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Introduction

Japan presents itself as a fascinating case in the study of social change, as dramatic changes affecting the daily life among its population took place within a short span of time. A part of these changes was brought about by the process of growing industrialization in Japan. These include the sectoral shift of the work force from the primary to the secondary and the tertiary, an accompanying growth in the urban populations, a growth in the disposable income per capita, and an increase in the level of educational attainment.

Yet another source of changes in Japan derives from its post-war political experiences. For the first time in history Japan underwent an experience of a military occupation by foreign powers, and with it, a massive exposure to new ideas and institutions. Having perhaps the most consequential impact on Japanese society among all developments during this period was the promulgation of the new constitution. It enfranchized and provided full legal equality to women, enlarged the guaranteed rights of the individual, and gave labor the right to bargain and act collectively.

Taken together, the post-war era is one suffused with large-scale

changes in all walks of life. Subjected to these diverse winds of change, it is a period during which the individuals are expected to evince large shifts in their attitudes. More generally, it is a setting in which one could expect to find significant conflicts of ideas and social dislocation, much in the manner we witness in contemporary Iran and other developing societies. Most remarkably, however, this era has been characterized by stability. While many of the ingredients for a massive social and political dislocation were present, a high degree of coherence was maintained. In view of the traumas visible in many developing nations today, Japan's post-war experience in achieving rapid economic growth and maintaining social and political stability is certainly one worthy of envy by many.

How did the Japanese manage? What were the social bases of Japan's post-war achievements? Such questions typically elicit from commentators, both professional and lay, references to Japan's unique sociocultural tradition. From Benedict's (1946) pioneering effort to a more recent publication by Vogel (1979), a core of any work on Japanese society invariably rested on the notion that socioculturally the Japanese were of a different mould. Whether or not this characterization is accurate, it has achieved currency in the West as well as in Japan.

So pervasive is this notion, that problems encountered in the course of international negotiations are often attributed to cultural differences between the Japanese and their negotiation partners. This is an unfortunate outcome, since the continuing emphasis of cultural uniqueness only serves to conceal the true issues to be negotiated, as well as to deprive the negotiators of common grounds upon which they may make concessions and grant accomodations. More generally, by emphasizing unique aspects of the Japanese sociocultural tradition, we unwittingly fall prey to the belief that there exists an inherent

barrier to a full cross-societal understanding. In other words, we fail to search for a common framework (metric) upon which the Japanese may be compared meaningfully with people in other societies. It is akin to emphasizing the differences between the Earth and the Moon, while totally ignoring that these bodies may be analyzed upon a common ground as through spectrum analysis.

To a significant degree, the continuing reference to the unique and the different in the study of Japanese society derives from a nearly total absence of reliable quantitative evidence. In the manner of a vicious cycle, the absence of quantitative data seems to have had the effect of blinding the previous commentators to the need for a common analytical framework.

We undertake to correct this serious deficiency. Our approach is quantitative, relying on the time-series data collected in Japan over a twenty-five year period, as well as a set of cross-societal comparative data collected in Japan and the United States. Our strategy, then, is to devise common frameworks for the analysis of social attitudes, and to apply them to these data.

Systems of Attitudes

Our analysis reveals two essential features of the Japanese system of attitudes. In the first place, the system shows a remarkable stability over time. As Hayashi's essay, "Measurement of Change" demonstrates, the systems of logic underpinning Japanese attitudes have not shown a marked change during the twenty-five year span between 1953 and 1978. Results suggest that while the levels of support given different opinions have often shifted during this period, these shifts have not brought about an anarchy of opinions. Rather, the individual's response seems to reflect some "cultural logic", whereby his support

of a particular attitudinal item increases the probability that he would also support another item in a logically consistent set.

As amplified in this essay, analysis of time-series data reveals a consistent clustering of Japanese opinions into three groups: modern, traditional and intermediate. Evidence suggests that despite all the changes in the post-war years, the system of attitudes in Japan has continued to provide culturally legitimate and meaningful outlets for different ideas. In other words, the processes of social change in Japan did not bring about a disappearance of a "traditional" outlook, to be replaced largely by a "modern" outlook. In fact, we are inclined to argue that herein lies a critical key to our understanding of the social basis for the post-war social and political stability in Japan. By providing legitimate channels of expression to individuals with different outlooks, the Japanese system of attitudes managed to minimize the potentially disruptive impact of large-scale social change.

In addition, the continuing vitality of these three clusters of opinions enables the individual participant to recognize and be familiar with outlooks dissimilar to his own. He may not necessarily agree with such outlooks, but nonetheless he understands them, and accepts their legitimacy. In our view, the widely-noted emphasis in Japan on achieving consensus (e.g., Noda, 1975; Shirai, 1975; Vogel, 1979) is an expected outcome under these circumstances. Since differences in outlook are seen as both legitimate and natural, effort is made to accomodate different ideas and to devise solutions acceptable to different participants. Further, to the extent that there is no single outlook which is dominant and "correct", the system facilitates concessions and accomodations, and discouranges adversary procedures. In short, consensus in Japanese society derives not from its cultural

homogeneity, but rather, from the persistence of distinct outlooks in its system of attitudes.

Our analysis of a set of comparative data collected in Japan and the United States reveals a second essential feature of the Japanese system of attitudes. Put most simply, our results indicate a substantial difference in the configurations of attitudes among Americans and the Japanese. In the systems of attitudes prevailing in these two societies, the clustering of opinions assume different patterns and the contents of clusters show major differences. Among other things, this suggests that the lines of logic supporting these systems of attitudes are not identical. We have here, then, a quantitative demonstration of the differences characterizing the "ways of thinking" among these two populations.

As Hayashi points out in the accompanying report, "Data Analysis in a Comparative Study", differences in outlook among Japanese are most clearly revealed in situations where the actions an individual takes are placed under social evaluation. The responses to these social items are sufficiently well clustered, such that by knowing how an individual responds to one of these items, we can guess with some certainty how he will respond to other items in the cluster. Put another way, these results suggest that one dominant concern among the Japanese is how people around them perceive and assess their behavior.

In contrast, the American data reveal the most significant clustering of attitudes along the trustful-distrustful axis. We suggest that the American pattern reflects a highly charged ideological view about the nature of men. Concern here, unlike in Japan, is whether or not one subscribes to the dominant, ideologically supported, view that men are inherently good and worthy of trust. If

committed to this dominant ideology, one is likely to support all items in this cluster of opinions; if not committed, one's response would likely be located in another, though less tightly formed, cluster.

In fact, a subsequent analysis of American data suggests that Americans are much more inclined than the Japanese to respond to questions in terms of "right" and "wrong" (or acceptable and unacceptable) answers. Much more than their Japanese counterparts, Americans tend to respond ideologically to these items.

We suggest these differences in the patterns of response in Japan and the United States derive from each society's sociocultural history. In the first place, the Japanese have found themselves historically in a densely populated setting in which the possibilities for mobility have been minimum. Hence, what the others think of one's actions would understandably remain a dominant concern among people who have had no realistic hope of escaping the familiar landscape and the deeply embedded social web.

In contrast, the system of attitudes among Americans emerges out of a rather different setting. As Lipset (1963) noted earlier, the United States was the First New Nation. Unlike other nations in the Old World, whose existence owed simply to their always having been there, the existence of the United States as a national entity has been insured through a deliberate effort. In particular, its legitimacy rested on a relatively new ideological formulation. Because of its history as a nation created out of a revolution, and because it is still relatively new, it is not too entirely surprising that the attitudes among its people tend to be highly colored ideologically.

Too, the continuing prominence of ideology in American social life reflects its unique cultural history. Being a land of immigrants,

it has consisted historically of people with diverse religious and cultural backgrounds. In such a setting one could not realistically expect to find even a minimal sharing of the assumptions which normally underlie all social interactions. Hence, as a way of achieving minimum social coherence, deliberate efforts have been made in America to inculcate its citizens with a "public" ideology.

Finally, the system of attitudes in America reflects its bountiful ecological setting. Where there are opportunities for the individual to escape from difficult or unpleasant situations, one is not likely to view others' assessment of his actions as being most critical. Indeed, the noted Harvard economist, Albert Hirschman (1970), suggests that the "ideology of exit" had always been dominant in American thinking. If things do not go well, then move on to a new land, according to this ideology of exit. Earlier sustained by the great abundance of frontier lands, the impact of this ideology is still evident among contemporary Americans.

In sum, our results suggest that the systems of attitudes may be compared quantitatively using a common analytical framework. Focusing on the configurations of opinions, we found significant differences in the patterns observed for Japan and the United States. As the preceding discussion suggests, these differences were not haphazard, but rooted in each society's sociocultural history and ecological constraints.

