the Japanese (modality)?

2) By measuring the interrelationship among answers to various questions (for example, if a respondent answers "yes" to a question, he tends to answer "yes" for another question), it is possible for us to discover certain general configurations that appear naturally in the responses and to delineate the response pattern and scale. The above step also allows us to delineate the groups of respondents.

3) By comparing the distribution of answers in terms of demographic and social variables, we would also be able to determine which attitudes and opinions are likely to change due to age, education, regions, and so forth.

This kind of analysis is essential in examining the relative persistence and homogeneity of attitudes and opinions, even though it is basically intra-societal in nature.

4) Comparisons will be made between the Japanese and the Japanese-Americans in Hawaii in terms of a. the distribution of attitudes, b. the response pattern, and c. the differences in distributions of attitudes due to demographic variables, etc.

We defined the national character as those attitudes that show constancy, homogeneity, modality, and cross-societal difference. However, because the contemporary world is such that any society cannot escape from being influenced by other societies, those attitudes which have been considered to be traditional and consequently components of the national character will change over time due to the impact from the outside. The level of impact will be different depending on segments of the society. For example, the younger people will accept ideas and behavioral norms from the outside more easily and faster than the older people. The educated may be more flexible in accepting new ideas (as opposed to traditional ideas) than the uneducated. Also, the extent to which people accept depends on the kind of ideas and behavioral norms. If one assumes that the national character is susceptible to change due to the impact from the outside, differences in attitudes due to such demographic variables as age, education, region, etc., would provide us with an insight as to the changing aspects of the national character. From this viewpoint, those attitudes which show less differences than others due to the demographic variables can be considered to be at the core of the national character. By doing this kind of research, we can test the validity of the orthodox definition of the national character, constancy and homogeneity dimensions in particular, under the contemporary world in which societies are so closely knitted and so strongly influence each other more than in any other period in our history.

2. Some methodological problems in cross-national or cross-cultural research

As already stated in [9], [11] and [17], our research was initially conceived as a comparative study of the ways Japanese people and other national or ethnic groups think.

Any comparative effort is confronted by the problem of comparability. Survey interviews as data are generally comprised of interviewers, respondents, interview schedules, and the statistical analysis of the responses obtained. These four elements are taken into consideration in the study.

First to be pointed out is that the standardized methods adopted in our investigation (including standardized interview schedules and standardized interviews) are bound to be influenced by the social environment in which the investigation is conducted. For example in the case of investigation by interviews, the training of and instructions for interviewers have to be conducted so that they will suit different types of situations (i.e. the methods of investigation will be equivalent in all cases). In this case, the modifications may have to be made for differ-

ing social situations. The manner in which people in general in Japan and the U.S. respond to the survey interviews or the extent to which they are prepared to do so may differ; however, no concrete data has been available to show whether such differences exist.

The key points of the method of investigation we adopted were: (1) not to discuss anything other than the statement in the interview schedule; (2) to handle as D.K. (Don't Know) where no response is given even after the question had been repeated several times; (3) to avoid using leading questions to elicit a response; and (4) to give the responses greater uniformity by using answer sheets with pre-worded selective responses in the case of questions where a complicated response is expected, leading the interviewer to exercise his judgment for selecting which response was most appropriate.

All questions are written in such a manner that any Japanese can understand the given situation referred to in the question without special knowledge or expertise. Sentences used for questions are so constructed that even on an advanced level, they are comprehensible to anyone who had an elementary education.* The level of our interview is considered to be the described in Cannel and Kahn: Interviewing.**

2.1. *Equivalency of questions*

Beside the interview situation is the critical problem of the equivalency of the question, the method of constructing questions is itself subject to social influence. This means that questions cannot be completely objective but are inevitably influenced by the investigators biases, a fact that creates complications.

One such problem is that the subject which interests the Japanese may not be interesting to other foreign people. Another important problem is that when one uses questions with pre-selected responses composed of two opposing responses, one being Japanese in nature and the other non-Japanese and when such response patterns are used in some country other than Japan, the non-Japanese responses are not likely to correspond to the way of thinking of that society where it is used and, in fact, may be completely inappropriate. However, in view of the nature of comparative studies, such problems are to a certain extent unavoidable. (For a more detailed discussion of these issues, see the next section.) The nature of approaching this problem depends on where one chooses to place emphasis in the questionnaire items.

* Sentences used for questions are considered to be of the level well understandable to the second year of junior high school (8th-9th graders in the U.S.) aged 14 years or thereabouts. (Refer to the Report on Literacy Survey in Japan (The Reading and Writing Abilities of the Japanese People) published by the University of Tokyo Press in 1951.)

** Refer to [4]. The method used in the investigation by interviews is considered to be basically the same as one described in Lansing and Morgan: Economic Survey Methods [7].

For example, when emphasis is laid on "being Japanese," there should be no doubt as to which response is "Japanese" even though there may be a lack of clarification about the nature of the "non-Japanese" response. This whole problem of constructing questionnaires leads us to another important problem, that is one concerning translation. More precisely, when the investigation is made in another country such as Hawaii and the equivalent method of investigation is to be employed for comparative purposes, the translation of the interview schedules into the language of that country assumes great importance.

In [2] concerning the equivalent comparisons, Almond and Verba, for instance, state: "Can one translate an interview from one language to another so that it represents an equivalent instrument in both languages? This answer is probably negative. Obviously one does not want a literal translation but an equivalent translation, but what exactly is equivalence?"

We have tried to minimize linguistic problems by means of careful translation. The interview questions used in our study were translated from Japanese into English by Prof. R. P. Dore and Mr. Sen Nishiyama. They were "blindly" translated back into Japanese by bilingual persons who were not familiar with the original Japanese version. Both were almost identical. Furthermore, in our Hawaii survey we carried out our interviews by asking the same question in both Japanese and English to bilingual persons and noting any differences in their responses to the questions.

What is important with a translation, especially of a questionnaire, is that the translated version be understood in the equivalent manner as the original. In this connection, the repetitive translation, i.e., Japanese into English and then back into Japanese, is one way of examining equivalence of the translation and the original. Let us cite an example with #4.4 "Rumor about Teacher."* The Japanese original reads:

> "Sensei ga nanika waruikoto o shita" to yuyo na hanashi o, kodomo ga kiite kite, oya ni tazuneta toki, oya wa sore ga honto de aru koto o shitteiru baai, kodomo niwa, "Sonna koto wa nai," to itta ho ga ii to omoimasuka, soretomo, "Sore wa honto da" to itta ho ga ii to omoimasuka?

The English translation by Prof. R. P. Dore is:

> Suppose that a child comes home and says that he has heard a rumor that his teacher had done something to get himself into trouble, and suppose that the parent knows this is true. Do you think it is better for the parent to tell the child that it is true, or to deny it?

---

* The whole question sentences will not be quoted, but the questions will be referred to by titles and #-marked code numbers. The full questions are listed in [17]. The code numbers are applicable to all reports and books on the survey on national character.

An example of retranslation of this English into Japanese by a Nisei (Japanese-American) assistant to Dr. Mamoru Iga, professor of sociology at San Fernando Valley State College, California, follows:

> Moshi, kodomo ga iye ni kaette kite, "Sensei ga nanika warui-koto o shita" to yu uwasa o kiite kite, oya ni tsugeta toki, oya wa sore ga honto de aru koto o shitte imasu. Kono-yo na baai, "honto de aru" to itta ho ga yoi to omoimasuka, soretomo, hitei shita ho ga yoi deshoka?

Both versions are alike.

The English translation by Dr. Dore of the selective answer category is: 1) Better to deny, 2) Better to affirm. The English translation actually used in Hawaii is: 1) Deny it, 2) Tell the truth. The original Japanese is: 1) "Sonna koto wa nai" to yu, 2) "Honto da" to yu.

Another method of examining equivalence of the original and the translation is to use both English and Japanese versions of the questionnaire, and ask the bilingual person and then compare these answers. (Refer to Chapter 3.) Beyond careful translation lies the substitution in the translated version of facts and terms which must be revised if the question is to be equivalent and meaningful rather than just a literal translation. An example is #5.16 "10,000 yen no shakuyosho" (IOU for ten thousand yen). The question in Japanese reads:

> (Risuto) "Anata ga tomodachi kara ichiman-yen karita to shimasu. Sonotoki, sono tomodachi ga, "Nen no tame shakuyosho o kaite kure" to iimashita. Anata wa, konotoki do omoimasuka?
> 1) Tozen no koto kamo shirenai ga, huyukai da to omou.
> 2) Tozen no koto da to omou.

A literal translation by Mr. Sen Nishiyama is:

> Suppose that you borrowed ten thousand yen(1) from a friend(2), and also suppose that, at that time(3), this friend said, "Just to be sure, write me out an IOU." What would you think about this?
> a) Think it unpleasant, though probably a natural request.
> b) Think it only natural.

In the actual Hawaii survey, the portion noted (1) is replaced with "$100.00," the portion noted (2) with "an intimate friend," and the portion noted (3) with "at the same time." Both (1) and (2) are based on equivalence in the commonly accepted idea. In this question, what appears to be especially dependent upon the social circumstances is the scope of "tomodachi" in Japan. Also to be considered is whether the "friend" in Hawaii corresponds conceptually to "tomodachi" as it is used in the question. The conclusion reached is that it must be the kind of "tomodachi" from whom we can borrow unceremoniously a sum two to three times our usual pocket money as far as the commonly

accepted idea goes. We translate such "tomodachi" into "an intimate friend." When the case quoted in the question is assumed to be one where we are borrowing a sum which, as the commonly accepted idea, may require or may not require an IOU, such a sum, too, is considered largely dependent upon the social circumstances. So, after the pre-test, we decided to use "$100.00" for the English version of "ten thousand yen" used in the question in Japanese, without using $28–30 which, at the time, was the exchange value for ten thousand yen.

It is thus important to carefully understand the object of the question and to be able to make the proper equivalences although at times we must admit it may be difficult to accomplish.

It is also important not to do without comparison simply because of the lack of equivalence but to study and develop a system that makes comparison possible and, in addition, a system of transposition to facilitate comparison. (Refer to the next section.)

2.2. *Maximizing comparability and questionnaire setting*

Let us next examine the problems involved in constructing questionnaires which are cross-culturally comparable, along with the problems of interpreting the results.

Considering equivalent questions and equivalent interview situations discussed in the preceding section is the first step toward establishing comparability.

Another consideration in questionnaire construction is to think in terms of constructing items to optimize comparability for purposes of effective analysis. One method is to prepare questionnaire items which can be considered along an equivalent dimension for both comparable groups to which the questionnaire is applied. A greater degree of comparability may be obtained by selecting opinions and attitudes of a general nature; but it is not certain what explicit items can satisfy such requirements or what is the range of items which are useful for determining similarity and dissimilarity in the ways of thinking among the various societies.

Here is an example from one of the questionnaires we have prepared. The question concerned (# 4.10) is:

> If you had no children, would you think it desirable to adopt a child in order to continue the family line, even if there is no blood relationship? Or do you not think this is important?
>
> 1) Would adopt
> 2) Would not adopt
> 3) Depends on circumstances
> 4) Other

This question concerns the succession of the family line. When considered in the light of Japanese national character, this question involves two important factors. In the past, the family system or the values

of the family system were important in the way of thinking of the Japanese people, but today such importance probably does not persist. Such a change in our society is taken into account in this question and therefore, when it is asked, there follows the expectation that the responses will be made with consideration of that traditional family system. Thus the response that supports adopting a child in order to continue the family line is most likely to be considered as approval of the family system whereas the response that opposes adopting a child would be considered as rejection of the family system. It is also likely that the former response would be regarded as the traditional way of thinking whereas the latter would be seen as more innovative and non-traditional. In this sense, it may be assumed that the younger the respondents, the more likely they would support the latter while elderly persons are more likely to support the former.

In a society where the family system consists of nuclear families, the possibilities are great that the attitude about couples having children will be different. In this case, respondents who consider that couples without children would feel lonely when they grow old or that couples without children would miss the pleasures of raising children might respond in support of adopting a child whereas the respondents who do not feel this way would be against adoption. In any case, these responses do not involve either support or rejection of the traditional system. Today in Japan, even with declines in the traditional family system, it is evident that there are few respondents who do not consider the family system in responding to the question; it may be assumed that most respondents interpret the response to have the family line continued by adoption as being the more traditional or conventional way of thinking while not adopting a child to continue the family line as a non-traditional view. Therefore, this question about adoption is expected to be highly related to other questions that involve two opposite values, i.e., traditional and non-traditional, creating an overall pattern of selective responses. This will not be the case in a society where the family system is different, and consequently there will also be differences in the relationships among the questions asked. In this connection, when the opinion and/or attitude covered in the questionnaire are those that are significantly influenced by specific societal situations it is advantageous from the standpoint of analysis to consider carefully the background circumstances of such situations even though from the standpoint of comparison this produces extreme difficulties.

Needless to say, the opinions and attitudes covered in a questionnaire are in part socially determined at the very least. We shall be compelled to conduct research on those actions and attitudes covered in questionnaires that are influenced by the character of the social

structure in order to handle these problems in our analysis.

Several methods are available for increasing the comparability of responses in survey research. One such method is to focus the study on a very limited number of actions and attitudes which is least influenced by differing social structures. Thus, it is advisable to choose actions and attitudes which are comparatively independent of such societal constraints. On the other hand, however, such choices presumably lead to little, if any, meaningful comparisons of actions and attitudes if any two societies are so unlike in social structure. Since considering questions which are completely free of any social influence is almost inconceivable, it behooves us to employ even those attitude variables which are dependent to some extent upon the social structure and increasing their comparability by some other means. Richness in comparative methods comes precisely from the use of these variables. In this case, it would follow that the comparability of attitude variables be fully considered in advance. In other words, those actions and attitudes which are inappropriate due to the structural differences between two societies are eliminated in advance and only those which are meaningful to us and which do reflect the structural differences between the societies but only by degrees are adopted. This optimal choice, however, is as difficult to realize as the bilingual translation of a questionnaire. As a matter of fact, the most serious roadblock in realizing it lies in the very fact that it cannot be known whether it is really difficult to realize or not before application. Therefore, we should "not attempt direct comparisons of variables cross-nationally, but we should instead attempt cross-national comparisons of the pattern of relations among variables."

In this case, since the literal comparability, i.e., the comparability of the items and responses are apt to be more or less meaningless, comparisons are made in terms of the interrelationships between questions rather than the direct comparisons of each question and response. For instance, we do not compare the extent of expression of a particular attitude in Japan and in Hawaii. Instead, we compare cross-societally the differences among groups within each society. By phrasing the comparison *between* nations in terms of the similarities and differences in the *patterns* of relations among variables *within* each country, one can control somewhat the differences in meaning that these variables may have from one nation to another.

We have decided to take up mostly demographic categories for analysis in each society.

3. Analysis of investigation results (comparison by simple totals)

Analysis of our investigation into the way of thinking of the Japanese people begins with the analysis of the distribution of responses itself. For this analysis, several approaches are conceivable as already mentioned (refer to [11] and [17]). They are:

(1) To ascertain the majority opinion.
(2) To study the stabilization and variation over time of distribution of responses.
(3) To examine similarities and dissimilarities cross-culturally.

For (1) majority opinion, the likelihood that it is indicative of the characteristic ways of thinking of the Japanese people is worth considering.* See [9], [11] and [14]. As for the stabilization (2) and variation over time of the distribution of responses, the results of our investigation in Japan are described in details in [11] and [14].

As a preliminary to our analysis, mention will first be made about (3): cross-cultural comparisons of similarities and dissimilarities taking into consideration the comparability procedures described in the preceding section. Part of our analysis has already been introduced in [17].

3.1. *Equivalence of investigation*

1. *Equivalence of actual interview situation*

Problems of translation have been discussed earlier. As for the comparability of study results, equivalence of the actual interview situation is desired. Although we cannot always expect such equivalence, such equivalence for comparative purposes could be found.

Table 1 A hypothetical case

Language used	In Japan	Bilingual group		Japanese-Americans in Hawaii	Evaluation of investigation results (Difference in Japanese opinion between Japanese in Japan and among Japanese-Americans in Hawaii)
	Japanese	Japanese	English	English	
Investigation results (%)					
"Yes" answer to question A	60	60	40	40	No difference
"Yes" answer to question B	60	50	50	40	Certain difference

* Among the items to be questioned are some whose answers constitute the majority opinion in all parts of the world. The opinion "we are happy," which is close to an universal emotion, provides an example [9].

A hypothetical case for discussion is presented shown in Table 1. Bilingual group interviewees were questioned in both Japanese and English. Now assume that the percentage of "yes" answers to both questions A and B in Japan and among the Japanese-Americans in Hawaii was 60% and 40%, respectively. Further assume that among the bilingual group the percentage of "yes" answers to question A asked in Japanese and English languages was 60% and 40%, respectively, and that percentages in question B were 50% each.

With question A, the difference between the percentage of "yes" answers in Japan and that among Japanese-Americans in Hawaii corresponds to the difference in percentages between the "yes" answers among the bilingual group when questioned in Japanese to those questioned in English. Therefore, it can be assumed that no substantial differences exist in the responses on this question between the Japanese in Japan and the Japanese-Americans in Hawaii. In the case of question B, however, in spite of no difference in translation and other checks (as shown by the fact that 50% answered in both languages among the bilingual group), the results differ between when Japanese is used and when English is used, assuming no sample error exists. In this case, it is possible to transform the data of both investigations so that a more meaningful comparison can be made of them. Analysis is now being conducted on the comparability of questionnaires actually used (i.e., transforming the data obtained), using the responses of the bilingual group as a means of checking. However, the data from our analysis of the responses of the bilingual group are not yet completed, leaving our over all analysis of this problem for the future.

2. *Equivalence of population sample (standardization of composition)*

How far the equivalence of survey samples should be carried is subject to arguments.

We considered that only for such variables as age and sex which, out of all the demographic variables, are not ambiguous in terms of equivalence of comparisons. The age and sex composition of both samples to be compared should be the same.

In reality, however, there will be many cases where the composition of the random sample to be studied in one investigation will differ in terms of composition from that sample used in the other, reflecting the difference of composition in their respective populations. As seen in the results in Japan and those among the Japanese-Americans in Hawaii (refer to Table 2), the composition of these samples are not exactly the same. Thus to compare the results of these investigations, it will be necessary to have the composition of these samples standardized. That is, when the response distributions of these two populations are to be compared, the age composition, for instance, must first

Table 2 Age distribution by sex

Sex	Male						Female					
Age	20	30	40	50	60~	Total	20	30	40	50	60~	Total
Japan	23.9	26.5	18.8	13.5	17.3	100.0	26.9	25.5	19.9	14.6	13.1	100.0
Hawaii	25.2	12.8	30.5	22.6	8.9	100.0	31.2	16.3	26.8	18.8	6.9	100.0

be standardized to a common standard instead of making direct comparison of the two.

When the standardized results* among the Japanese-Americans in Hawaii were compared with the simple marginal totals, it was found in many cases that the raw value, i.e., the simple totals, and the standardized values were almost equal (the difference rate: 1–2% or less). Only in the five answer categories shown in Table 3 was the difference between the simple totals and the standardized value larger than 1–2%. Therefore, the two survey investigation results could be compared intact without being specifically standardized when the purpose was to make a comparative evaluation of the general trends. Thus in the following analysis the comparison is made without standardization of investigation results.

Table 3 Response categories where the difference between standardized (answer ratio) and raw totals are large

Difference (between standardized value and raw total)	Item No.	Answer category
4%	#7.5b	"Respect public interests"
3%	#7.2	"Approval"
	#7.7	"Same"
	#8.2h	"Depends on circumstances"
	#8.2h	"No good"

3.2. *Comparison between simple totals in Japan and those among Japanese-Americans in Hawaii (classification of response categories and their comparison)*

Comparison of responses to individual questions has already been made in [17] and specific numerical data are given in Appendix I (annexed list of itemwise analysis). In this section we will proceed with general analysis and, for this purpose, the classification of question items and response categories will be investigated.

1. *Classification of question items and response categories*

In the study of the distribution of responses to each item, it will

* The standardization was made by setting the sex and age compositions to those of the respondents in Japan.

be advantageous if the response categories to the corresponding questions are previously classified. For example, when the response categories to various questions can be classified into a "traditional" opinion category (or "Japanese" opinion category) and "non-traditional" opinion category or "non-Japanese" opinion category; analysis can be made clearly such that we could then conclude that the "traditional" opinion decreased among the Japanese-Americans in Hawaii, or that "Japanese opinion is supported more by the older age group of Japanese-Americans in Hawaii" and "the more the Japanese-Americans in Hawaii can understand the Japanese language, the more they are inclined to hold Japanese opinions." Needless to say, the classification of question items and their response categories has to be completed in advance with a fixed perspective. Otherwise, no advantages can be found with this kind of analysis.

Since the objects of comparison are the native Japanese and the Japanese-Americans in Hawaii, the study is based mainly on the classification of items and responses into a "Japanese traditional response category" and "non-traditional response category."*

2. *Criteria for different types of classification*

(1) Classification based on the hypotheses underlying questionnaire items.
Classification used in [9] and [11] belongs to this type of classification.

(2) Subjective classification.
An example is when the question items we have chosen are classified into 9 major divisions according to its contents and each division is sub-divided into several code numbers. Each question has the same code number over time.

(3) Operational classification.
By use of our investigation results in Japan the following classification of question items and responses can be made:

(a) Classification of response categories according to the criterion of a majority support. (For definition of majority opinion, see [9] and [11].)

(a-1) In case where 50% or more support constitutes a majority opinion.

(a-2) In case where 70% or more support constitutes a majority opinion.

(b) Classification by changes over time.
To consider the response categories whose percentages decrease with time as representing "traditional opinions."

* Examples of this kind of classification can be found with some groups of questions in [9], [11], [14] and [17].

To consider the response categories whose percentages increase with time as representing "non-traditional opinions."

(c) Opinion categories which differ by age.
To tentatively regard opinion categories which are more heavily supported by the older age group as "traditional."
To tentatively regard opinion categories which are less supported by the older age group as "non-traditional."

In classifications (1) and (2), the findings may be influenced by subjective considerations so that generalizations from the findings may not be valid. Classification (3) makes it possible to uniquely and clearly classify responses based on our study results in Japan.

3. *Classification according to majority response*

Comparison by the methods previously discussed in (3-a), a classification based on majority opinion can be considered a convenient means of gaining a general overview of the ways of thinking as they exist in Japan and among the Japanese-Americans in Hawaii. In other words, if the response category is supported by 50% or more of the respondents in Japan and if it is also supported by the majority of Japanese-Americans in Hawaii, then one might argue that there exists similar ways of thinking between the native Japanese and the Japanese-Americans in Hawaii on these items.

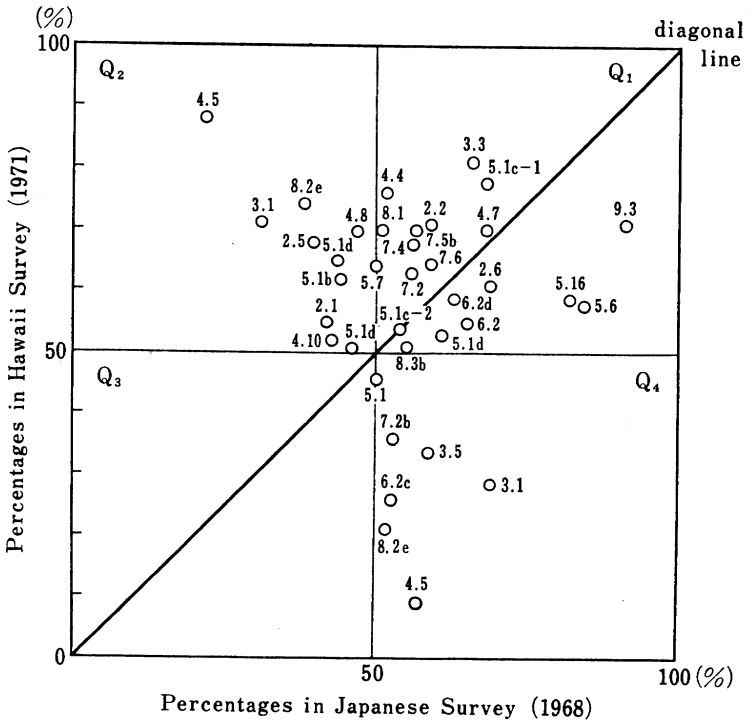
On the other hand, if an opinion which is supported by a majority in Japan receives a low rate of support in Hawaii, or vice versa, then a large gap in understanding is presumed to exist between the native Japanese and the Japanese-Americans in Hawaii.

Thus when a majority opinion is defined as that which is being supported 50% (70%) or more in Japan, then we could expect that such an opinion would be supported by any randomly selected individual; however, if the same opinion is not supported by a majority (e.g. 50% or 70% or more) in Hawaii, we would not hold such expectations.

In Fig. 1 we present a scatter-plot of the responses to the majority opinions in Japan and Hawaii in percentage. Each point represents the magnitude of responses in Japan (on the horizontal axis) and in Hawaii (on the vertical axis) to the same majority opinion.

Thus it can be readily seen that those points which lie near the diagonal (45°) line from the origin represent responses which are essentially similar in Japan or in Hawaii.

Seen from another perspective, if we divide the plane into four parts by using the 50% line of each of the two dimensions as the boundaries of the quadrants, and if we moreover designate each of the four parts as Q_1, Q_2, Q_3 and Q_4 as shown in Fig. 1, it is easily seen that the opinions supported by a majority both in Japan and in Hawaii would be located in Q_1. Similarly, those opinion categories which are sup-



Note : Figures signify code numbers of question items.

Fig. 1. Comparison of Japan and Hawaii as viewed from majority opinions.

ported by a majority in Japan but not in Hawaii would be located in Q_4; those which are supported by a majority in Hawaii and not in Japan would be located in Q_2.

It is also apparent in Fig. 1 that those opinions which are supported by a majority in Japan do not necessarily indicate peculiarly Japanese attitudes; for those opinions may also be supported by a majority of the Japanese-Americans in Hawaii, as entries in Q_1 reveal.

However, it should also be noted that the points in the graph are considerably scattered and those categories where the difference percentages between the native Japanese and the Japanese-Americans in Hawaii is large, i.e., lower, and right of the line and upper and left of the line, can be seen as the characteristic opinions of Japan or Hawaii, respectively. These opinions are arranged in pairs, such as the following:

		In Japan	Among Japanese-Americans in Hawaii
#3.1	"Do you believe in religion?"	Do not believe in	Believe in
#4.5	"Will teach children the importance of money?"	Support teaching	Oppose teaching
#8.2e	"Is democracy good?"	Depend upon time and occasion	Good

and, as already stated [17], a large difference is recognized at least on the surface between opinions in Japan and Hawaii.

The majority opinion graph in Fig. 1 comprises those response categories whose percentages are higher in Japan than in Hawaii and those categories whose percentages are higher in Hawaii than in Japan. These percentages do not appear to have any pattern of distribution and thus do not provide us with any clues as to any distinct pattern of differences for these two areas. This is partly because of some very contrasting (opposite) opinions such as the responses to questions like #3.1 "Do you believe in religion?" are included in the same graph. On this question, the majority opinion in Japan is "Do not believe in" ("Have no religion to believe in") while that in Hawaii is "Believe in."

In order to gain a better perspective on these points, we will classify response categories into "traditional opinions" and "non-traditional opinions" and examine the differences emerging between the two groups.

4. *Classification of response categories by use of regression analysis*

The earlier classifications [(3)-(b) and (3)-(c)] can now be discussed since the results of four investigations so far carried out in Japan have shown that the two classifications are mutually related in the case of specific question groups. More precisely:

Type A: The opinion categories which have received a decreasing support over time tend to be supported in greater proportions by higher age groups.

Type B: The opinion categories which have received an increasing support over time tend to be supported in lesser proportions by higher age groups.

This relationship can be analytically presented by means of multiple regression analysis that utilizes the age classification (11 age groups at five year intervals) and the investigation period classification (four period groups at five year intervals). Assume that the percentage (Y) shown at the investigation period i by the age group j is:

$$Y_{ij} \qquad (i=1,\cdots,4;\ j=1,2,\cdots,11)\,.$$

Then:

$$Y_{ij}=a+bt_i+cx_j$$

where a, b and c are multiple regression coefficients. We categorise the signs attached to the coefficients b and c in the following manner:

Coefficient	b	c	Category classification
Combination of signs	−	+ *	Corresponds to Type A
	+	−	Corresponds to Type B
	±	±	Exceptional (seldom seen)

* The (−, +) and (+, −) combinations occupy the overwhelming majority. Furthermore, in the past two analyses, these combinations were found to be stable irrespective of the investigation period. For further details, see the list of regression analyses in [13] and [14].

Using the combinations of the signs (attached to the coefficients), we group the response categories.* For categories in which regression analysis does not apply well (i.e., the categories where the multiple correlation coefficient is below 0.6), another classification (Type C) is to be used. In the attached list, Type A classification is marked with ●, Type B classification with ○, and Type C classification with △. These classifications include the response category given in [9] also.