Responses to Common Social Processes

In the post-war era, great changes were a rule rather than an exception. How the Japanese individually responded to this period, during which Japan transformed itself from a war-ravaged, defeated nation to a great industrial power, remains a question of paramount importance. We address this question in our essay, "Age, Sex and

Cohort: Explicating Social Change in Post-War Japan". Again, we employ an analytical framework which may be applied cross-culturally. In contrast to the first approach, where we concentrated on the patterns of response, our model in the second approach examines the relationship between the individual's demographic characteristics and his opinions. Put more generally, the model views the individual's attitudes as being shaped to an important degree by his social roles. Hence, with this model we examine how the individual Japanese responds to common processes and constraints.

Earlier attempts to characterize social consequences of the post-war developments in Japan fall into two broad lines of argument. One stresses the changes in values and attitudes as inevitable consequences of the technological developments and prosperity in advanced industrial society. In this techno-economic line of logic, a common direction is posited in the changes in values and attitudes, producing as a result a worldwide convergence. For example, Inglehart (1977) argues that the great prosperity characterizing the advanced industrial societies of the West brought about a sharp increase in the prevalence of "Post-Materialist" values in the populations. More generally, Moore (1979) suggests that a critical aspect of modernization process entails a shift in dominant attitudes, from those constrained by traditional beliefs and assumptions to those motivated by a "rational spirit". Not only are the scientific and technological changes paving the way for major changes in the values and attitudes of people in industrial society, but they are said to be spawning common outlooks and wiping away unique national identities (Kerr, et al., 1960).

The other line of argument emphasizes a persistence of values and attitudes even in an era of scientific and technological change. In particular, this argument stresses the relative stability of goals

(priorities) as well as the means utilized to achieve these preferred goals. In this view, the individual actor is assumed to possess a limited stock of symbols and vocabularies. With this stock of culturally derived symbols and vocabularies, the individual identifies problems before him, and devises appropriate solutions (Cole, 1979: chap. 1). In other words, rather than to view the exigencies of industrial society as demanding a common response, this second perspective suggests divergent responses to such exigencies.

Taken together, these two schools of thought suggest that we can expect to find both persistence and change in the Japanese attitudes during the post-war era. But, who in Japanese society have shown attitudinal change, and when? And in what areas in their system of values and attitudes have they shown change? These are empirical questions to which neither the proponents of the convergence thesis nor those who argue for persistence have ready answers. The results reported in our essay address these long-standing issues. In particular, we take advantage of our time-series data, and explicate attitudinal changes as processes.

In their work on fertility, demographers have long recognized that the overall rate of fertility for a given society can change upward or downward merely as a result of a change in the composition of the population. For example, fertility rates may show a decrease not because each woman in child-bearing age is giving birth less often, but because the number of those who are not fecund increased. A change in the overall rate, in other words, can originate either from a change in the probability affecting each individual or a change in the overall composition of the population. Similar processes operate in the area of values and attitudes. The overall level of support

for a given outlook may increase (or decrease) either because people changed their opinions or because the societal metabolic processes of birth and death resulted in a net decline in the number of individuals giving support to this outlook.

The distinction between these two processes of social change is critical. Only by distinguishing the impacts of these two processes, would it become possible for us to comprehend the nature of social change in post-war Japan. This is particularly the case if these two processes affect different areas in the individual's values and attitudes. In his study of the growth of "Post-Materialist" values in the West, Inglehart (1977) argues that the individual's basic values are shaped in his formative years, and they remain relatively stable thereafter. According to this formulation, then, the critical variables are the economic and political conditions surrounding the individual in his formative years.

Elsewhere, works by Inkeles and Smith (1973), Krauss (1974), and Rohlen (1974; 1975), point out the importance of socialization experiences in shaping the individual's attitudes in his adult life. In this latter formulation, the critical variables are the individual's membership in social groups and, more generally, the roles he performs in different institutional spheres. Among other things, this distinction allows us to trace the social basis of attitudinal variations between males and females in Japan to the different social experiences they undergo in their adult life. More generally, to the extent that many Japanese enterprises see the values and attitudes of their employees to be a domain of their concern, and institute steps to shape them (Dore, 1973; Rohlen, 1974;1975; Cole, 1979), the impact of adult socialization is expected to be great.

As we noted earlier, a major bulk of our study consists of the analysis of time-series data. Indeed, raison d'etre of our undertaking lies in the availability of high quality longitudinal data. Our study draws on the time-series data gathered since 1953 by the Institute of Statistical Mathematics through its ongoing project, the National Character Survey. Only with such data can we expect to explicate with relative confidence some of the long-standing issues in the study of social change.

In order to underscore the importance of time-series data in the study of social change, we draw on one of the items from our study as an example. In each of the surveys taken since 1953, the following question was asked:

> "If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow a custom?"

This question taps what is clearly an important dimension in social

change: the degree to which the individual's actions are constrained by traditional beliefs and assumptions. In particular, it assesses how much the process of individuation has proceeded in post-war Japan.

A variety of works suggests that the process of individuation accompanies economic development and industrialization. Drawing on their study of six developing societies, Inkeles and Smith (1974) argue that a modern man tends to be free of traditional beliefs and assumptions. He is open to new experiences and, more generally, shows readiness for social change. Moreover, a modern man has a disposition to form or hold opinions on a large number of issues, and also puts a positive value on variations in opinion (Inkeles and Smith, 1974: chap. 2). Focusing specifically on Japan, Dore (1967) asserts that the processes of social mobility accompanying economic development inevitably brings about greater individuation. In the contemporary Japanese setting, "individuals make more choices, with regard to more rational secular premises, and in doing so are influenced by personal rather than by group goals (Dore, 1967: 148). Presenting a similar thesis, Ike (1973) argues that the process of individuation has affected the Japanese unequally, with the young being most strongly affected by this process.

On the basis of the preceding works, we could expect greater individuation among Japanese with the post-war peace and affluence; individuation would be particularly prominent among the young. In terms of our survey question, we could expect an increasing support for the notion that one should do what one thinks is right, even if it goes against the usual custom. In fact, evidence does not bear out our expectations entirely.

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Insert Figure 1 about here

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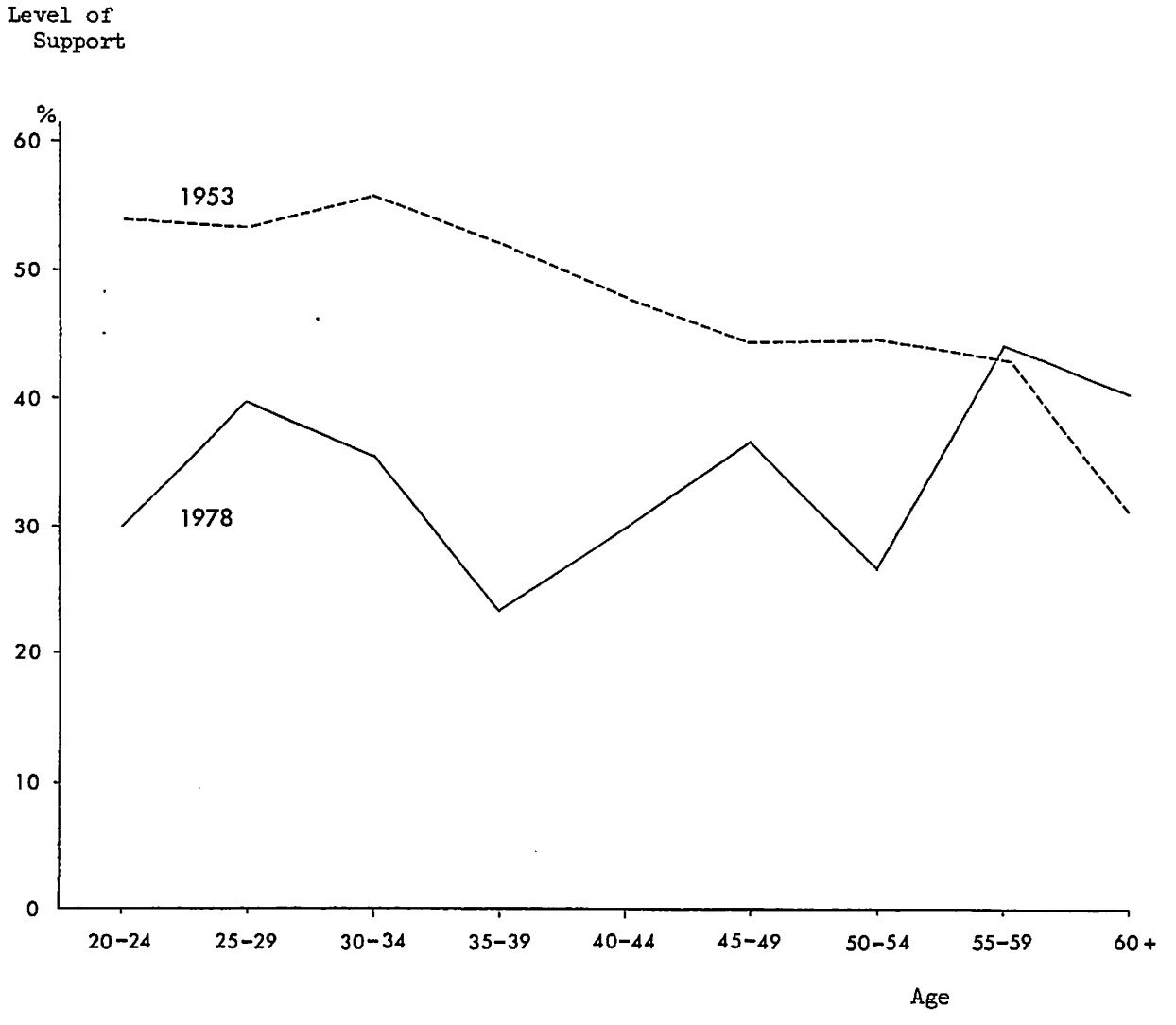
Figure 1 Level of Support Among Males for "Go Ahead"[a]