We should note that the fact these response categories can be classified in the manner described above is itself indicative of the peculiarity of "the Japanese way of thinking." In other words, it seems that, for no other group than the Japanese does the adoption of question groups used here lead to the combinations of coefficients introduced above.

5. *Comparison of the opinions of the native Japanese and the Japanese-Americans in Hawaii, employing response category classification by means of regression analysis*

In the classification of 44 response categories (in 19 question items) by means of regression analysis, Type A cases were considered to correspond almost completely to the "traditional" opinion category and Type B cases to be nearly equivalent to the "non-traditional" opinion category. We shall now focus our attention on the "traditional" aspects.

The response categories which are supported by 70% or more of the respondents in Japan, seem very likely to indicate a characteristic ways of thinking of the Japanese. This was already examined in Section 3 concerning the classification based on majority opinion so that the discussion here is concerned with a broader analysis inclusive of those categories. (Also, we will consider the category opposite to the traditional response pattern which has a majority opinion of 70% or more, as a "non-Japanese" opinion.**) Also, terms such as "important virtues,"

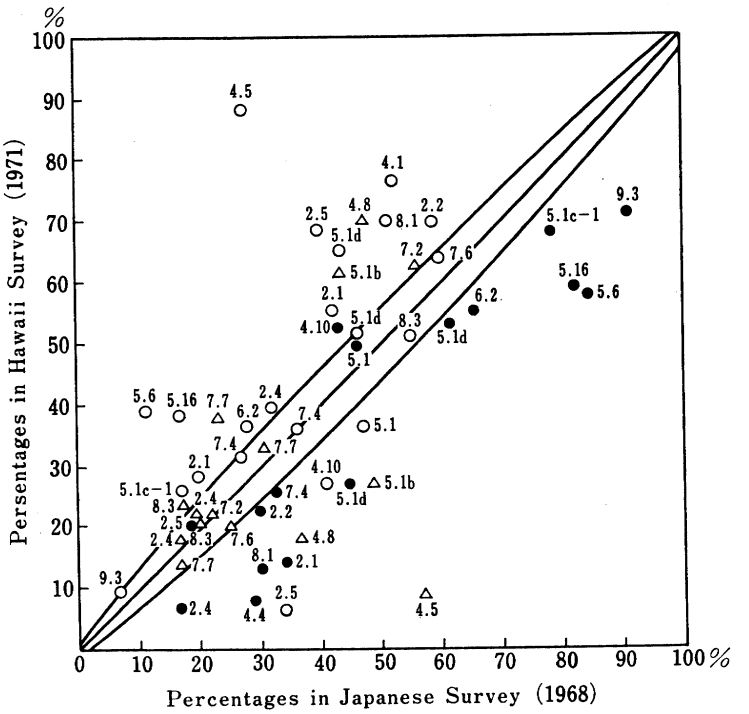
* Details for obtaining numerical values for b and c by regression analysis can be found [13], [14] and [11]. Since in pp. 263-279 of [11] it is specified that the classification we have decided to adopt should include the classification (1), it is considered practical in the case of analyzing the investigation results in Japan to proceed ahead with the analysis by calling Type A "traditional" and Type B "non-traditional."

** As will be seen in our discussions later, a majority opinion is not necessarily considered as "Japanese" because, if it is, inconsistencies sometimes follow when one investigates the relationship between such opinion and those considered "traditional."

"filial duty" and "repaying another's kindness" are those utilized in our "traditional" response categories, whereas "respect of rights" and "respect of freedom" are terms used in the "non-traditional" response categories and they are both considered in our discussion here.

In Fig. 2 we present the scatter plot of the response categories according to the two surveys: results obtained from our investigations in Japan on the horizontal axis, and those from Hawaii on the vertical axis. Each dot, therefore, represents a response category.

The graph shows that the categories supported by a majority opinion (70% or more) in the Japanese study are supported at a somewhat lower proportion in Hawaii, located for the most part at the lower right of the 45° linear line. Type A types of responses (marked with ●) are supported by larger proportions in Japan, whereas, many of the Type B types of responses (marked with ○) are located left of and above the 45° line.



● : Type A("traditinal")
○ : Type B("non-traditional")
△ : Type C(other)
Note : Figures signify code numbers of question items.

Fig. 2. Comparison between Japan and Hawaii as viewed from types of response categories.

On the whole, it appears that the prevalence of "traditional" opinions decreases among the Japanese-Americans in Hawaii. (This, of course, is what we initially expected.)

It is interesting to note, however, that in the case of question #4.10: "Do you have the family line continue by an adopted child?" the response of "would adopt" ("traditional") finds a greater support among the Japanese-Americans in Hawaii than the native Japanese. Conversely, the negative response to the same question, as well as the responses of "Will attend a conference" to question #5.1: "When your benefactor is critically ill" and of "Will conquer nature" to question #2.5: "Relations between man and nature," is higher among the native Japanese than among the Japanese-Americans in Hawaii. Insofar as these response categories go, the Japanese-Americans in Hawaii are more inclined to hold "traditional" opinions than the native Japanese are.

It follows that the simple conclusion that "the traditional opinions are less supported among the Japanese-Americans in Hawaii" does not appear valid. This finding failed to meet our expectations. (A more detailed examination of this point appears later.)

3.3. *Relative magnitude of the differences observed between the two surveys*

As we have already observed, those opinions which are shared by a majority in Japan reveal, in some sense, the peculiarly Japanese "ways of thinking" at this point in time. However, these Japanese "ways of thinking" is by no means independent of historical (or time) constraints. For example, although some sets of majority opinions may have been shared by a majority at several junctures in the past, it is also quite plausible that a minority opinion in the past may have become a majority opinion owing to the shifts in demographic characteristics or to the secular changes in other spheres of the society.

From the results of the previous surveys carried out in Japan, it has been possible to discern a relationship between the age-differentials in response and the changes in the magnitude of the responses over time. It is possible, therefore, to divide the response categories according to this relationship. We have accordingly grouped those categories which are being supported by a decreasing number over time, and which are more strongly supported by the higher age groups into type A; we refer to these opinions as being "traditional." Hence, we are not likely to find the "traditional" opinions among the majority opinions of today.

Similarly, we find a consistent relationship between the age-differentials in responses to a particular category and the differentials due to educational attainment. Thus, those opinions which are grouped into type A would be more likely supported by respondents whose educational levels are relatively low.

Based on our survey results in Japan, we could hypothesize the following model of attitude change affecting the "traditional" opinions. We perceive the opinion change to be initiated (or implemented) by the intellectual elite of a society who are capable of exposing themselves to and absorbing new and foreign ideas and technology during the processes of modernization and industrialization. Thus changes result, according to this model, from the exposure of the educated to the non-Japanese "ways of thinking," i.e., changes will be most visible among the educated during the early stage. Such changes, once initiated, will then become apparent among the younger age groups whose opinions are not yet rigidly set.*

In a similar vein, then, it would be also possible to consider as characteristically Japanese "ways of thinking," or as "traditional" opinions, those opinions which find less support among the Japanese-Amerians in Hawaii than among the native Japanese. To facilitate an easy comparison of responses, suppose we let P_J=support, in percentage, to a particular response category of a given statement in Japan, and let P_H=support, in percentage, to the same response category in Hawaii. We can then derive two quotients,

(1) $(P_J-P_H)/P_J$ and,

(2) $(P_J-P_H)/(P_J+P_H)$,

and utilize these indices in the following discussion. Because (1) is the ratio of the difference in the level of support (to a response category) between Hawaii and Japan to the level of support in Japan, a value close to 1 (one) may be interpreted as the response being characteristically "Japanese." Similarly, a value close to +1 (positive one) in (2) may be interpreted as an opinion that is characteristically "Japanese," whereas a value close to −1 (negative one) may be seen as "non-Japanese." In Table 4 we present for each response category the values calculated for the two indices. For visual clarity the response categories are ordered into two groups, one for those having large positive values and the other for those having large negative values.

An inspection of the table reveals that the characteristically "Japanese" opinions largely overlap the categories which had been grouped type A, or "traditional," earlier; except for the response to item #2.5 "Man and Nature" of "conquer nature," all other responses seem to conform to the usual expectations of "Japanese" opinions.

On the other hand, it is interesting to find responses toward non-paternalistic department chief to the item #5.6 listed in the "non-

* It would be also possible to entertain another model in which the speed by which new ideas or institutions are introduced into society is much greater, as in the case of "democratization" of Japan after World War II. In such a case the changes, affecting as they are a wide variety of individuals simultaneously and without respect to education or social standing, may become prominent immediately among the young age groups.

Table 4 Examples of "relative magnitude of the differences"

	#	Question meaning	Response category	$(P_J-P_H)/P_J$	$\frac{(P_J-P_H)}{(P_J+P_H)}$	Type
"Japanese" opinion	4.5	Teaching children money is the most important	Agree	0.84	0.73	other
	2.5	Man and nature	Conquer nature	0.82	0.70	B
	4.4	Rumor about teacher	Better to deny	0.72	0.57	A
	2.1	Custom vs. conscience	Follow custom	0.59	0.42	A
	2.4	The way of life	Live pure	0.59	0.42	A
	8.2e	Immediate reaction to democracy	Depend on circumstances	0.60	0.42	—
	8.1	Leave things to political leaders?	Agree (leave)	0.57	0.40	A
	4.8	Big weddings and funerals	Disapprove	0.51	0.35	other
"Non-Japanese"	5.6	Type of supervisor preferred	Non-paternalistic	−2.25	−0.53	other
	4.5	Teaching children money is the most important	Disagree	−2.14	−0.52	B
	5.16	IOU for $100 (ten thousand yen)	Unpleasant	−1.24	−0.38	—

Japanese" category. In view of the persistent majority preference for paternalistic department chief in Japan, the majority desire for non-paternalistic department chief seems to be highly characteristic of the Hawaiian population.

4. Comparison of the pattern of relationship among variables

In our discussions of the previous chapters we noted, with respect to "traditional opinions," the percentages decline from the survey in Japan to that of the Japanese-Americans in Hawaii in some response categories. On the other hand, there were other categories in which they increased. Also with respect to the "non-traditional" categories of responses, similar trends were noted.

On the surface this may mean that the traditional Japanese way of thinking still persists among the Japanese-Americans in Hawaii. But upon further analysis this is not necessarily true.

For a further analysis we next examine the problem of how the individuals' attributes along with the pattern of their daily lives are related to their way of thinking—whether people with differing demographic and social characteristics have similar or different ways of thinking, both in Japan and in Hawaii.

The discussion will be divided into two parts. The first will con-

sider such demographic variables as sex, age and educational background, which provide common dimensions for both Hawaii and Japan. Another will consider the "degree of cultural affinity with Japan" exhibited in the modes of living among the Japanese-Americans in Hawaii.

The following is an investigation of the relationship between these demographic variables and the patterns of response to each question.

4.1. *Demographic distributions of attitudes and opinions*

1. *Analysis by demographic variables—Difference or similarities of opinions between Japanese in Japan and Japanese-Americans in Hawaii on common dimensions (as sex, age, educational background)*

We conducted the analysis of each demographic variable by the following method. For example, in our analysis by sex, the percentage of favorable responses to each question was obtained for male and females separately, and:

(1) carried out a test for a significant statistical difference between the two.

(2) where there was a significant statistical difference between male and female responses, we tried to ascertain whether or not the same pattern of responses was observed for Japan and Hawaii.

This type of examination is important if we are to ascertain whether support for certain responses comes from males rather than females in Japan and whether a similar pattern of responses by sex exists among the Japanese-Americans in Hawaii.

Statistical tests of significance for percentage differences between Japan and Hawaii were conducted between those in their twenties and those over 60 (in Hawaii, over 50); and between those who finished primary school and junior high schools in Japan and in Hawaii, and those who finished a college.*

2. *The number of categories with significant differences*

The number of categories with significant differences are shown in Table 5. Except for some differences due to sex, we could not find

Table 5 Number of categories with significant differences

Demographic variables	Japan (1968)	Hawaii (1971)	No. of categories compared
By sex	42 (%)	26 (%)	91
By age	49	43	93
By educational background	58	51	93

* Refer to the table of analysis on demographic variables contained in the appendix for the details of significant differences for each category of questions and answers on each demographic variable.

appreciable differences between the surveys in Hawaii and Japan in the number of significant differences. Among the three demographic variables, education was most significant.*

Let us next group question items according to the respondent's outlook toward his own life, toward religion, etc.,** and see to what extent significant differences exist within each group in Hawaii and in Japan.

In those question groups on "Children and family," "Face-to-face social problems" the number of categories with significant differences is similar between Japan and Hawaii. But in those question areas dealing with "Individual attitudes," "General social problems" and "Political attitudes," the Japanese-Americans in Hawaii show smaller number of categories with significant differences by sex or age as compared to the Japanese.

The differences in opinions between males and females among the Japanese-Americans in Hawaii are much lower than among those in Japan when it comes to general social problems and political matters. This is a major characteristic of Japanese-Americans in Hawaii that should be noted when their way of thinking is to be considered.

The differences in individual beliefs and views toward "small" social matters are found among both Japanese and the Japanese-Americans irrespective of the difference in sex. But when it comes to general social or political problems, Japanese females have clearly limited interests and this is reflected in the rise in the percentage of "no answer" or "D.K." (don't know) responses among them. The latter produces the (significant) differences between males and females as noted earlier.

3. *Comparing relative patterns of relationships between demographic variables and responses*

The relative pattern of relationships between these demographic variables and the responses given by respondents will be analyzed next.

By sex, 13% of the questions had significant differences in responses between male and female in both Japan and Hawaii, 50% had no such differences in both countries and 33% had significant differences in one country and not in the other. In only four categories of questions did a contrasting direction of significant differences between males and females and that between Japan and Hawaii exist, i.e., where Japanese males had a significantly higher proportion of responses than females whereas females had a significantly higher rate than males in Hawaii.

By age, 62% of the categories had similar tendencies, (those with similar direction of significant differences or those with no such signifi-

* Almond and Verba, in their analysis of political attitudes, also find that educational background is the most significant variable.

** As to classification of variables of questions by # No. and others, see Appendix I.

Table 6 Existence of significant differences and direction (between Japan and Hawaii)

	Same direction of significant differences	Significant differences found in only one country	No significant differences in both countries	Contrary direction of significant differences	Categories compared
By sex	13 (%)	33 (%)	50 (%)	4 (%)	91
By age	25	37	38	1	93
By educational background	31	41	26	2	93

cant differences between the two countries), 37% of the categories had significant differences in only one country and differing directions of significant differences occurred in only 1% of the categories.