by Age, 1953 and 1978

(In Percentage)

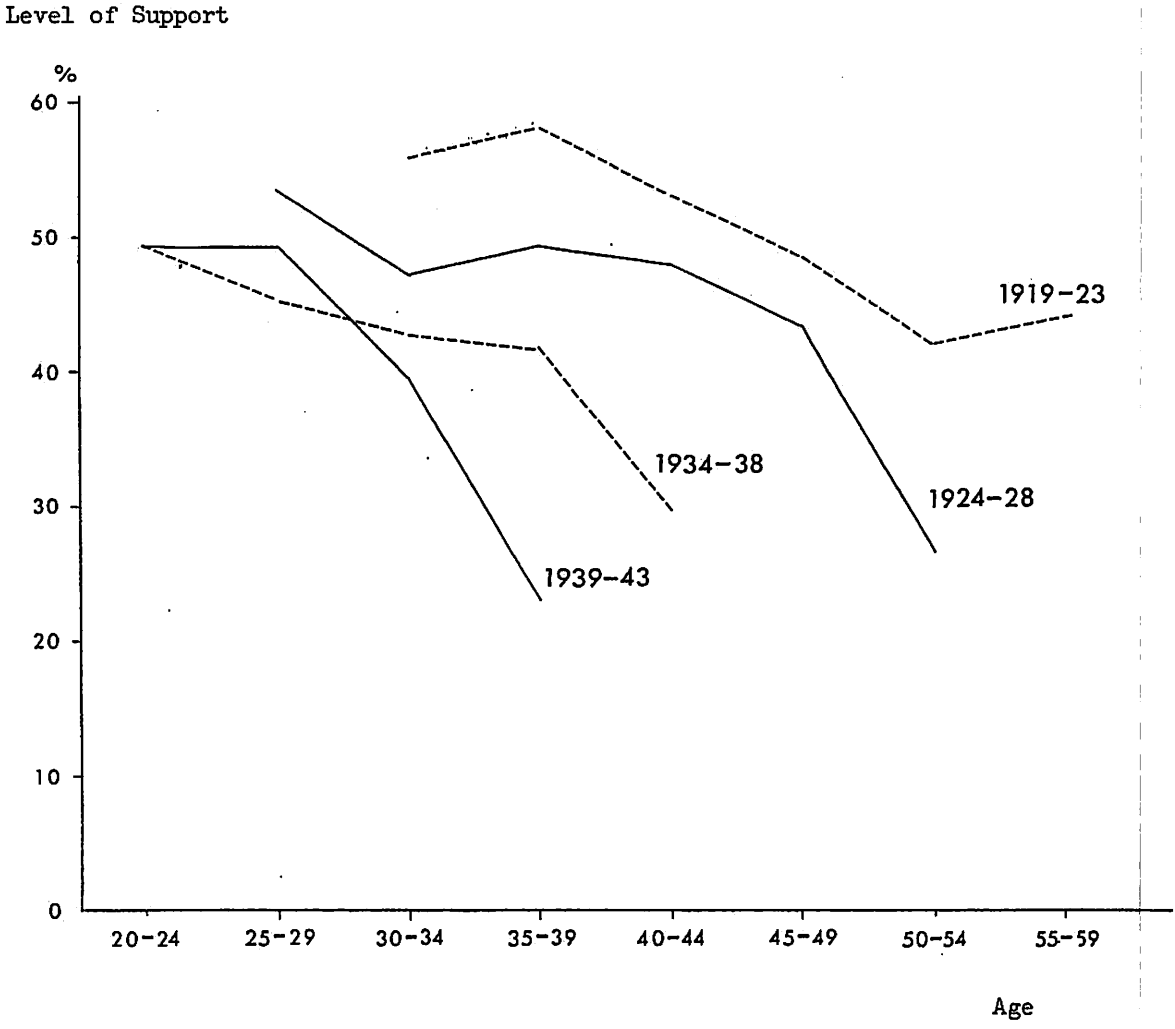


a. Actual question used:

"If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?"

Figure 2 Level of Support Among Males for "Go Ahead" by Age, for Several Birth Cohorts

(In Percentage)



In Figure 1, we present the levels of support our male respondents gave for the opinion "do what you think is right", for 1953 and 1978. The pattern of response by age for 1953 a reveals a general decline in support for this opinion with age. The older the individual is, the less likely he will go against what is socially expected. The pattern is in line with what we expected.

However, the pattern of response in 1978 is much more ambiguous. Contrary to the expectation, there has been an overall decline in the support for this opinion during the 25-year period. Nor are we able to detect a clear relationship between the level of support for this opinion and age in 1978. Clearly the long period of peace and prosperity had a strong impact on this item. However, the impact was not in the direction we had expected. Rather than evincing greater support for an individuated response, the respondents gave support to the established way. The economic success and social stability in Japan seemed to have convinced the Japanese that the established formulas are reliable and worthy of support.

The peaks and the troughs in the 1978 pattern of response present a much more difficult challenge to interpretation. In order to examine the notion that different cohorts respond differently to the conditions of peace and affluence, Figure 2 traces the patterns of support shown by different birth cohorts during the 25-year period between 1953 and 1978.

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Insert Figure 2 about here

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Figure 2 plots the levels of support given to the opinion "to go ahead with what one thinks is right", by age for different birth

cohorts. With age, each birth cohort shows an unmistakable decline in the support it gives to this opinion, with the younger cohorts showing more precipitous drop in their support. For example, nearly fifty percent of the birth cohort 1939-43 gave support to this opinion in their early 20's, but less than twenty-five percent of the same cohort supported this notion in their latter 30's.

Age by itself does not seem to elicit a common response. Thus, at age 35-39, there is a 35-point spread in the support levels of cohorts 1919-23 and 1939-43. In other words, what at a first glance seems to be an "age effect" represents, to a large extent, an artifact of the overall secular decline in support of this opinion. Put more plainly, even the members of young cohorts do not escape the overall tendency for the individuals to become less supportive of the individuated opinion. In fact, at each age young cohorts are more supportive of the established customs than their older counterparts.

The patterns of response depicted in Figure 2 also reveal some inter-cohort variations in how time affected the individual's response. To take an example, cohort 1919-23 recorded only a 12-point decline in their level of support between 1953 and 1978. In particular, this cohort showed a small increase in support of the opinion between 1973 and 1978, a period during which all other cohorts evinced a dramatic decline. The small decline during the 25-year period is notable, since this cohort consistently recorded high levels of support throughout the period. One may surmise that the especially large support given by 1919-23 cohort to the notion that one should do what one thinks is right reflects the unique set of historical experiences this cohort underwent during its formative years.

At the outbreak of the Sino-Japanese War in 1936, this cohort was at thirteen to seventeen years of age. Hence, having spent its formative years under the shadows of ever-expanding Japanese military involvements in Asia, it would in the Pacific War suffer heavy casualties. The degree to which the war affected the male members of this cohort may be discerned in the so-called sex-ratios. Whereas the ratio of men to women for the birth cohort of 1924-28 is .943, the sex ratio for 1919-23 cohort is strikingly low .766. Having paid a heavy price, this cohort places a greater emphasis on independent judgment.