By education, 57% of the categories had similar tendencies, 41% had significant differences in only one country and contrary tendencies were found in only 2% of the categories (Table 6). As observed in the above analysis, about 60% of the question categories found similar responses in their relations with demographic variables both in Japan and in Hawaii.

Moreover, similar patterns seem to hold even where no significant differences are found.

We should note that when significant differences by sex are examined we find several categories in which the response patterns found in Hawaii are opposite of those found in Japan. This is interesting in view of the above finding that the magnitude of overall differences by sex is much smaller in Hawaii.

This may also be related to the earlier findings in #6.2 "If you could be born again, would you rather be a man or woman?" in which a higher percentage of females in Hawaii said they want to be born a woman again, than that observed in Japan.

The list of question categories which drew contrary responses between Japan and Hawaii by demographic variables is given below. According to this table, it is interesting to note that the "non-traditional" category of questions drew a larger proportion of responses from males in Japan, while the contrary was true in Hawaii.

Observed as a whole, it may be worth noting that it is only in a very limited number of categories of questions that discrepancies of opinion are found with relation to demographic variables—and this should be remembered when the question of how the society is to be viewed in a broader sense. As mentioned above, however, most outstanding are the differences by sex. Although a detailed observation will have to wait for a further statistical analysis, it is probably related to the fact that the patterns of daily life in Japan had been tradition-

Table 7 Response categories which drew contrary direction of significant differences between Japan and Hawaii

Demographic variables	#	Question categories	Response categories	Japan	Hawaii
By sex analysis	2.5	Relations between nature and human beings	Utilize nature	male > female	male < female
	5.1c-2	Employment examinations—son of indebted person	Employ the one with highest grade	male > female	male < female
	5.1d	Important moral sense	On-gaeshi	male < female	male > female
	〃	〃	Respect freedom	male > female	male < female
By age analysis	4.10	Adopt a child without blood relationship?	Will not adopt	higher age group < younger age group	higher age group > younger age group
By educational background analysis	6.2d	Which gets greater pleasure out of life?	Male	group with higher educational background > group with lower-educational background	group with higher educational background < group with lower-educational background
	7.13c	Spirit of law	For justice	〃 > 〃	〃 < 〃

Note: When the percentage of supporting responses among males is significantly higher than among females, it is indicated as: male>female; the same applies to others.

ally quite different between male and female. (Although this situation may no longer exist in Japan.)

4. *Comparison of opinion difference by age and education*

In this section we will study the differences of opinion by age and education.

In Japan, there is a tendency for "opinions which are supported by the younger people are also supported by those with more education," and vice versa.

Now, let us look into the findings of Japanese and Japanese-Americans in Hawaii on the above-mentioned opinion categories.

Of the total of 93 categories of questions analyzed, 38 categories (41%) had either similar significant differences or none at all by age and education in Japan and Hawaii.

Similarly, 38 categories (41%) had significant differences in both in Hawaii and Japan when analyzed by age or by education alone. In both surveys, those categories showing a different combination of significant differences or those either having a significant difference in one country and none in the other, or vice versa, represented 17 categories. (Of these 14 categories were those having significant differences in one country and none in the other covering both age and educational analysis, and the remaining three categories were those with different direction of significant differences between the two countries.)

It is in this last group of categories where the relationships to demographic variables reveal the greatest difference between Japan and Hawaii. When these categories are listed the previously listed categories once again come to the fore.

If we give score of one point to those categories having significant difference in one country but having no significant difference in the other country, and two points to those with opposite directions of significant difference, we can attach relevant score to each category. In this manner, the three categories were each given three points. When a similar scoring method is applied to other categories, we have the results as shown in Table 8. It can be seen that much of the differences arise from *one* of the two demographic features.

In considering the possible social (structural) effects of age and education in Japan, we find:

Response categories with disparity by age—49%

Response categories with disparity by education—58%

Therefore, if these demographic variables are independently related to each category, those categories having significant differences with respect to both age and education should be about 30% (49%×58%). We find, however, 35 categories (38%) showing significant differences, indicating that there exists some interrelationship between these factors.

Table 8 Degree of disparity between surveys in Japan and in Hawaii in regard to analysis by age and educational background

Analysis by age and by educational background and their relationship with each answer categories		Score			
Analysis by age	Analysis by education	0	1	2	3
+	−	19	6	7	3
−	+				
−	∨	3	20	2	
+	∨				
∨	−				
∨	+				
+	+	0	2	1	
−	−				
∨	∨	16	10	4	

For explanation of +, − and ∨ symbols, refer to Appendix I

In addition, we find that 30 categories or 32% have no significant differences for both age and education. This is higher than the 20% of cases we would expect if no interrelationships between age and education existed. We would, therefore, suggest that there is an interaction effect of age and education on some response categories.

In the Hawaiian survey, those categories having significant differences for both age and education numbered 24 (26%), and 39 or 42% did not show any significant difference in either. The interaction between age and education seems to surface, as in Japan, if we assume that age and education were mutually unrelated, but were respectively related with each question category; the percentage of significant differences was 20% and those without significant differences in age and educational analysis were 30%. In other words, the results affirm the already known fact that younger people tend to be better educated, and that this has effects on opinions.

In Japan, the opinions supported by the younger generation and also by those with more education are liable to be considered "progressive," "non-traditional" or "modern." Therefore, those categories which serve to illuminate these patterns are chosen and broadly compared between Japan and Hawaii.

As in the previous chapter, Japan's percentage of answers by categories were recorded on the horizontal axis and those of Japanese-Americans in Hawaii were recorded on the vertical axis and each answer category was marked with dot. This chart is almost identical

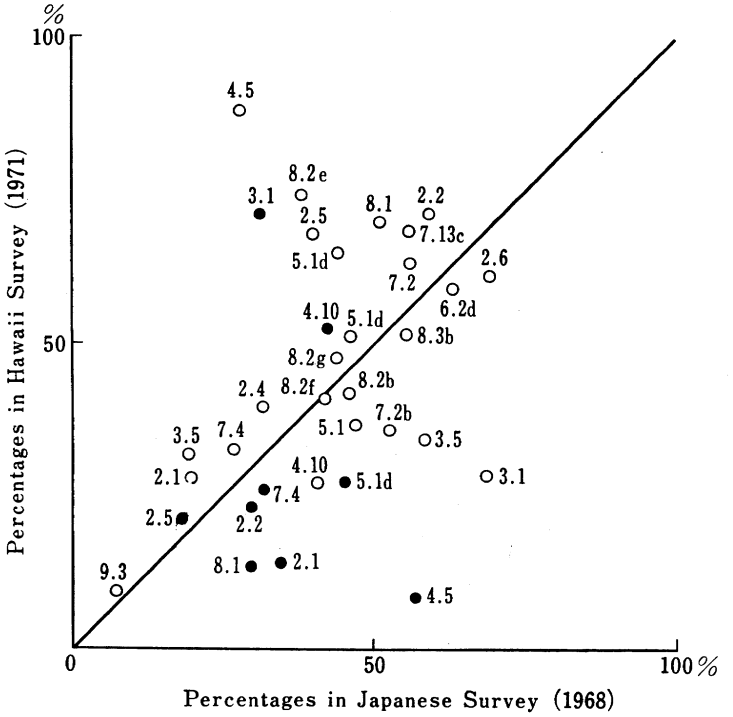


Fig. 3. Comparison of percentages with respect to patterns of progressive and conservative opinion.

with Fig. 2 where the response categories were classified by regression analysis.

In Fig. 3 we demarked (○) these categories which are supported by younger cohorts and by the better educated; the opinions expressed may be considered "progressive." (In the sign it is (+, −).)

On the other hand, we demarked (●) these categories which receive support from older cohorts and the less educated; these may be considered "conservative" opinions.

Overall, the percentages of opinions marked with ● were lower in Hawaii than in Japan except for a few categories, and therefore, it may be assumed that Japanese-Americans in Hawaii are more progressive than Japanese. But the opinions marked with ○ or "progressive" do not necessarily display a set pattern.

That is, whether "progressive" or "non-traditional" opinions are to be operationally defined as those opinions receiving higher support from the younger generation, or those receiving higher support from the better educated the outcome could easily be affected by the definition itself.

This probably is *one of the sources of differences* in the ways of thinking that developed between the Japanese and that of Japanese-

Americans in Hawaii or even other Westerners who are affected by the social circumstances of the respective countries.

We would, however, like to take note of the fact that what we refer to as "traditional" or "progressive" opinions are not based on some fixed notions of ours but were operationally defined from the results of the survey. These opinions happened to be those which are likely to be prevalent in Japanese society and which would not surprise those who live in the society if label them "progressive" or "traditional." If the same definitions are adopted for the survey on the Japanese-Americans in Hawaii and their response categories are analyzed and classified, the results would probably not be accepted as such in Japan.

4.2. *Relations between "degree of cultural affinity with Japan" and "individual's opinion"*

From the results of the survey of the Japanese-Americans in Hawaii, response categories which measure the degree of their closeness to Japanese society were selected from the individuals' attributes or the pattern of their daily lives.

We shall now examine the relationship (if any) between measures of cultural affinity with Japan and opinions.

The following are some typical examples of the types of questions* used to measure the extent of affinity with Japan on the part of the respondents.

First, from the demographic variables, we chose (H 5) "what generation are you?" (comparison between Nisei and Sansei, significance of the differences, direction of such significant differences), and we chose among the basic social attitudes (# 3.1b), "what religion do you believe in?" (comparison between those who believe in Buddhism and those who believe in Christianity or with those who do not believe in any), and from the linguistic area, (H 17) "Proficiency in Japanese" (those groups who are fluent in Japanese and those who are not) was selected for analysis.

Generally, for each of the variables, the degree of their relationship with each category of responses was just about the same (it is measured by the number of categories which have significant differences by the above attributes) and those categories having significant differences accounted for some 30% of the total. In the case of religion, the results were slightly lower. From among these questions on patterns of daily life, (H 1) "what does your family call you?"** those with

* Some of them will be explained in the next chapter.

** This was chosen for analysis because, it was planned later to survey the relations between the names in the telephone directory with that of the voters' list.

Table 9 Number of categories having significant differences

Demographic variables	Categories with significant differences (%)	No. of categories compared
By generation (between Nisei and Sansei)	29	93
By religion (between Buddhism and Christianity)	22	93
By knowledge of Japanese (between those fluent and not fluent)	30	93
By name (between Japanese and American)	11	93

Japanese and American names were analyzed to see if there would be any differences. The results showed almost no difference at all (categories with significant differences represented only 11% of the total).

When categories of questions which have typically Japanese (traditional) or non-Japanese (non-traditional) elements are chosen for analysis, it is believed that those groups of Japanese-Americans who are closely related to Japan (Nisei, believers in Buddhism, fluent in Japanese, or who only use a Japanese name) and other groups not having close relations with Japan will differ substantially in their opinions.

We could, therefore, expect to find a greater degree of significant differences between the two groups.

Of the operational classification of response categories taken up in the foregoing chapter, those categories which were "categorized by the regression analysis" will be examined to determine whether any differences of opinion exists among them.

We expect the following sort of results:

In the area of "traditional" opinion (type A), the closer the cultural orientation toward Japan, the greater the percentage of support for traditional views (in the statistical test for significance of the differences, there will be more significant differences and furthermore, this will be in the direction of such differences).

On the other hand, with respect to "non-traditional opinions" (type B), the more the group is "not oriented culturally toward Japan" the greater the rate of support will be for this type of opinions.

With respect to those opinions which belong to the type C category, there is no set pattern (probably the majority of opinions will show similar percentages whether they are of those groups which have close relations with Japan or not).

Our expectations are borne out, but only partially.

Among the various comparisons discussed here, those concerning

Table 10 Number of categories where relations were as expected

Classification of answer categories	Number of categories taken up for analysis	Number of categories where presumptions were right			
		Analysis by generation	Analysis by religion	By proficiency in Japanese	Scores of pattern classification*
Classification by subjectivity	45	31	20	26	27
Classification by regression analysis	45	26	18	24	27
Classification by regression analysis plus direction of significant differences by analysis by age, educational background	71	42	37	40	47

* Comparison between groups with higher individual scores (over 0.8 for those groups with strong relations with Japan) and those groups with low scores (below −0.8 and those having no relations with Japan), by pattern classification to obtain numerical value for those chapters following Chapter 5, Section 1.

generational comparisons showed most clearly the significant differences.

Next comes proficiency in the Japanese language. Differences in religion have in general as strong an influence on producing opinion differences in general as the previous categories, but with respect to those questions containing "traditional"—"non-traditional" items the differences in religion did not produce much difference.

The above results are summarized in Table 10; the extent to which the results bear our expectations out is also shown. Similar results as discussed here are also obtained by means of pattern classification.

There are some categories where actual results came out entirely opposite to our expectations. For example, in the analysis by generation, if the Nisei displayed a lower percentage of support than the Sansei for opinions considered to be "traditional" (in the Japanese sense), such a result would be contrary to our expectation. Actual results are shown in Table 11.

As seen in this table, such a reversal did not actually happen in

Table 11 Categories where presumed relations come out in reverse

Analysis	#	Subjects	Categories	Remarks
By religion	4.10	Adopt child	Yes No	Here, the classification of categories by regression analysis in Japan is taken up as the basis of relations.
By fluency in Japanese	〃	〃	〃	
By pattern classification scoring	2.5	Relations between nature and human beings	Conquer nature	

Table 12 Summary of opinion difference between groups having close relations with Japan or not, and comparison of response percentages in Japan and Hawaii

between Japan's and Hawaii's surveys		Existence or non-existence of significant differences in response percentages between groups having close relations with Japan and others		
		Group having closer relations with Japan has a higher percentage of support for this opinion with significant difference (Traditional > Non-traditional)	No significant difference between two groups	Group having closer relations with Japan has a higher percentage of support for this opinion with significant difference (Non-traditional > Traditional)
	$P_J > P_H$	2.1 Follow custom	2.4 Pure, just life	(3.1 No religious faith)
		8.1 Leave it up to politicians	5.1b Attend meeting	(7.2b No change in 21st century)
		4.5 Teach money's importance	2.5 Conquer nature	
		4.10 Would not adopt	(5.1c-1 One with highest grade)	
		5.1d Repay obligations	5.6 Chief who looks after you	
		5.16 Natural to write IOU	4.4 Deny rumor about teacher	
			(5.7 Buy at cheaper shop)	
			(6.2c Men have more difficult life)	
			4.8 Disapprove	
			7.4 Country→Individual	
			5.1 Attend meeting	
			9.3 Like Japanese garden	

Higher percentage of support in Japan

Comparison of response percentages				
Similar percentage without significant difference between two surveys ($P_J \fallingdotseq P_H$)	2.2 Give up if opposed 5.1d Oya-koko (filial piety) (5.7 Buy at famous shop)	2.4 Work hard and get rich 7.4 Country=Individual 2.4 Live cheerfully 7.6 Present medal 7.6 Present monetary award 2.5 Follow nature 7.7 Scholars, artists 7.7 Practical workers 5.1 Go back home 7.2 Reduce richness of feelings	2.1 Depends on situation (5.7 Near by shop) 2.4 Live to your taste 7.2 Will not be reduced (4.7 Freedom) 7.4 Individual→Country 4.10 Would adopt 5.1d Respect freedom
Higher supporting opinion in Hawaii ($P_J < P_H$)	(3.1 Believe in religion) (7.2b More disagreeable things in 21st century)	2.1 Go ahead 5.6 Chief who doesn't care for his men 2.5 Make use of nature 7.7 Both have same value 4.8 According to your means 5.1b Go back home	2.2 Ignore opposition, go ahead (8.2e Democracy is good) 4.4 Tell the truth 4.5 Disagree about teaching money's importance 5.1d Respect rights of individual 5.16 Unpleasant to write IOU 8.1 Can't leave it up to politicians

Note: Those in brackets are not classified as either "traditional" nor "non-traditional."

the analysis by generation.

The results also indicate that there does not seem to be as large a difference as expected between those who have a relatively strong Japanese element in their daily lives, and the others who have not. That is, when judged from the existence or non-existence of significant percentage differences in opinions of the two groups, no large differences of opinion are found.

It may even be a matter of degree. In many kinds of opinions, those people who tend to have a strong cultural orientation toward Japan may not necessarily have peculiarly "Japanese" opinions. Thus, whether or not they have a strong or a weak affinity toward Japan, their opinions may be quite homogeneous.

Therefore, unless the promises used for our analysis are consistent and appropriate, the process of cultural changes and development involved cannot be discussed precisely. That is, if (a) the classification of answer categories into "traditional" and "non-traditional" was carried out consistently and appropriately (including the problem of whether or not a similar classification of opinions of Japanese-Americans in Hawaii as those in Japan is proper) and (b) whether or not the indicators used to determine the degree of "cultural orientation toward Japan" are appropriate, should be closely examined.

Before we consider this problem in the following chapters, we will examine the following results in order to clarify matters. If we examine the category of questions discussed (containing "traditional" vs. "non-traditional" items) with respect to the relationship between the response rates obtained in Japan's survey and those in Hawaii, and the extent of opinion differential due to cultural affinity to Japan (i.e., the extent of difference in the opinions of those who are close to Japan culturally and those who are not), we have Table 12.

For those response categories which have higher percentage of support in Japan's survey (in the table, it is shown as $P_J > P_H$), we find that the closer the Hawaiian group is culturally to Japan, the higher is the percentage of support in some of the categories. On the other hand, there was no category where the tendency was reverse. (It was natural, however, that in categories not taken up here, such as #7.2b "things may be changed in the 21st century", which cannot be classified as either "traditional" or "non-traditional," the results of the survey came out in reverse, and they presented valuable hints for the classification of response categories.)

At the same time, the categories which gained a higher percentage of support in the Hawaii survey over Japan's have a tendency to draw greater support from groups of Japanese-Americans who are culturally more distant to Japan (in the table it is indicated as "non-traditional"

>"traditional-Japanese"). These two tendencies do not contradict our expectations. That is, while we do not find many relationships confirming our expectations, we also do not find those which negate our expectations.

5. The relationship between the cultural orientation of individuals and their ways of thinking

We have been discussing the differences between the results of our studies conducted in Japan and in Hawaii. We have compared the results by utilizing the dichotomous classification of the response categories into traditional and non-traditional opinions.

We will now classify the respondents in our Hawaii survey according to their cultural orientation and we will examine the relationship between their cultural orientation and their ways of thinking.

5.1. *Individual characteristics and cultural orientation*

We first classify each respondent according to his individual characteristics, as well as his cultural orientation. The classification (of individuals) is carried out by means of pattern classification.* In this method, we assign similar values to the individuals who have the similar social characteristics or similar cultural orientation. Conversely, we assign to individuals who do not share the same pattern different values.

1. *Items to be utilized for classification of individual respondent*

♯1.1 Sex
♯1.2 Age
H 13 Education
H 8a Occupation
H 5 Generation (Issei, Nisei or Sansei)
H 4 Parental origin (prefecture, city, etc., of Japan)
♯3.1b Religion (Buddhism, Christianity, or without religion)

H 16 Number of years spent to learn Japanese
H 17 Degree of mastery in Japanese
H 33×H 34 Write letters in Japanese
H 35 Language in which mental calculation is done

H 20 Read Japanese newspapers
H 22 Listen to Japanese language radio programs
H 23 Watch KIKU-TV (Japanese TV programs)
H 31 See Japanese movies

* For a detailed explanation of the classificatory method, see Appendix II, Part II of this paper.

H 32 Prefer Japanese music

H 1 Familiar name (Japanese or American)
H 14 Married to a Japanese
H 26 Any family member married to a non-Japanese
H 19 Organizational membership (Japanese)
H 25 Friends (Japanese)
H 27 Co-workers or colleagues (Japanese)

2. *Values assigned to each social background factor and cultural orientation toward Japan*

We have assigned a value to categories in each of these 22 items

Table 13 Values assigned to each social background factor and cultural orientation toward Japan

Ques. No.	Question topic	Response category	^1X	^2X	No. of respondent*
#1.1	Sex	1. Male	0.04046	−0.00386	245
		2. Female	−0.03510	0.13874	218
H 1	Familiar name	1. Japanese	2.30263	−0.61682	154
		2. American	−1.37096	0.73040	253
		3. Both	−0.17085	−1.07794	55
H 4	Parental origin	1. Hiroshima	0.16495	−0.15687	122
		2. Yamaguchi	0.37344	1.60828	109
		3. Kyūshū	0.21458	−3.83469	84
		4. Okinawa	0.36541	−0.55359	64
		5. Honshū	−0.18949	−0.13747	58
H 5	Generation	1. Issei	6.25839	12.41843	22
		2. Nisei	1.07552	−3.27803	282
		3. Sansei	−2.75925	4.27989	159
#1.2	Age	1. Twenty	−2.96230	5.72024	120
		2. Thirty	−1.76709	1.47442	63
		3. Forty	1.14242	−4.89424	125
		4. Fifty	1.83389	−4.57627	97
		5. Sixty or more	5.21319	6.17982	52
H 8a	Occupation	1. Professional or managerial	−0.95883	0.20297	106
		2. Skilled worker	0.77542	−2.07830	137
		3. Clerical worker	−1.32212	−1.75821	113
		4. Housewife or unemployed	1.37442	4.59058	107
H 10	Ever been Japan	1. No	−1.49814	0.63626	251
		2. Once	0.80344	−2.87991	122
		3. 2-5 times	3.17470	2.42954	79
		4. 6 or more times	1.37442	4.59058	10
H 13	Education	1. Elementary or middle school	3.93332	0.72541	101
		2. High school	−0.39943	−2.29594	205
		3. University	−1.99441	2.71783	157
H 14	Spouse's ethnic	1. Issei	4.31958	4.75480	43
		2. Nisei or Sansei	0.28399	−2.50686	303
		3. Non-Japanese	−1.72059	0.59154	20

Table 13 (Continued)

Ques. No.	Question topic	Response category	^1X	^2X	No. of respondent*
H 16	"How many years of Japanese language school did you have?"	1. None	−3.28301	7.11332	59
		2. 1-5 years	−1.85755	0.53667	111
		3. 6-10 years	0.61650	−3.13319	201
		4. 10 years or more	3.16430	1.89392	90
H 17	"How well do you use Japanese?"	1. Fluently	4.18915	2.96180	103
		2. Passably	0.10389	−4.43085	181
		3. Very poorly	−2.28756	1.47968	89
		4. Not at all	−2.73616	4.39835	89
H 19	Organizations	1. Japanese	2.57185	−0.22532	115
		2. Both	−0.92800	−0.39616	198
		3. Non-Japanese	−0.81581	1.93802	11
H 20	Japanese newspaper	1. No, don't read	−0.74269	−0.84440	409
		2. Yes	5.66713	6.93829	54
H 22	Japanese radio	1. Never heard	−1.89488	0.94204	226
		2. Sometimes	0.73094	−1.81708	139
		3. Often	3.40125	0.81255	97
H 23	KIKU-TV	1. Never seen	−1.89800	1.94725	97
		2. Sometimes	−0.80740	−0.95207	241
		3. Often	3.04063	0.46648	123
H 25	Friends	1. Japanese	1.94212	1.17113	92
		2. Japanese and mixed	0.21462	−0.51111	188
		3. Both	−1.15263	−0.22312	169
		4. Non-Japanese	−1.56926	3.95368	14
H 26	"Do your family member married to a non-Japanese?"	1. No	0.08933	1.61153	286
		2. One	−0.29868	−2.00316	125
		3. Two or more	0.17462	−3.63172	51
H 27	Co-workers or colleagues	1. All Japanese	0.08977	2.42896	34
		2. Most of Japanese	−0.28988	−1.26834	32
		3. Both	−0.84390	−1.13586	178
		4. Non-Japanese	−0.66257	−0.93524	60
H 31	Japanese movies	1. To see	3.71815	0.07715	61
		2. Both	−0.85109	−0.13999	267
		3. Never	−1.97903	1.10151	49
H 32	Japanese music	1. Like	4.06003	2.29618	54
		2. Both	−0.04817	−1.55498	341
		3. Don't like	−3.22772	6.19521	64
H 33 × H 34	Letters	1. Japanese	6.23775	8.17592	46
		2. Both	0.81424	−4.17870	93
		3. English	−1.29475	0.04480	313
H 35	Mental arithmetic	1. English	−0.60231	−0.75332	422
		2. Japanese	6.94448	9.83630	28
		3. Both	4.76903	5.52249	13
♯3.1b	Religion	1. Buddhism	1.57401	−1.43799	182
		2. Christianity	−1.32685	0.05869	124
		3. Other	2.37390	1.17879	26

Note: * The combined results of English and Japanese questionnaires used.

by means of pattern classification.

Table 13 shows the values of ${}^1X$ and ${}^2X$ assigned to each category; where ${}^1X$ is the latent vector corresponding to the first maximum latent root and ${}^2X$ is that corresponding to the second maximum latent root. The latent roots are 0.31, 0.15, respectively. The third maximum latent root is 0.09, and so on. (See detailed methodological discussion Appendix II.)

When these values are presented graphically, we have Fig. 4. Fig. 4 shows the relative magnitude of Japaneseness of each category; the positive values indicate relatively strong Japaneseness (and vice versa).

It appears that the primary latent vector, the extent of cultural orientation toward Japan, is the most influential factor in determining individual's "Japaneseness"; hence, this set of measures would be most

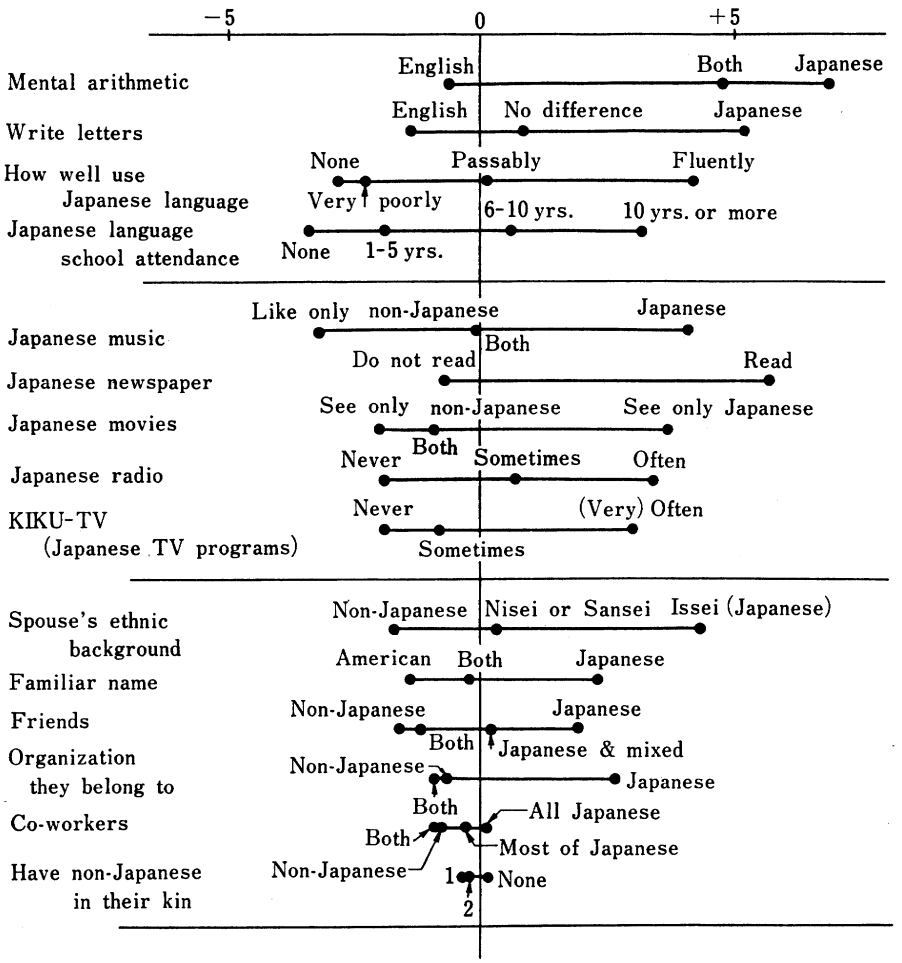


Fig. 4. Values assigned to each social background factor and cultural orientation toward Japan.

effective in classifying the respondents. Therefore, without considering individual's cultural orientation, it is difficult to make any meaningful classification of the respondents with respect to their Japaneseness.

In examining Fig. 4, we saw that the positive values represent "Japaneseness" and the negative values represent "non-Japaneseness." It is also possible for us to evaluate the relative effectiveness of each item in terms of the scaler distance between the two polar response categories. For example, sex is ineffective because the value for the males is 0.04 and that of the female is −0.03. On the other hand, generation is effective for classification because the first generation has a value of +6.26 and the third generation has a value of −2.76, and the range between the first and the third generation is as large as 9.01. The major demographic factors and behavior patterns exhibiting a large distance between two polar categories were:

Demographic factors:	age (range 8.17) generation (9.01)
Linguistic factors:	"mental arithmetic in Japanese" (7.54)
	"write letters in Japanese" (7.42)
	"speak in Japanese" (6.91)
Mass communication:	"listen to Japanese music" (7.28)
	"read Japanese newspaper" (6.40)
	"listen to Japanese radio" (5.29)
	"watch Japanese TV" (4.93)

As we noted, the larger the range of the categories, the more effective are the items in classifying the individuals in the sample. We also find that the extent the range involved in the above list roughly corresponds to the relative difficulty in using foreign languages in general, and Japanese in particular. In other words, among the Japanese-Americans in Hawaii, the items indexing the ability to speak Japanese effectively acquired a wide range and consequently emerged as an important factor for the classification of Japanese-Americans in Hawaii. Occupation and the other social factors representing acculturation such as membership in voluntary associations or the ethnic background of intimate friends or co-workers did not have such a wide range of values and therefore these factors do not appear to be important for classifying the Japanese-Americans in Hawaii.