In the preceding two figures we saw how different cohorts responded to the post-war developments. These are now presented in a summary fashion in Figure 3.

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Insert Figure 3 about here

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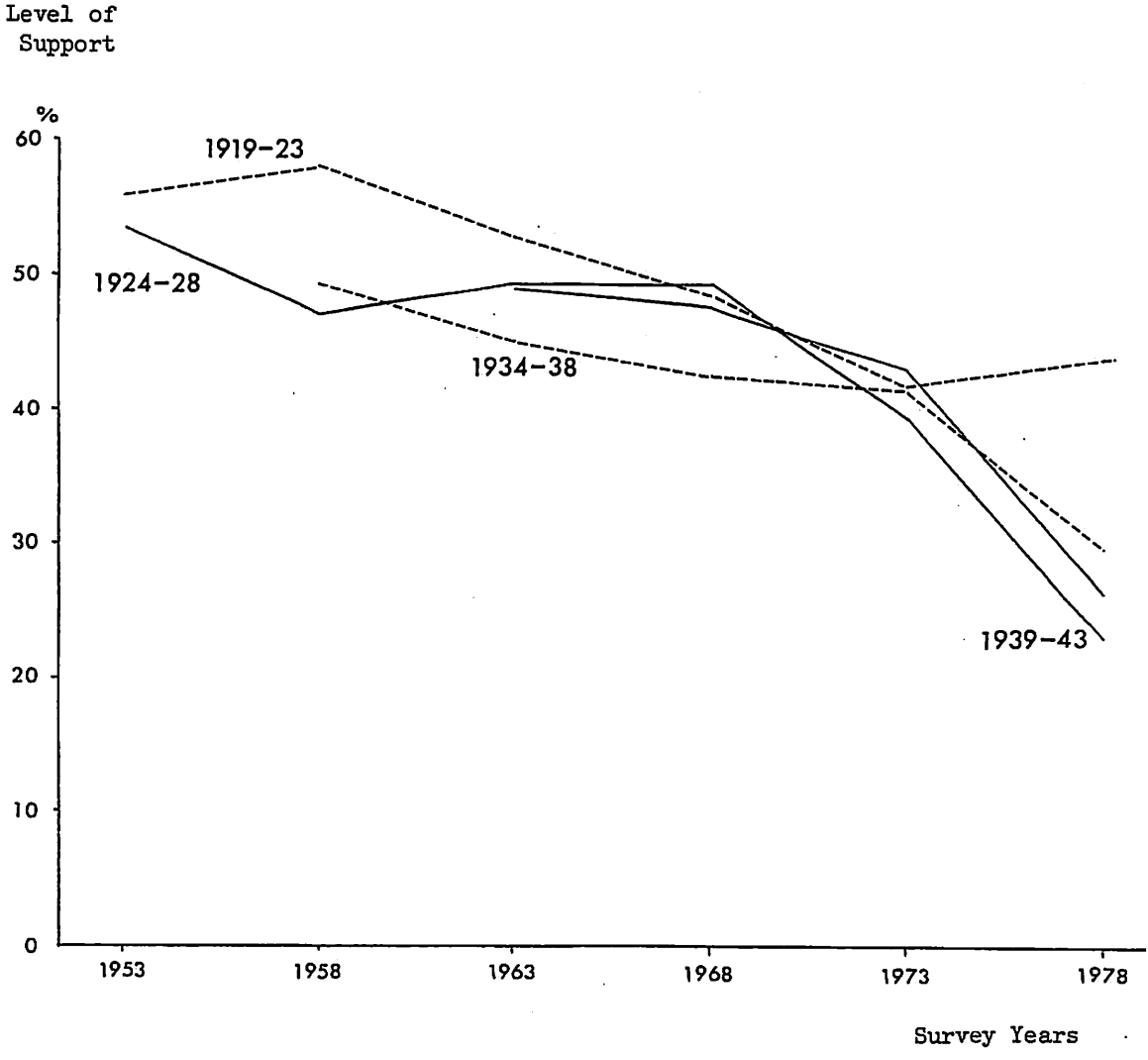
Figure 3 presents the levels of support given to the opinion by different cohorts at five-year intervals beginning 1953. In this figure we see clearly that during the 25-year span between 1953 and 1978 all cohorts showed a marked decline in their support for the opinion that "one should go ahead with what one thinks is right". Despite this overall secular decline, however, there are interesting inter-cohort variations, particularly visible in the response shown in 1978 by 1919-23 cohort. Nonetheless, attitudes at any one point in time across different cohorts do not show large variations on the whole. Put another way, the effect of aging <u>per se</u>, independent of the effect of time, appears not to be large. Whatever the processes of adult socialization the individual may undergo, they do not seem

Figure 3 Level of Support Among Males for "Go Ahead"

by Survey Years, for Selected Birth Cohorts

(In Percentage)



to bring about a large increase in support for the established ways of doing things.

Nor have the post-war developments brought about a greater inter-generational gap in the support for this attitude. In Figure 4, we have the levels of support given by two age groups, 20-24 and 50-54, at five-year intervals beginning 1953.

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Insert Figure 4 about here

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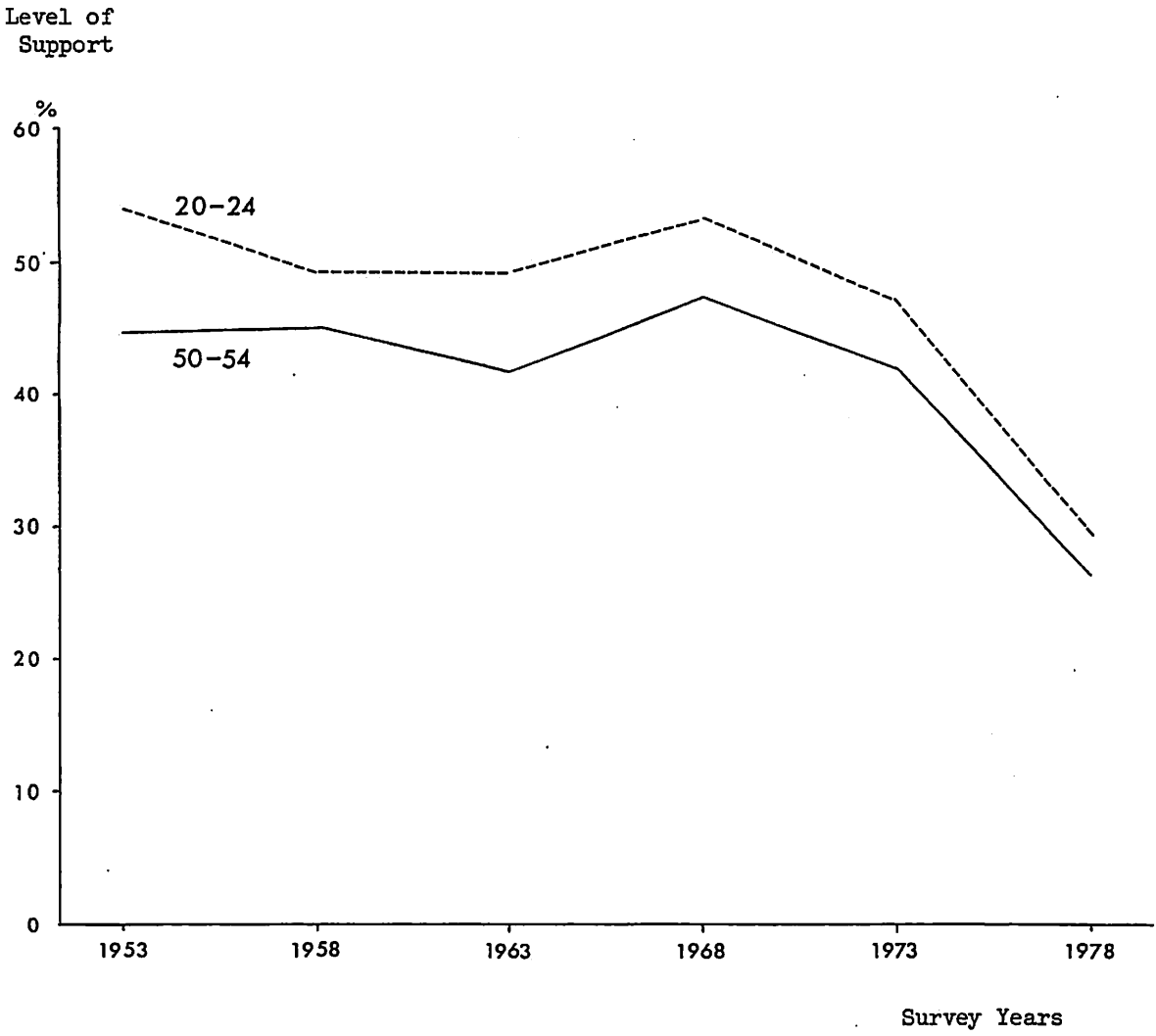
The thirty years separating these two age groups represent roughly the age span of a generation. Hence, one may interpret the spread between two points at any given time as an inter-generational gap in attitude. The larger the spread, therefore, the greater the inter-generational gap. In 1953, these two age groups were separated by a 9.2-point difference; by 1978, the difference had diminished to 3.2-point. Evidently the post-war peace and prosperity had not resulted in a greater inter-generational gap, at least in this attitudinal area.

In summary, our example illustrates the importance of using time-series data in the study of social change. It demonstrates that a variety of factors operate to shape the individual's outlook. However, we have also noted that these factors do not affect all individuals equally. Nor is the extent of their impact similar across time. In short, a multivariate assessment of the impact of these factors clearly serves to fill a large gap in our understanding of social change. As reported in the accompanying essay, our analysis does just that.

Figure 4 Level of Support Among Males for "Go Ahead" by Survey Years, for Age Groups 20-24 and 50-54

(In Percentage)



Attitudes Toward Work

No topic elicits greater interests among Western observers of the contemporary Japanese scenes than one about the possible sources of Japan's economic success. Lacking almost every essential natural resource required in an industrial economy, Japan nonetheless managed to rebound from the wartime destructions and prospered. As the only resource of significance Japan possesses in great abundance, the human resources clearly occupy a central place in the factors contributing to its economic success. In the accompanying essay, "Attitudes Toward Work in Japan and U.S.", we report the results of comparative analysis of attitudes toward work in Japan and the United States.

Attitudes toward work is clearly an area of inquiry of major relevance. In view of the ailing economy in the United States and the robust state of the Japanese economy, the notion that the attitudes toward work are different in Japan and the United States has gained a great deal of currency. In particular, it has been suggested that the relative health of the two economies reflect a fundamental difference in their workers' willingness to work hard. According to this view, Japan achieved its current prosperity because its people are more dedicated and hard working, whereas America slid from its economic preeminence because its people are not willing to toil. The ethic of hard work is alive and well in Japan, and it has all but disappeared in the United States.

In the first part of our essay, we turn to the question of whether or not there has been a fundamental shift in the attitudes toward work in America. If the currently woeful state of the American economy is brought about by a decline in the ethic of hard work, we would expect to find some clear evidence of a major shift in American outlook toward work.

Inspection of available data provides no indication of such shifts. For example, during the two decades between 1958 and 1977, the percentage of American workers who were "satisfied" with their work has run at or slightly above the eightly percent figure. If there is a lack of commitment to work among American workers, it is not because they are much less satisfied than before.

Nor is work any less important to Americans than before. Americans continue to show a strong preference for a work that would give them a sense of accomplishment. The picture of the American worker a variety of evidence suggests is not one who is uninterested in, or uncommitted to,

his work; on the contrary, the image is of one who appears to place a very high priority to interesting and challenging work.

A second question to which we turned is whether or not the attitudes toward work in Japan and the United States are different. On the basis of our review of some cross-national comparative data, we find no clear support for the notion that attitudes toward work in these two societies are substantially different. We certainly find no empirical support for the assertion that American workers are not committed to work or, conversely, that Japanese are extraordinarily committed to their work. It is apparent that work is quite important for the American worker, and he seeks challenge and a sense of accomplishment from his work. For both Japanese and American workers, work is not merely a means for securing a financial end. Rather, they work because of the sense of accomplishments their work gives them. In this regard, we find no essential difference between Japanese and American workers.

Among the items included in the previous National Character Surveys is #5.6. This item is about the kind of supervisor one would want to work under, and it has elicited during the twenty-five year span a stable pattern of responses in Japan. In all six previous surveys, the Japanese have shown a strong preference for a supervisor who may demand extra work but who also looks after you in matters not connected with work. The preference for a diffuse -- as opposed to a job-specific -- type of relationship at work is overwhelming: except for 1958, when seventy-seven percent gave support, better than four out of every five Japanese respondents favored this type of supervisor. In fact, by 1978, preference for a demanding supervisor reached an all-time high level, with eighty-seven percent of respondents in Japan favoring this type.

No doubt, the great popularity of this type of supervisor reflects the "communitarian" aspect of Japanese society (cf. Nakane, 1970). Membership in the semi-closed corporate group is quite important (e.g., Cole, 1971), and hence the Japanese worker may prefer a supervisor who shows concern even for matters not connected with work. There may be another reason, no less important than the other, for the great popularity of this type of supervisor.

As noted earlier, both Japanese and American workers prefer a challenging work which provides them with a sense of accomplishment. Their vision of a desirable work is one where their effort has some meaning, and where one is not merely exchanging one's labor for wage/salary. By favoring a supervisor who demands extra work, the Japanese are indicating their preference for a work situation where they would not be merely a dispensable labor, and where they are depended on to make their contribution.

How would the American worker respond to the same question? According to Ezra Vogel (1979), very differently. Vogel surmises that the American worker would greatly prefer a supervisor who is job-specific: one who does not demand extra work, but also one who does not do anything not connected with work. However, we have also seen the importance the American worker attaches to a challenging work. In view of this, it would not be entirely surprising if a large proportion of Americans also preferred the supervisor who demands extra work.

The results from the 1978 survey carried out in the United States suggest that the patterns of American response are not as different from the Japanese patterns as Vogel would have us believe. In this survey, fifty percent of all American respondents showed a preference for a supervisor who demands extra work but who also looks after you in matters not connected with work.

Taken together, what our data suggest is not a lack of interest in, or commitment to, work among Americans. Rather, they seem to point to a problem of job task allocation in American, where insufficient care has been given to providing the workers with adequate arenas for their participation.

It is not only the men in America who attach great importance to holding meaningful jobs. In the final section of this essay, we assess the cultural meaning of the expansion in the female labor force participation in American. We suggest that differences in behavior and attitudes between Americans and the Japanese derive importantly from the differences in their ideological environments. Without understanding the important role played by the ideological climate in each society, the behavior and attitudes evinced could not be assessed properly. In particular, we suggest that ideology has played an important role in bringing about the current upsurge in the female labor force participation in the United States.

Obtaining a paid job has become as crucial for American women as it has been for men, as their assessment of self-worth has become increasingly bound up with the paid jobs they hold. For American women today being "just a housewife" is a poor means of maintaining self-esteem. To the extent that the ideological thrust of the Women's Movement is to eliminate some of the traditional assumptions regarding role allocation based on sex, and to the extent that its grievances have been received as legitimate, the importance of a paid job as a measure of one's self-worth is likely to increase among American women.

Conclusion

We reach several conclusions in our report. Let us summarize them briefly:

1) First, we have demonstrated throughout our study the utility of quantitative data in cross-societal comparative research. Our analyses were based on representative samples, drawn in each society on the basis of probability. To the extent that the same survey instrument was used throughout and, in addition, the samples were drawn scientifically, they were truly comparable. Hence, we were able to test ideas, not merely to speculate about them.

A quantitative approach in a cross-societal comparative study is essential to the extent that we lack for another society the broad range of knowledge we possess of our own. Lacking the usual body of information we have for our own society, the temptation to oversimplify is great when we talk about another society. With such oversimplification, the usual outcome is a caricature, the conclusions being misleading than being informative. Our experience argues persuasively for the continuing need we have to build a quantitative data base in cross-societal comparative research.

2) It is now an axiom in social science that one cannot talk validly about trends and social change without reference to time-series data. Only with such data is it possible to begin identifying causal effects. In particular, our studies have demonstrated the utility of time-series data in the context of cross-societal comparative research.

Even under the best of circumstances, it is exceedingly difficult for the analyst to make an interpretative sense out of the cross-sectional data which we typically have in hand in a comparative study. How much of the differences we find between two societies, for example, should we attribute to "cultural" differences, rather than to a difference in the levels of

economic development? Only by scrutinizing time-series data, can we begin to untangle these difficulties in interpretation. To take an example from our study, we have shown using our time-series data that important variation in attitudes by age are due to a "cohort" effect, and not merely due to the effects of life-cycle events.