3. *Scores assigned to each individual and the classification of the clusters of individuals*

We attach to individual a score based on his demographic status, as well as his responses to the question items indexing his cultural orientation to Japan. His score is, in a sense, an average of scores obtained in these cotegories. For example, individuals who are similar demographically, and whose cultural orientations are also similar would receive similar scores. Thus an individual who is good at Japanese and

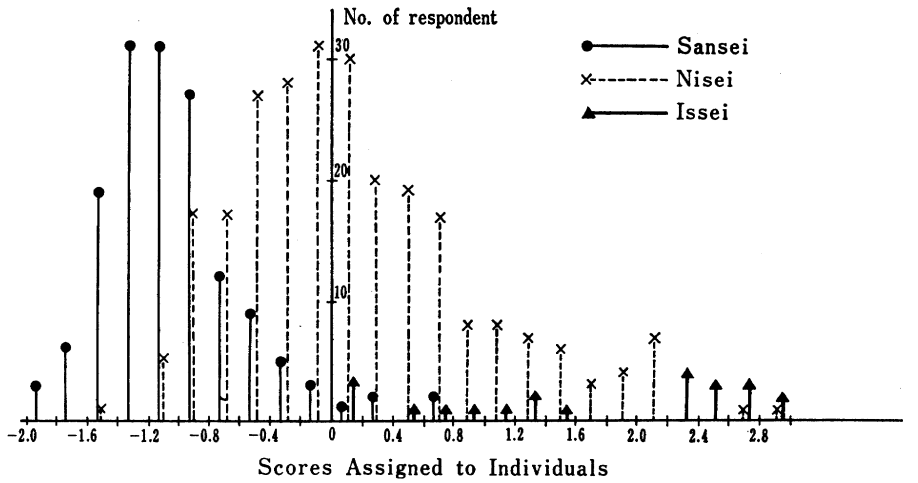


Fig. 5 The distribution of the scores assigned to individuals in three generational groups of Japanese-Americans in Hawaii.

consequently exposes himself to the Japanese mass media frequently acquires a higher plus score in the classification than those who do not. Generally speaking, persons with closer contacts with Japanese culture have positive scores, and persons with little contact will have negative scores.

This classification system is useful in analyzing the Japanese-Americans in Hawaii. Fig. 5 shows the distribution of the scores assigned to individuals in three generational groups of Japanese-Americans in Hawaii. Clearly, the first generation has higher positive scores showing strong Japaneseness, while the third generation group shows the weakest degree of Japaneseness. The second generation appears to lie between these two groups. Thus Fig. 5 shows quite clearly the decrease of Japaneseness through generations.

5.2. *Classification of attitude categories representing Japanese national character*

We will now classify categories representing Japanese national character based on the scores assigned to the individual in the sample.

1. *Scores assigned to the attitude categories*

Based on the analyses discussed in the previous section, scores were assigned to each individual representing the degree of his Japaneseness. In order to measure the Japaneseness of each attitude category representing aspects of Japanese national character we calculated the score for each category by averaging scores of individuals who chose the category. Table 14 shows the mean and the variance for each attitude category.

Just as the score assigned to each individual represents his "Japa-

Table 14 Scores assigned to the attitude categories and classification of those categories

Ques. No. #	Question topic	Response category	${}^1\bar{X}$	σ_1^2	Classification	
					Hawaii	Japan
2.1	Custum	1. Go ahead	−0.11412	0.76446	○	○
		2. Follow custom	0.51028	1.27292	●	●
2.2	Give in to opposition or go ahead	1. Go ahead	−0.24495	0.83140	○	○
		2. Give in	0.11200	0.89196	●	●
2.4	The way of life	1. Get rich	−0.06442	0.77682	△	△
		2. Suit own tastes	−0.29266	0.78601	○	○
		3. Cheerfully, don't worry	0.13412	0.99026	△	△
		4. Live pure & just life	0.56232	1.38070	●	●
2.5	Man & nature	1. Adapt to nature	0.16301	1.35805	●	●
		2. Utilise nature	−0.16426	0.69967	○	○
		3. Conqure nature	0.84922	1.57453	●	○
4.4	Rumor about teacher	1. Better to deny	0.62895	1.23915	●	●
		2. Better to affirm	−0.09533	0.93376	○	○
4.5	Teaching children money is the most important	1. Agree	0.88929	1.34887	●	△
		2. Disagree	−0.15694	0.77626	○	○
4.8	Big wedding and funerals	1. Disapprove	0.27384	1.64050	●	△
		2. According to your means	−0.08529	0.85138	○	△
4.10	Adoption to continue family line	1. Would adopt	−0.09706	0.87100	○	●
		2. Would not adopt	0.17590	1.19617	●	○
5.1	Benefactor vs. Business	1. Go home	−0.00955	1.08664	△	●
		2. Attend meeting	0.03535	1.02894	△	○
5.1b	Parent vs. Business	1. Go home	−0.04297	0.95197	△	△
		2. Attend meeting	0.09448	1.12518	△	△
5.1c	Employment examination (son of relative)	1. Highest grade	0.09397	1.07224	●	(●)
		2. Relative	−0.24889	0.77678	○	(○)
	Employment examination (son of benefactor)	1. Highest grade	0.03424	1.05342	△	—
		2. Son of benefactor	−0.03846	0.95549	△	—
5.1d	Important virtues	1. Choose oyakoko	0.23853	1.13395	●	(●)
		Do not choose	−0.29244	0.68049	○	(○)
		2. Choose ongaeshi	0.48580	1.36333	●	(●)
		Do not choose	−0.20842	0.69944	○	(○)
		3. Choose respecting right	−0.28914	0.65997	○	(○)
		Do not choose	0.47149	1.19584	●	(●)
		4. Choose respecting freedom	−0.19349	0.70871	○	(○)
		Do not choose	0.18134	1.20502	●	(●)
5.6	Type of supervisor preferred	1. Non-paternalistic	−0.09497	0.74843	△	△
		2. Paternalistic	0.04938	1.12181	△	△

Table 14 (Continued)

Ques. No. #	Question topic	Response category	${}^1\bar{X}$	σ_1^2	Classification	
					Hawaii	Japan
5.16	IOU for $100 (ten thousand yen)	1. Unpleasant	−0.29219	0.73083	○	(○)
		2. Quite natural	0.19456	1.08017	●	(●)
7.4	Country and individual happiness	1. Individual→country	−0.07676	1.12457	△	○
		2. Country→individual	0.13784	0.93036	△	●
		3. Country=individual	−0.00579	0.93926	△	○
7.6	Medals or money	1. Medals	−0.01090	0.94757	△	○
		2. Money	−0.11532	1.04701	△	△
7.7	Value of type of work	1. Practical work	−0.11465	0.82340	△	△
		2. Scholars, artists	0.06648	1.03077	△	△
		3. Both same	−0.05724	0.95973	△	△
8.1	Leave things to political leaders?	1. Agree (leave)	0.55689	1.26361	●	●
		2. Disagree	−0.12226	0.92408	○	○
8.3b	Scientists and politics	1. Research only	0.28919	1.15038	●	●
		2. Politics	−0.11472	0.84114	○	○
		3. Politically active	−0.12171	0.97002	○	△
9.3	Japanese garden, western garden	1. Japanese garden	0.02968	1.05702	△	△
		2. Western garden	−0.26829	0.78868	△	△

neseness," the score assigned to each attitude category based on such individual scores represents the degree of "Japaneseness" of that category.

2. *Classification of attitude category*

Now we are going to classify the attitude category according to the degree of "Japaneseness." As Table 14 shows, each attitude item has contrasting response categories. We are interested in comparing the scores attached to these contrasting categories. We compare the (mean) scores by investigating whether or not there is a statistically significant difference between pairs of contrasting categories. If we find a significant difference between the scores of the contrasting categories, we then define the categories with plus scores as "Japanese," and the categories with minus scores as "non-Japanese." We define the categories which did not show any significant difference as "neutral."

Using the classification of "traditional" and "non-traditional" that we developed earlier (refer to Chapter 3), and the classification scheme for response categories which we have just discussed, we present in Table 15 a cross-tabulation of the response categories.

The two classification schemes which we have independently derived are surprisingly well-matched. If we focus on those categories which fall into the polar classifications of "traditional"–"non-traditional" and "Japanese"–"non-Japanese" (i.e. excluding those who fall into "Intermediate" or "Neutral" classification), we find that only 3 out of 30

Table 15 Summary of classification schemes for response categories

Classification by Japanese data / Classification by value given to response category	Non-traditional	Traditional	Intermediate	Total
Non-Japanese	14	1	2	17
Japanese	2	13	2	17
Neutral	4	2	12	18
Total	20	16	16	52

response categories (10%) are located outside the main diagonal. The following is the list of categories which did not fall into the main diagonal:

4.10 "Adoption to continue family line" ("Would adopt" belongs to "traditional" category in the Japan classification but belongs to "non-Japanese" category in the Hawaii classification).

4.10 "Adoption to continue family line" ("Would not adopt" belongs to "non-traditional" category in the Japan classification but belongs to "Japanese" category in the Hawaii classification).

2.5 "Man and nature" ("Conquer nature" belongs to "non-traditional" category but belongs to "Japanese" category in the Hawaii classification).

5.3. *Relationship between the values attached to each response category and the difference in the ratios observed in the two surveys*

We had divided the response categories into "Japanese" and "non-

Table 16 Response categories with large positive values

#	Question meaning	Response category	Value
4.5	Teaching children money is the most important	Agree	0.889
2.5	Man and nature	Conquer nature	0.849
4.4	Rumor about teacher	Better to deny	0.629
2.4	The way of life	Live pure	0.562
8.1	Leave things to political leaders?	Agree	0.557
2.1	Custom vs. conscience	Follow custom	0.510
5.1d	Important virtues	Ongaeshi (Repaying moral indebtedness)	0.486
5.1d	Important virtues	Don't choose respecting rights	0.471
8.2e	Immediate reaction to democracy	Depends on circumstances	0.340

Japanese" groups according to the numerical values derived for each category. (Refer to the previous section.) We found in the process that the resulting grouping matched reasonably well the grouping we had utilized in the surveys conducted in Japan. Since we had argued that the numerical values attached to each response category indicates the relative magnitude of "Japaneseness" of that category, we shall devote some space for a discussion of those categories with large positive values.

The response categories with large values in Table 16 are basically the same categories as those which we had referred to as "Japanese" opinions in Table 4. While we found (in Table 4) that these "Japanese" opinions are supported by a minority among the Japanese-Americans in Hawaii, Table 16 indicates that these minority respondents include many whose cultural orientations are characterized by greater degrees of "Japaneseness." Hence, opinions may be considered "Japanese," on the one hand, if they are supported by those who exhibit "Japaneseness" in their cultural orientation. Opinions may be considered "Japanese,"

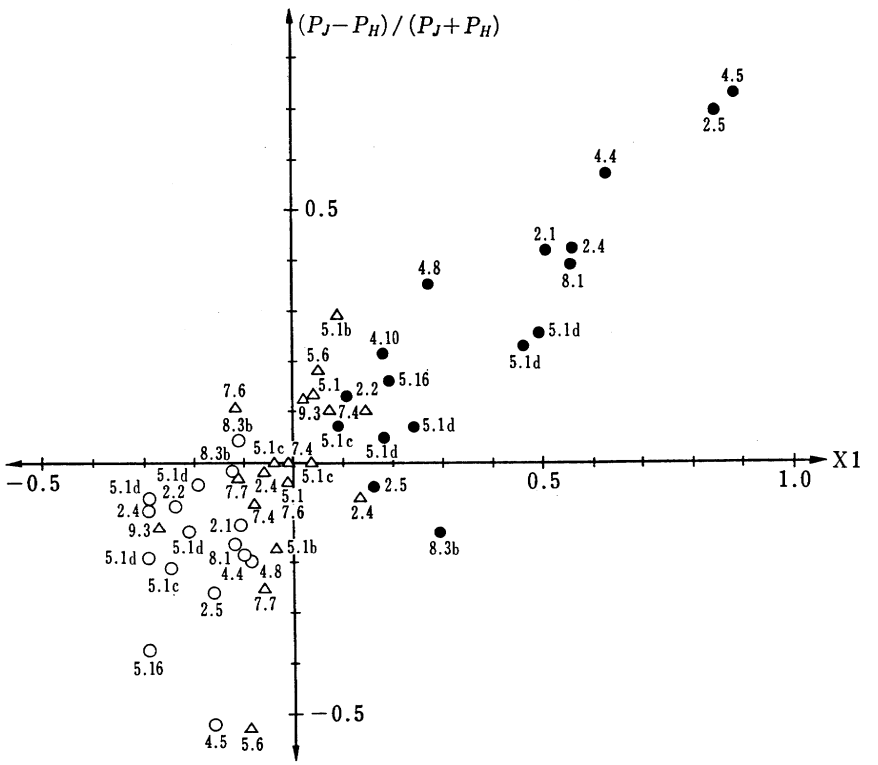


Fig. 6. Relationship between the "Relative magnitude of Japaneseness" and the "Differentials in response" (response categories containing "traditional"-"non-traditional" elements).

on the other hand, if they are supported by relatively larger proportions of respondents in Japan than those in Hawaii.

If we plot the response categories containing "traditional"–"non-traditional" elements by their "Japaneseness," on the one hand, and by the differentials in response to the same response categories, on the other, we have Fig. 6. The relationship between the two indices is unambiguous; the same relationship, however, cannot be found when we plot the other response categories (Fig. 7). The relationship indicates, therefore, that those response categories which are supported by the Japanese-Americans whose cultural orientations exhibit high degrees of Japaneseness are even more strongly supported by the native Japanese.

It is interesting to note that the "traditional ways of thinking" in Japan as delineated here could not be captured by simple cross-tabulations which had the extent of Japaneseness in cultural orientation of individual Japanese-Americans as the independent predictor (4.2, Table 10). The relationship could be illuminated only when responses are "weighted" by the individual's relative Japaneseness (thus exaggerating the impact of the opinions held by the Japanese-Americans with "Japanese" cultural orientation: the latter group tends to have opinions that are quite similar to the native Japanese).