3) Above all, we endeavored to develop in the course of our study a set of common frameworks with which data from Japan and the United States could be analyzed. In our report, we have introduced two conceptually distinct analytical frameworks. In the first of these two, we posit structures to the patterns of response we obtain in each society. In fact, we find for each society a "system of logic"; and, insofar as we can determine from Japanese data, we find that the system is characterized by remarkable stability. The structures of logic we detect for these two societies reveal large differences. These differences in the patterns of response, we argued, derive from each society's sociocultural history, as well as its ecological setting.

A second framework views the individual's attitudes as being shaped by his social roles. We were guided by our assumption that exigencies of industrial society place on the individual a wide variety of common constraints. Hence, with this model we examined how (differently) the individual Japanese responds to these common processes and constraints. Here, too, we find the patterns of response both similar and different to what have been reported in the West.

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I.

MEASUREMENT OF CHANGE AND STABILITY

In the present paper, I shall discuss the changing Japanese values through the statistical analysis of time series data for the Japanese. The changes are shown as opinion change or as change of opinion structure. These data have been obtained by the nation wide sample surveys of the Committee of Japanese National Character, Institute of Statistical Mathematics. Each of our surveys has consisted of face-to-face interviews with 3000 to 4000 persons age 20 and over, selected by a stratified three-stage sampling method. The survey covers 1953-1978, every five years [4,5]. Our questionnaires have included three types of items:

(1) those dealing directly with Japanese national character, e.g. actions which specialists describe as being uniquely Japanese,

(2) items drawn from counterpart foreign survey research, and

(3) items designed to yield data that can be compared with foreign studies.

The data analysis of cohort and opinion structure will be effectively used as the method of measurement of change.

§ 1 Some Genaral Trend

One must always be cautious about drawing conclusions from mass survey data: the danger of over-interpretation is great. However, our studies over the years do seem to indicate certain broad trends in Japanese attitudes since 1953.

a) large change (one-direction change)

b) small change

c) unchanged

d) ∪ type and ∩ type change

This interesting type is found on such questionnaires as below. The existence of this type has been made clear in the 6th(1978) survey and found in many questionnaires. One example is shown.

(Card shown) Here are three opinions about man and nature. Which one of these do you think is closest to the truth?

(a) In order to be happy, man must follow nature.

(b) In order to be happy, man must make use of nature.

(c) In order to be happy, man must conquer nature.

Man and nature

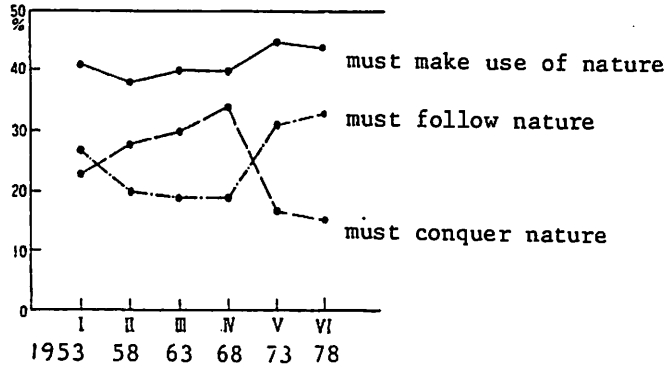


Fig. 1

e) other types of change

§ 2 Age and Time

Views also change, in some ways, as a person grows older. And these life-course trends interact with secular historical trends in diverse forms. The results vary considerably with topic.

On some topics, history seems to have little influence. For example, a given age group (such as middle age) shows a constant percentage of supporters, over the years, for a given political party. That is, as people enter middle age their political party preferences apparently come to be like the preferences of those who previously had been middle aged. This kind of "cohort replacement" also occurs, for instance, in claims of adherence to a religion.

On other topics, age brings little change but there are dramatic historical trends. Consider the question, "Generally speaking, would you say that the Japanese people are superior to or inferior to Western people?" Age makes no major difference in the response, but the percentage of those who say "Japanese are superior" has more than doubled across the last 20 years (from 20% to 39%～47%).

Again, neither age nor history seem to change some views. Japanese preferences for a "paternalistic supervisor" (*ninjō kachō*) hold at about 85% regardless of age of respondent.

For some topics, life-course changes continue to show the same pattern from youth into old age, but there is historical trend in the overall intensity of the opinion.

A new type is found clearly in the age group of 20-24 years old for the first time in 1978 survey.

We may classify the changing patterns by age and time into 6 typical types, although there are some compound types of these. One example is shown in every case.

(1) Change Both by Age and Time

See Figure 2, for example, in which the slope of the curve remains the same through the years but the height of the curve continues to drop. The question asked was, "Should a person without natural offspring adopt a child in order to continue his family line?" In pre-war Japan, with its intense consciousness of family lines, this practice was customary.

Figure 2 shows that in general as one gets older, the person is more likely to favor adoption. However, overall opinion in favor of adoption continues to decrease with each successive survey. For example, in survey I (1953) adoption was favored by about 60% of those in the youngest age group (20～29 years). Had life-course trends been the only factor influencing these people, 20 years later 80% of them should have come out in favor of adoption. Instead, survey V in 1973 found only 35% of the same age-group (i.e. those now age 40～49) answering affirmatively.

Opinion favoring adoption of a child
to continue the family line

"Would adopt"

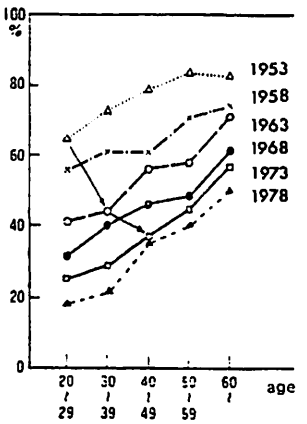


Fig. 2.

As they grow older, people are more inclined to favor adoption, but there is a historical decline in the overall percentage who favor doing so.

(2) Change only by Age But Not with Time.

The answer "have personal religious faith" in the question about religion shows this type of change with age, which is similar to the type with the question of supporting political parties, whether conservative or not. (See Fig. 3)

(3) Change Only with Time But Not by Age

The self-confidence and pride of the Japanese revealed this type. (See Fig. 4)

Generally speaking, would you say that the Japanese people are superior to, or inferior to Western people?

(a) Japanese superior

(b) Japanese inferior

(c) The same

(d) Undecided

Religious faith
"have"

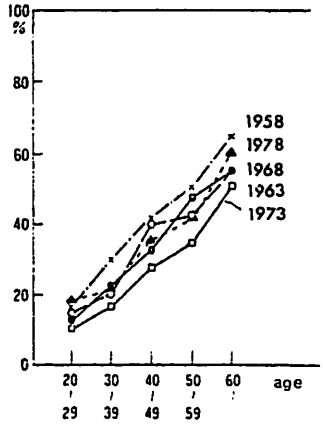


Fig. 3.

Superiority or inferiority
of Japanese vs. Westerners
"Japanese superior"

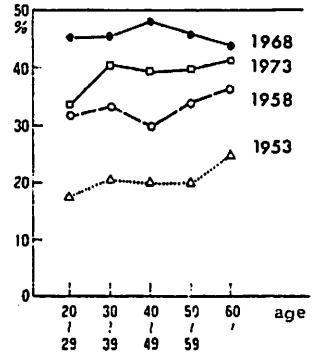


Fig. 4.

(4) Change Neither with Age Nor Time

The majority opinion (preference of type) in the following question shows this type. (See Fig. 5)

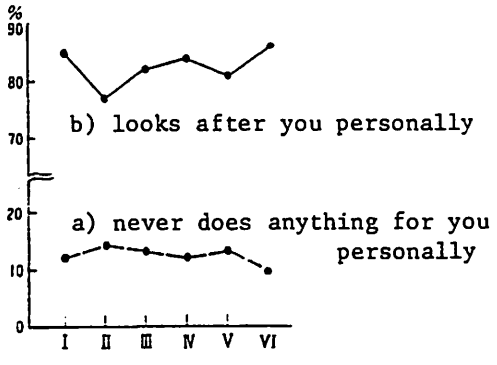
Suppose you are working in a firm. There are two types of department chiefs. (Card shown) Which of these two would you prefer to work under?

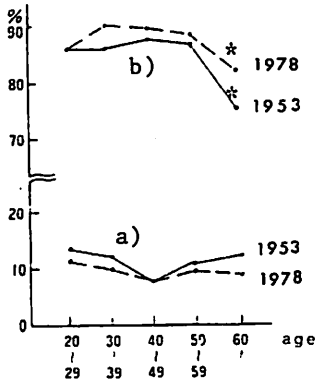
(a) A man who always sticks to the work rules and never demands any unreasonable work, but on the other hand, never does anything

for you personally in matters not connected with the work.