The seven categories in Table 16 show most clearly the differ-

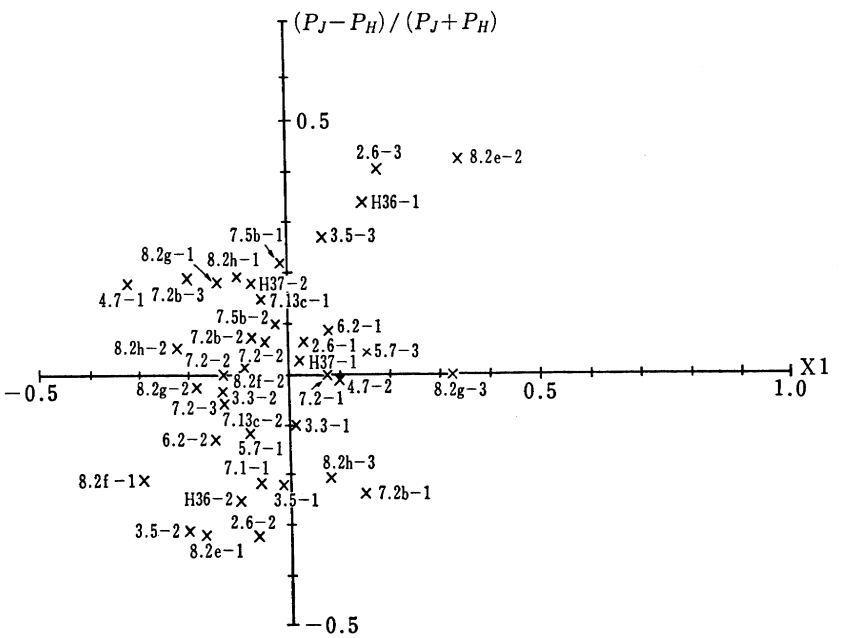


Fig. 7. Relationship between the two indices (the other response categories).

ences in the way of thinking between Japanese in Japan and Japanese-Americans in Hawaii.

When we plot the degree of support rendered to such opinions by Japanese-Americans in Hawaii and by Japanese in Japan we have Fig. 8.

Fig. 8 displays the distribution of respondents by the extent of support given to the "typically-Japanese" opinions in each of the two surveys. We find, in Fig. 8, that a large proportion of the native Japanese respondents have larger scale values, i.e. support more typically Japanese opinions than their counterparts in Hawaii.

When the distributions of the support in each of the surveys are separately presented by age, we have Figs. 9 a and 9 b.

Among Japanese-Americans in Hawaii, about half of the respondents in age categories 20–29 and 30–39 supported none of these opinions. Only a small proportion of the respondents supported more than two categories. Among those over 40, however, the proportion of respondents who support none of the given categories decreases somewhat. But as a whole, the patterns of distributions do not seem to differ greatly by age.

We find in the distributions of respondents in the Japanese survey that the younger the age group the less support the respondents in the age group give to these opinions.

However, although there are discernible intra-societal differences in the distributions of opinions by age in Japan, such differences are not as striking as those observed in inter-societal comparisons of distributions between the same age groups.

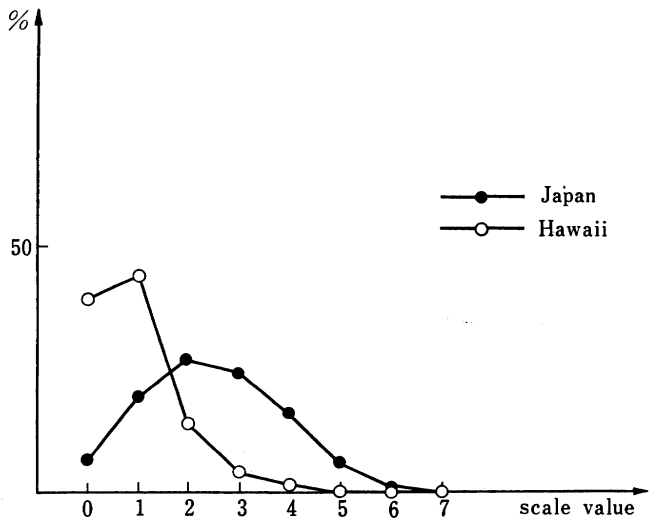


Fig. 8. The scale values of the surveys covering Japanese and Japanese-Americans in Hawaii.

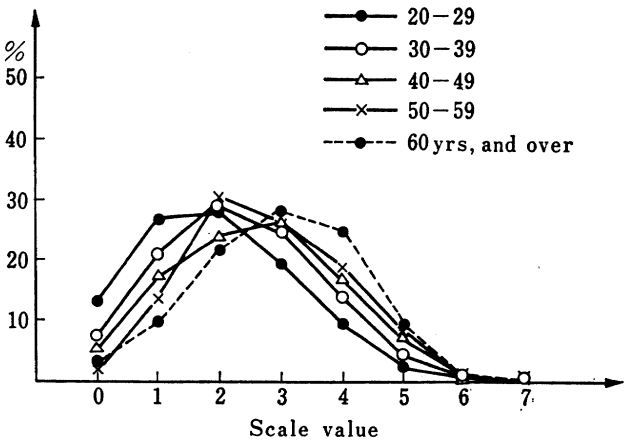


Fig. 9 a. Scale value of 7 categories (by age in Japan).

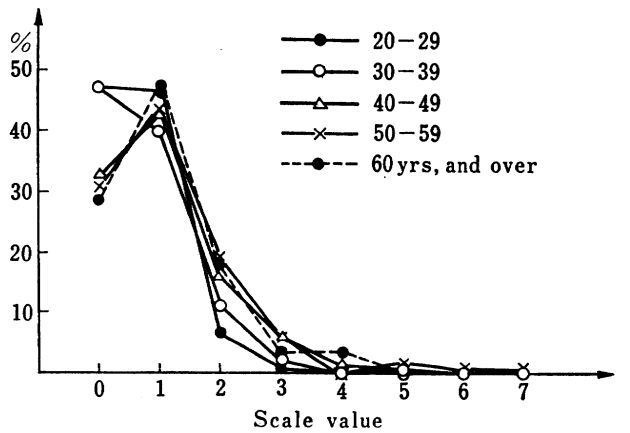


Fig. 9 b. Scale value of 7 categories (by age in Hawaii).

5.4. *Summary*

We have been examining the correspondence between the classificatory criteria of "traditional"–"non-traditional" and "Japanese"–"non-Japanese."

"Traditional"–"non-traditional" criterion was derived from the results of the Japanese survey and that of "Japanese"–"non-Japanese" was applied to the Japanese-Americans in Hawaii. Though we could not utilize the criterion of "traditional"–"non-traditional" to analyze the Hawaiian data, this criterion applied to the Japanese data ("traditional"–"non-traditional") corresponded surprisingly well with the criterion applied to the Hawaiian data ("Japanese"–"non-Japanese"), and the rate of discrepancy only at the 10 percent level of the number of the response categories which were compared.

We can interpret this correspondence between the "traditional"

attitude in Japan and the "Japanese" attitude in Hawaii as follows: In Japan, the older the one becomes the more strongly one tends to support the attitude considered as "traditional." However, in Hawaii those people *who support the same attitude* have a stronger tendency to have a life style which is more Japanese such as the frequent use of the Japanese language. However the response pattern in Hawaii does not necessarily show a correlation with age.

By this method of analysis, we can not only relate clearly the response patterns in Japan to that in Hawaii but we can also show two important aspects of cultural change: the changing attitude in Japan from the older generation to the younger shows inter-generational change in a single society: the change from "Japanese" attitude to "non-Japanese" attitude as seen among the Japanese-Americans in Hawaii shows their acculturation in the process of immigration and assimilation.

6. Internal consistency in classifying response categories

In the foregoing chapter, the response categories were classified into "traditional" and "non-traditional" categories. Based on this classification, the results of surveys in Japan and Hawaii were compared. The findings were just as expected in some cases, but in other cases, the results were different from what we expected. (Refer to the previous chapter.)

If the "classification" of response categories that we have used had been proper, and if there was internal consistency within the classification, any unexpected results found in comparing surveys in Japan and Hawaii may be attributed to different "ways of thinking" between Japanese and Japanese-Americans in Hawaii.

But the classification of response categories might have been improper and might have resulted in unexpected findings. Let us examine this in detail. We have classified the response categories by certain criteria (refer to Chapter 3), but since each response category was independently classified into one of the two groups, we do not know whether any interrelationships among the response categories in each group (traditional or non-traditional) exists.

But if our classification of response categories had been proper, there would have been a strong possibility for a respondent, who selected a traditional response category in A question, to have selected also a traditional category of response in B question, rather than choosing a "non-traditional" category.

If that is the case, when we cross-tabulate the responses to A and B questions (Table 17) and calculate the degree of association between

Table 17 Cross table on A and B questions

A \ B	1 (traditional)	2 (non-traditional)	3 (others)	Total
1 (traditional)	r_{11}	r_{12}	r_{13}	p_1
2 (non-traditional)	r_{21}	r_{22}	r_{23}	p_2
3 (others)	r_{31}	r_{32}	r_{33}	p_3
	q_1	q_2	q_3	1

$$\sum_j r_{ij}=p_i \qquad \sum_i r_{ij}=q_j \qquad \sum_{ij} r_{ij}=1$$

the two questions, η,

$$\eta=\frac{\sum_i r_{ii}-\sum_i p_i q_i}{1-\sum_i p_i q_i},$$

we can expect that the value of η would be larger than η', the value obtained when columns 1 and 2 entries are reversed. If the classification of the response category is improper, it is possible that the value of η' obtained by relating "traditional" categories with "non-traditional" would be larger than η.

We attempted to see whether the value for η would be the largest when we related "traditional" responses in one question to "traditional" response of another (and "non-traditional" with "non-traditional"). If we indeed obtain the largest value of η with such combinations, we can be more certain that the classification into two groups of "traditional" and "non-traditional" has been successful (i.e., the groups are internally consistent).

A check of internal consistency between possible pairs of response categories and the results are shown in Table 19. If we obtain the

Table 18 Classification of question categories having traditional and non-traditional, and response categories

#	Question categories	Traditional	Non-traditional	Other categories
4.4	Teacher has done something wrong	Deny it	Say its true	Others, DK
5.1	When someone indebted to him is seriously ill	Go back home	Attend meeting	Others, DK
5.1b	When father at deathbed	Go back home	Attend meeting	Others, DK
5.1c-1	Employment exams—relative	Employ relative	Employ one with highest grade	Others, DK
5.1c-2	Employment exams—son of someone you feel indebted to	Employ son of benefactor	Employ one with highest grade	Others, DK
5.6	Chief who looks after	Chief who looks after you	Chief who doesn't look after	Others, DK

Table 19 Relations between questions and the value of η.
(Results of Japan's survey is given at the upper level, and that of Hawaii under them)

	#5.1	#5.1b	#5.1c-1	#5.1c-2	#5.6
#4.4	[X] 0.039 [X] 0.040	[X] 0.045 ∨ 0.090	[X] 0.059 [X] 0.036	[X] 0.086 ∨ 0.031	[X] 0.021 ∨ 0.020
#5.1		[X] 0.506 [X] 0.616	∨ 0.036 ∨ 0.060	[X] 0.068 ∨ 0.052	[X] 0.040 [X] 0.028
#5.1b			[X] 0.034 [X] 0.032	[X] 0.056 ∨ 0.104	[X] 0.032 ∨ 0.045
#5.1c-1				[X] 0.396 [X] 0.478	∨ 0.063 [X] 0.096
#5.1c-2					[X] 0.050 [X] 0.178

largest value of η between internally consistent responses, e.g. between "traditional" and "traditional" responses, then those pairs are marked with [X]. If, however, the largest value of η is found in a combination of inconsistent responses, e.g. as between "traditional" and "non-traditional" responses, then that combination is marked with ∨.

It is evident that we were more successful in classifying response categories in Japan than we were in Hawaii.

A similar analysis was conducted on each of the following questions having three answer categories of "yes," "no" and "depend on...." In the analysis of the survey in Japan, we find that when a "traditional" response category is combined with another "traditional" response the value of η becomes the largest; however, when "non-traditional" or "intermediate" categories are combined with "non-traditional" or "intermediate," respectively, they do not necessarily produce the largest values of η.

In some instances, η value even becomes larger when "non-traditional" and "intermediate" categories are combined and it was particularly so when categories #2.5 and #7.4 were combined with other categories.

In the following table, response categories coming under the same classification are combined and if η value becomes the largest, the relations between the questions are marked with [X]. If η value becomes largest when "non-traditional" categories of questions are combined with "intermediate" categories of questions, these inter-question relations are marked with [Y].

While there are some instances of [Y] involving questions #2.5 and #7.4 and other questions. The results from the survey in Japan reveals an overall internal consistency.

In Hawaii, on the other hand, [X] is marked only when #4.5 and

Table 20 Classification of question categories having three selective preferences of traditional, non-traditional and intermediate, and response categories

#	Question categories	Traditional	Non-traditional	Intermediate	Others, no answers
2.1	Whether or not to follow custom	Follow custom	Go ahead	Depends on	Other, DK
2.5	Relations between man and nature	Adapt to nature	Conquer nature	Make use of nature	Other, DK
4.5	Teaching children money is the most important	Agree	Disagree	Other	DK
4.10	Adopt a child to continue the family line?	Would adopt	Would not adopt	Depends on	Other, DK
7.4	Improve the country or make individual happy?	Country→individual	Individual→country	Country=individual	Other, DK
8.1	Leave everything to political leaders	Leave to leaders	Disagree leaving to leaders	Depends on circumstances	Other, DK
		These relations are marked with [X].			
2.1	Whether or not to follow custom	Follow custom	Depends on	Go ahead	Other, DK
2.5	Relations between man and nature	Follow nature	Make use of nature	Conquer nature	Other, DK
7.4	Improve the country or make individual happy?	Country→individual	Country=individual	Individual→country	Other, DK

Note: When combined with other categories of questions and when non-traditional ones are changed with that of "intermediate" ones, they are considered the [Y] relations.