(b) A man who sometimes demands extra work in spite of rules against it, but on the other hand, looks after you personally in matters not connected with the work.

Type of superior preferred paternalistic





* There are many DK responses.

Fig. 5.

(5) Another Type Showing No Change with Age or Time

This opinion is regarded as being determined by the year of birth. That is to say, this changes sequentially with each of a series of successive birth groups. In one question, respondents were asked to choose one from among several possible lifestyles.

There are all sorts of attitudes toward life, Of those listed here (card shown), which one would you say come closest to your feeling?

(a) Work hard and get rich.

(b) Study earnestly and make a name for yourself.

(c) Don't think about money or fame; just live a life that suits your own tastes.

(d) Live each day as it comes, cheerfully and without worrying.

(e) Resist all evils in the world and live a pure and just life.

(f) Never think of yourself, give everything in service of society.

Figure 6 shows trend in the percentage of those who chose "live a life that suits one's own taste". Note that the percentage correlates directly with a person's year of birth, and is not influenced either by history or by changes in the person's course of life. The six curves of Figure 6 are almost congruent. That is, those born in any particular birth group have not changed their views significantly on this issue across the 25 years of the surveys from 1953-1978. However, generally speaking, succeeding group comes out more strongly in favor of living as one likes.

The way of life
"Live a life that suits one's own tastes"

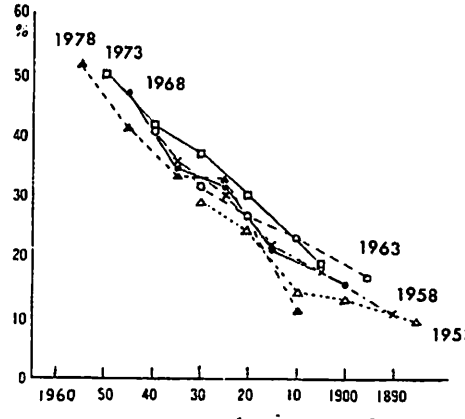


Fig. 6.

Those born in a particular birth group have not changed their views significantly, but each succeeding group comes out more strongly in favor of living as one likes.

(6) A new type

Hitherto, the younger group has shown more modern response than the older groups. But in 1978, the younger group (20-24 years old) gives apparently more traditional responses in (fairly many) questions than the group 25-29 years old. This noteworthy fact is the first finding in our past surveys. One example is as below.

If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?

(a) Go ahead

(b) Follow custom

(c) Depends on circumstances

Table 1.

Response distribution in total (%)

	Go ahead	Follow custom	Depends on circumstances	others
1953	41(48,44)*	35(29,29)	19(18,23)	5
1958	41(44,41)	35(34,36)	19(17,21)	5
1963	40(43,40)	32(22,29)	25(31,30)	3
1968	42(48,42)	34(26,30)	20(24,24)	4
1973	36(42,40)	32(21,28)	29(34,32)	3
1978	30(28,31)	42(41,33)	24(27,33)	4

*(response rate in 20-24 , that in 25-29)

The explanation of the data feature in this section may be given in various stand points as a Japanese proper situation or an universal tendency and new hypotheses will be made to be verified. These points have been and will be published in Japanese [5].

§ 3 Change of Ways of Thinking as an Opinion Structure

It is not sufficient merely to make the marginal distributions of responses in the question items separately, because this can not clarify the ways of thinking or the emotional structure of people. The factor analytic method, known as Guttman-Hayashi-Benzécri's method, is effectively used to reveal the ways of thinking or the emotional structures, based on the data of response patterns of people in many questions*. This method reveals the ways of thinking as a configuration of responses in question items in Euclidean space of smaller dimension (two dimensional space is more convenient for understanding). It has been turned out by this method that the opinion toward science and civilization is quite different between 1953 and 1973 in the relations with the Japanese traditional-modern ideas. The feature of the data by 1978 is found to be between those of 1968 and 1973, i.e. the characteristics of configuration swing back. It is remarkable that the change of ways of thinking toward them has gradually been brought out. The details will be described as below.

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* The aim of this method is to represent and visualize response categories of questions as points in a Euclidean space of certain dimensions, based on the information showing similarity among the categories, where that similarity means the degree of mutual correlated relationship between two response categories. As a result, a configuration or relative location of points, i.e. response categories, is obtained, and the separation or nearness of the points represents the degree of similarity. Thus, the interpretation of both categories and questions can be made clear and an understanding of their meaning made easy through the configuration of points obtained. The details of this method of analysis are shown in the reference [1, 4].

Here let us proceed with a detailed analysis of the questions in Table 2.

Table 2

Science and civilization	1 See § 1 d). (a) In order to be happy, man must follow nature. □ (b) In order to be happy, man must make use of nature. (c) In order to be happy, man must conquer nature. ■
	2 Some people say that with the development of science and technology, life becomes more convenient, but at the same time a lot of human feeling is lost. Do you agree with this opinion, or do you disagree? (a) Agree □ (b) Undecided (c) Disagree ■
	3 Some people say that however mechanized the world gets, nothing can reduce the richness of human feelings. Do you agree with this opinion, or do you disagree? (a) Disagree □ (b) Undecided (c) Agree ■
Daily life and goal	4 In bringing up children of primary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not? (a) Agree ○ (b) Disagree ● (c) Undecided △
	5 See § 2 (5).
Giri-ninjo	6*
	7 See § 2 (4). (a) A man who looks after you personally ○ (b) A man who never does anything for you personally ●

Other traditional-modern ideas	8 Should a person without natural offspring adopt a child in order to continue his family line? (a) Would adopt ○ (b) Would not adopt ● (c) Depends on circumstance
	9 See § 2 (6). (a) Go ahead ○ (b) Follow custom ● (c) Depends on circumstance △
	10 Some Prime Ministers, when they take office, pay a visit to the Imperial Shrine at Ise. What do you think about this practice? (a) Should go ○ (b) Better to go ○ (c) Can please himself △ (d) Better not to go ● (e) Should not go ●

* (1) (Picture shown) Imagine this situation. Mr. M was orphaned at an early age and was brought up by Mr. A a kind neighbor. The A's gave him a good education, sent him to a university, and now Mr. M has become the president of a company. One day he gets a telegram saying that Mr. A, who brought him up, is seriously ill and asking if he would come at once. This telegram arrives just at the moment when he is going to an important meeting which will decide whether his firm is to go bankrupt or to survive.

(Card of alternative shown) Which of the things written on this card do you think he should do?

(a) Leave everything and go back home.

(b) However worried he might be about Mr. A, he should go to the meeting.

(2) The last question supposed that Mr. A had taken him in as an orphan in his youth and brought him up. Supposing that it had been his real father who was on his death-bed. Which would have been your answer then?

(a) Leave everything and go back home.

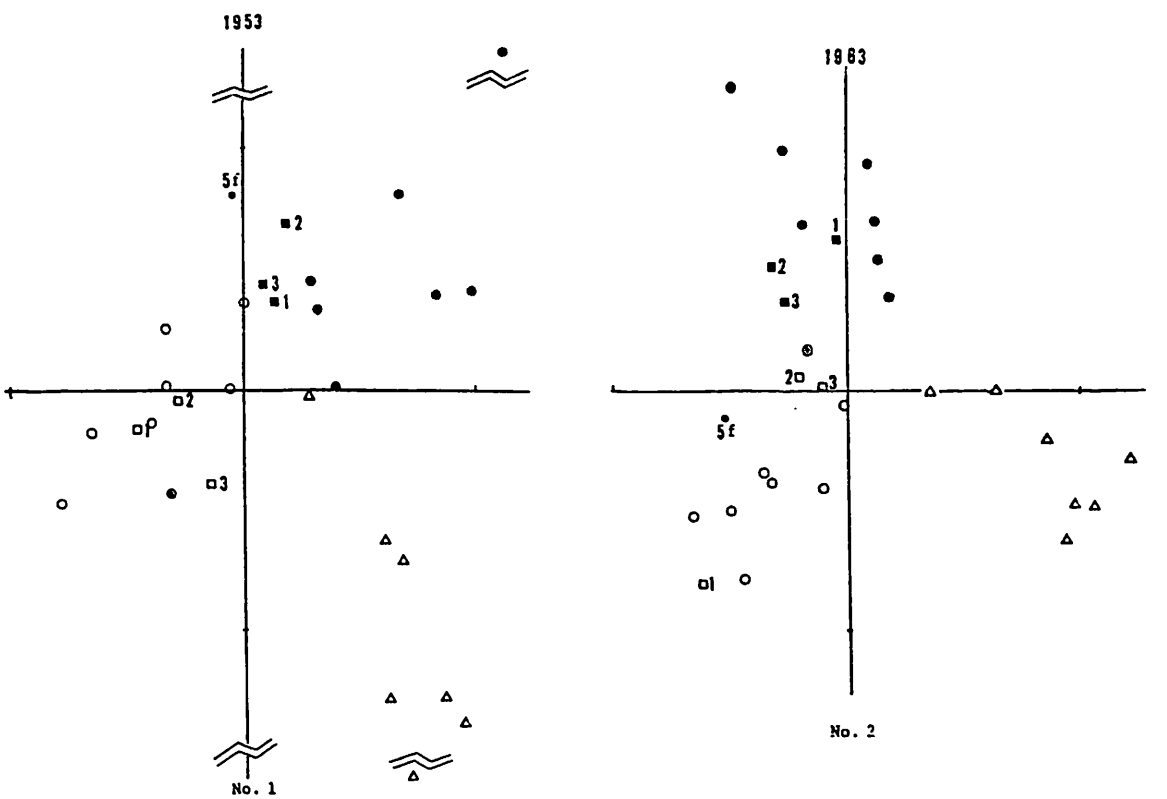
(b) However worried he might be about Mr. A, he should go to the meeting.