Table 21 Relations between questions and their relations with η value.
(Upper levels are of Japan and the lower levels Hawaii's)

	#2.5	#4.5	#4.10	#7.4	#8.1
#2.1	[X] 0.072 ∨ 0.029	[X] 0.085 (∘) (·) 0.025	[X] 0.068 (∘) 0.041	[X] 0.035 ∨ 0.036	[X] 0.097 (∘) 0.051
#2.5		[Y] 0.066 ∨ 0.049	[X] 0.031 ∨ 0.066	[Y] 0.081 ∨ 0.046	[Y] 0.081 (·) 0.103
#4.5			[X] 0.148 ∨ 0.033	[X] 0.060 (·) 0.020	[X] 0.129 [X] 0.079
#4.10				[Y] 0.041 ∨ 0.048	[X] 0.101 ∨ 0.056
#7.4					[Y] 0.021 (∘) 0.054

#8.1 are combined, and otherwise η value becomes larger when different categories of questions are combined together. The combinations of "traditional" responses producing the largest η are: #2.1 and #4.5; #2.5 and #8.1; and #4.5 and #7.4; (we demarked (·) in Table 21). The combinations of "non-traditional" responses producing largest η are: #2.1 and #8.1; #2.1 and #4.5; #2.1 and #4.10; and #7.4 and #8.1; (we demarked (∘) in Table 21).

Thus, the results from Japan's survey reveal a great deal more internal consistency than those from Hawaii.

That is, when we conduct a survey in Japan, we can guess from one's response to a given question what his response will be to other questions. It means that we can constract a set of response categories, and expect certain relationships among them with relative ease.

But in conducting a survey research among the Japanese-Americans in Hawaii, it is evident that we are not as able to capture the system(s) of thought and opinions prevailing among this population. Our presumptions are very often found to be wrong, hence we are much less successful in guessing the response to one question based on our knowledge of the respondent's response to another. For instance, when we talk with a Japanese-Americans in Hawaii with a notion that we are talking to someone with "Japanese ways of thinking," we would probably find a "gap" in our expectations.

As evident from the above discussion, the classification scheme we have adopted is quite satisfactory for Japan, but not for Hawaii. In order to understand the patterns of interrelations among responses obtained in Hawaii, we apparently must go beyond the idea of "traditional" vs. "non-traditional" (in the Japanese sense). The problem must be examined in detail (see Part II).

Appendix I

Table of analysis on demographic variables

1) For all opinions which were held by 10% or more of the sample, statistical tests were made for the significance of differences between sub-groups defined below.
2) The test for significance was based on the usual formula for a simple random sample (in Hawaii survey). However, since, in the Japanese survey, the sample was not drawn in strictly simple random, but drawn by a multi-stage sampling plan, various possibilities of error existed. The usual level of significance of the difference was therefore multiplied by $\sqrt{2.5}$ in order to allow for these additional errors. This multiplier has been verified to be generally applicable to this type of multi-stage stratified random sample.
3) Levels of significance of the differences are symbolized as follows:
   $+ -$: Difference is significant (see 4) below for meanings of plus and minus signs).
   $\vee$: Difference is not significant.
4) Tests were made for levels of significance of differences in each of the following demographic groups:
   Sex: All men vs. all women. + indicates that the opinion percentage in the male sub-sample is higher than that in the female sub-sample, and − vice versa.
   Age: Those in the 20–29 year age bracket vs. those aged 60 or over (in Hawaii, over 50). + indicates that the opinion percentage in the former age bracket is higher than that among the latter, and − vice versa.
   Education: Graduates of, or those who have been enrolled in, elementary schools vs. graduates of, or those who have studied in, colleges or universities. + indicates that the opinion percentage among the former is higher than that among the latter, and − vice versa.
   Generation: Comparison between Nisei and Sansei. + indicates that the opinion percentage among the former is higher than that among the latter, and − vice versa.
   Religion: Comparison between those who believe in Buddhism and those who believe in Christianity. + indicates that the opinion percentage among the former is higher than that among the latter, and − vice versa. ○ indicates that those group who have no religious faith differed significantly.
   Familiar name: Comparison between those who called Japanese name and those who called American name. + indicates that

the opinion percentage among the former is higher than that among the latter, and − vice versa.

Proficiency in Japanese: Comparison between those groups who are fluent in Japanese and those who are not. + indicates that the opinion percentage among the former is higher than that among the latter, and − vice versa.

Scores of affinity: Comparison between groups with higher individual scores (over 0.8 for those groups with strong relation with Japan) and those groups with low scores (below −0.8 and those having no relations with Japan), by pattern classification to obtain numerical value for those chapters following Chapter 5, Section 1. + indicates that the opinion percentage among the latter is higher than that among the former, and − vice versa.

5) Classification of response categories:
   ○: Opinion item representing the non-traditional point of view.
   ●: Opinion item representing the traditional Japanese point of view.
   △: Opinion representing a neutral position between traditional and new points of view, or having no connection with such points of view.
   ‥: Opinion unclassified.
6) The listing of questions in the table is in the same order as in Appendices of previous reports on the "Study of the Japanese National Character." The "§'s" and "#'s" are also numbered in the same way.

§	#	Question meaning	Response category	Response classification	Japan (1968)					Hawaii (1971)									
					Sex	Age	Education	% Japan	% Hawaii	Sex	Age	Education	Generation	Religion	Familiar name	Knowledge Japanese	Scores of affinity
§ 2 Individual matters	2.1	Custom vs. conscience	1. Go ahead	○	+	∨	∨	42	55	∨	∨	∨	∨	∨	∨	∨	∨
			2. Follow custom	●	−	−	+	34	14	∨	−	+	+	+	∨	+	∨
			3. Depends on circumstances	○	∨	+	−	20	28	∨	+	−	∨	−	∨	−	∨
	2.2	Give in to opposition or go ahead?	1. Go ahead	○	∨	+	−	59	71	∨	+	−	−	∨	∨	−	+
			2. Give in	●	∨	−	+	30	23	∨	−	+	+	∨	∨	+	−
	2.4	The way of life	1. Get rich	△	∨	∨	+	17	18	+	∨	∨	∨	∨	∨	∨	∨
			2. Suit own tastes	○	∨	+	−	32	39	∨	+	−	−	∨	∨	−	+
			3. Cheerfully, don't worry	△	−	∨	+	20	23	−	−	∨	∨	∨	∨	∨	∨
			4. Live pure and just life	●	∨	−	∨	17	7	∨	∨	∨	∨	∨	∨	∨	∨
	2.5	Man and nature	1. Adapt to nature	●	−	−	+	19	21	∨	∨	+	∨	○	∨	∨	∨
			2. Utilise nature	○	+	+	−	40	68	−	∨	−	∨	○	∨	∨	+
			3. Conquer nature	○	∨	+	∨	34	6	∨	∨	∨	∨	∨	∨	∨	−
	2.6	Think more of past or future?	1. Future	··	∨	+	−	69	61	∨	∨	∨	∨	∨	∨	∨	∨
			2. Past and future	··	∨	∨	∨	22	34	∨	∨	∨	∨	∨	∨	∨	∨
§ 3 Religion	3.1	Religious faith	Have	··	∨	−	+	31	71	−	−	+	+			+	−
			Have not	··	∨	+	−	69	29	+	+	−	−			−	+
	3.3	Religions all alike?	Agree	··	+	∨	−	66	81	∨	∨	∨	∨	∨		∨	∨
			Disagree	··	∨	∨	∨	13	14	∨	+	−	∨	∨		−	+
	3.5	Belief in life afterdeath	Believe	··	−	−	+	20	31	−	∨	∨	∨	−		∨	∨
			Undecided	··	∨	∨	∨	12	23	∨	∨	−	∨	∨		−	+
			Do not believe	··	+	+	−	59	34	+	∨	∨	∨	+		∨	∨
§ 4 Children and family	4.4	Rumor about teacher	Better to deny	●	−	∨	∨	29	8	−	∨	∨	∨	∨	∨	∨	−
			Better to affirm	○	+	∨	∨	52	76	+	+	∨	−	∨	∨	∨	+
	4.5	Teaching children money is the most important	Agree	△	∨	−	+	57	9	+	−	+	+	+	+	+	−
			Disagree	○	∨	+	−	28	88	∨	+	−	−	−	−	∨	+
	4.7	Freedom vs. discipline	Freedom	··	∨	+	∨	20	14	∨	+	−	−	∨	∨	∨	+
			Discipline	··	∨	∨	∨	68	70	∨	−	+	+	∨	∨	+	−

(Continued)

§	#	Question meaning	Response category	Response classification	Japan (1968)					Hawaii (1971)								
					Sex	Age	Education	Japan %	Hawaii %	Sex	Age	Education	Generation	Religion	Familiar name	Knowledge Japanese	Scores of affinity
§ 4 Children and family	4.8	Big weddings and funerals	Disapprove	△	V	V	V	37	18	V	V	V	V	V	V	V	V
			According to your means	△	V	V	V	47	70	V	V	−	V	−	V	V	+
	4.10	Adoption to continue family line	Would adopt	●	+	−	+	43	52	V	+	V	V	−	V	−	V
			Would not adopt	○	−	+	−	41	27	−	−	+	V	+	V	+	V
§ 5 Face-to-face social groups	5.1	Benefactor vs. business	Go home	●	−	V	+	46	50	−	+	+	V	V	V	V	V
			Attend meeting	○	+	+	−	47	36	+	V	V	V	V	V	V	V
	5.1b	Parent vs. business	Go home	△	V	V	+	44	62	V	V	V	V	V	V	V	V
			Attend meeting	△	+	V	−	49	27	V	V	V	V	V	V	V	V
	5.1c-1	Employment examination (Son of relative)	Highest grade	··	V	V	V	78	68	V	V	+	V	V	V	V	−
			Relative	··	V	V	V	17	26	+	V	V	V	V	V	−	+
	5.1c-2	Employment examination (Son of benefactor)	Highest grade	··	+	V	−	54	54	−	V	V	V	V	V	V	V
			Son of benefactor	··	V	V	V	39	39	V	V	V	V	V	V	V	V
	5.1d	Important virtues	Oya-koko (Filial piety)	●	−	V	+	61	53	V	−	+	+	+	+	+	−
			Ongaeshi (Repaying moral indebtedness)	●	−	−	+	45	27	+	−	+	V	+	V	+	−
			Respecting rights	○	+	+	−	44	65	V	+	−	−	−	−	−	+
			Respecting freedom	○	+	+	−	46	51	−	V	V	V	−	V	V	+
	5.6	Type of supervisor preferred	Non-paternalistic	○	V	V	V	12	39	V	V	+	V	V	V	V	V
			Paternalistic	●	V	+	V	84	59	V	V	−	V	V	V	V	V
	5.7	Close, cheap, of famous shop	Convenient shop	··	+	V	+	50	64	V	V	V	−	V	V	V	V
			Cheap shop	··	V	V	V	13	2	V	V	V	V	V		V	V
			Famous shop	··	V	V	−	35	32	V	−	V	+	V		+	−
	5.16	IOU for $100 (ten thousand yen)	Unpleasant	○	V	+	V	17	38	V	+	−	−	−	V	−	+
			Quite natural	●	V	V	V	82	59	V	−	+	+	+	V	+	−
§ 6	6.2	Sex preferrence if reborn	Men	··		V	V	65	55		−	V	V	○		V	V
			Women	··		+	+	28	36		+	V	V	○		V	+

Men and women	6.2c	Which sex has more difficult life?	Men Women	··+∨−53 26∨∨∨∨∨ ∨∨ ··−∨+27 45∨∨∨+∨ ∨∨
	6.2d	Which sex has more pleasure?	Men Women	··++−63 59+∨+∨∨ ∨∨ ··−∨∨13 9−∨∨∨∨ ∨∨
§ 7 General social problems	7.1	Loss of human feeling with modernization?	Agree Disagree	△∨∨∨40 63∨∨∨∨∨ ∨∨ ○∨∨∨35 29∨∨∨∨∨ ∨∨
	7.2	No loss of richness of human feeling with advancement of civilization?	Disagree Agree	△+∨∨22 22∨∨∨∨○ ∨∨ △∨+−56 63++−∨− ∨+
	7.2b	Trend in the twenty-first century?	The unpleasant will increase The unpleasant will decrease The same	··∨∨+24 39∨∨++++ +− ··∨∨∨15 13∨∨∨∨∨ ∨∨ ··∨+−53 36∨+−−− −+
	7.4	Improve the country or make individual happy?	Individual→Country (Japan) Country (Japan)→Individual Country (Japan)=Individual	○++−27 32∨+−−●− ∨+ ●∨−+32 26∨−+∨∨∨∨ − ○∨∨∨36 36∨∨∨∨∨∨∨ ∨∨
	7.5b	Public good and individual rights	Individual rights Public interest	··∨+∨33 21∨∨∨∨∨ ∨∨ ··+−−57 70∨∨∨∨∨ ∨∨
	7.6	Medals or money	Medals Money	○∨+∨59 64∨∨∨∨∨∨∨ ∨∨ △∨∨−25 20∨∨∨∨∨∨∨ ∨∨
	7.7	Value of type of work	Practical work Scholars, artists Both same	△∨++31 33∨∨+∨∨∨∨ ∨∨ △∨∨∨17 14∨∨∨∨∨∨∨ ∨∨ △+∨−23 38∨∨−∨∨∨∨ ∨∨
	7.13c	Opinions about law	Get along easily Bring about justice	··∨∨∨37 27∨∨−∨∨∨∨ ∨∨ ··∨+−56 68∨∨+∨∨∨∨ ∨∨
§ 8 Political opioion	8.1	Leave things to political leaders?	Agree (leave) Disagree	●−−+30 13∨−++∨∨∨ − ○++−51 70∨+−−∨∨∨ +∨
	8.2e	Immediate reaction to Democracy	Good Depends on circumstances	··++−38 74∨+−−∨−− −+ ··−∨∨52 21∨−∨∨∨∨∨ −−
	8.2f	Immediate reaction to Capitalism	Good Depends on circumstances Bad	··+∨−19 29+∨−∨− −+ ··∨+−42 41−+−−∨ ∨+ ··+∨∨20 18∨∨+∨∨ ∨∨
	8.2g	Immediate reaction to Liberalism	Good Depends on circumstances Bad	··+∨−29 20∨∨∨−∨ ∨∨ ··∨+−44 47∨+∨∨− −+ ··∨∨∨13 13∨−−∨∨ ∨∨
	8.2h	Immediate reaction to Socialism	Good Depends on circumstances Bad	··∨∨∨16 11∨∨∨∨∨ ∨∨ ··∨+−46 42∨+−−∨ −+ ··+−∨20 30+∨∨∨∨ ∨∨
	8.3b	Scientists and politics	Research only Politics also Politically active	●+−∨18 24∨−+∨∨∨+− ○∨+−55 51∨+−∨∨∨−∨ △∨∨∨20 21∨∨−∨∨∨∨∨
	9.3	Japanese garden, Western garden	Japanese garden Western garden	●∨∨∨91 71∨∨∨∨∨∨∨ ∨∨ ○∨+− 7 9−∨∨∨∨∨∨∨ ∨∨

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