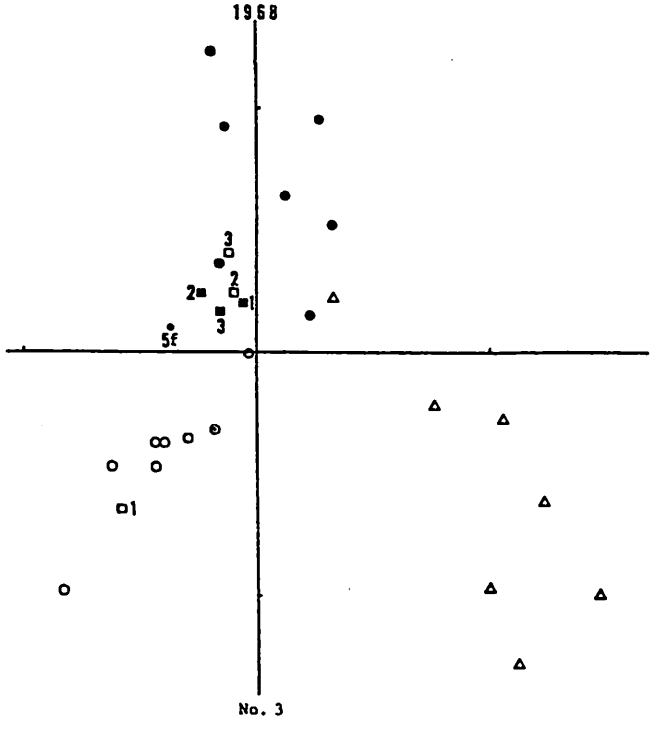
Classification of response categories in questions 6(1) and 6(2)

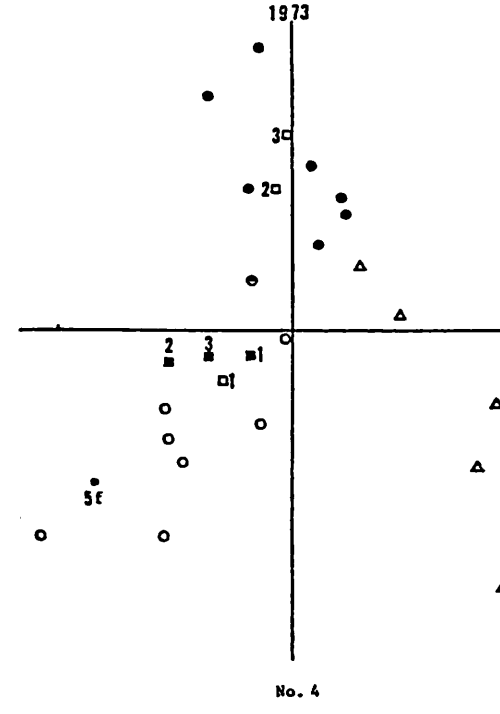
Question 6 / mark	(1)	(2)
○	a	a
◉	a	b
●	b	b

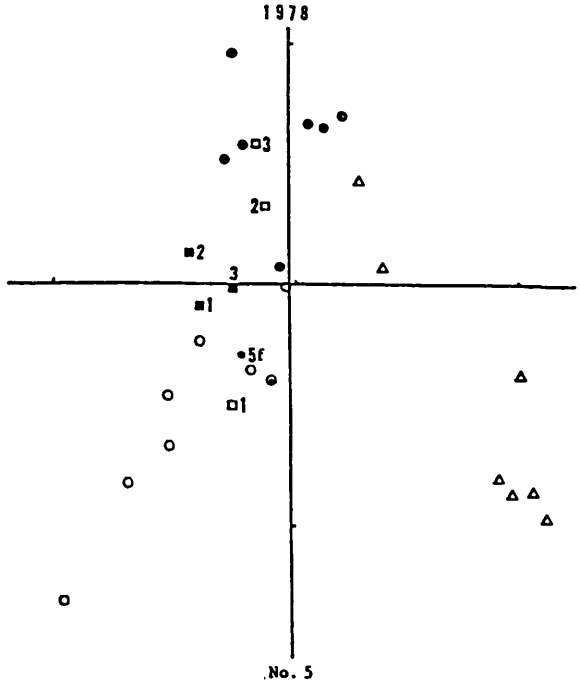
a and b mean response categories in the Questions 6(1) and 6(2) mentioned above.

Fig. 7. Configuration of response categories









* The marks •, ●, ○, △, ■ and □ are shown in Table 2. The number means the number of question.

○ : Traditional response category

● : Modern response category

△ : Medium response category

Fig. 7 (continued)

Refer first to the patterns for 1953 and 1978 in Figure 7. Here we also recognize the rigid structure of the system of thought on traditional-nontraditional items. It is very interesting that the relative patterns of traditional, nontraditional and intermediate responses are found to be almost unchanged from 1953 to 1978. However the absolute positions of the respective response groups may be different.

Some questions show quite different marginal distributions of responses. For example, such differences are seen for 4, 8 and 10 between these two decades. However the system of thought, which is verified by the belonging of the questions to the same clusters of traditional, nontraditional and intermediate responses respectively, remains unchanged.

If the axes in 1953 are rotated about 45°, the clusters are found to locate themselves in similar absolute positions as those in 1978 and reveal a similar configuration of those responses. In 1953, the horizontal axis shows that traditional responses are separated and contrasted with nontraditional and intermediate responses while the vertical axis shows that nontraditional responses are in contrast with intermediate and traditional responses. In 1978, the horizontal axis shows that traditional and nontraditional responses are in contrast with intermediate responses, while the vertical axis means that traditional responses contrast with non-traditional responses. The configurations of 1963, 1968 and 1973 coincide with that of 1978. (The questions used in 1958 are different and not applicable to this analysis.)

Taking into account the relative constancy of the clustering of responses, the opinions towards science and civilization were also examined carefully. In 1953, the pessimistic (unfavorable) opinions in 2 and 3

belonged to the cluster of traditional ideas, and optimistic (favorable) opinions belonged to the cluster of nontraditional, modern ideas, and these well correspond to the contrast between progressive and conservative. In 1973, however, the former opinion in 2 and 3 had moved to the cluster of nontraditional modern ideas, and the optimistic (favorable) opinions had moved to the cluster of traditional ideas. The relations between the opinions towards science and civilization and the traditional-vs-non-traditional ideas had reversed. The dramatic change of system of thought is thus revealed. Examining the configuration of 1963 and 1968 in Figure 7, we find that the change has not abruptly occurred. The opinions toward science and civilization have changed positions steps by step, gradually moving to the traditional or nontraditional cluster from the nontraditional or traditional cluster, respectively, since 1953.

Figure 7 is, as it were, a frame-by-frame slow motion picture of a biological change. Examine Question 1, one of the questions concerning science and civilization. The "follow nature" response belonged to the traditional cluster, and the "conquer nature" response belonged to the nontraditional, modern cluster in 1953. The distance between the two opinions gradually diminished. In 1973, the distance had become very small, although the relation had not been reversed. "Never think of yourself, give everything in service of society" in Question 5 on goal of life, belonged to the traditional cluster in 1973, whereas it belonged to the nontraditional cluster in 1953.

In summarizing the change of structure of ideas, Figure 8 is presented, describing the changing features schematically.

Illustration of change of ideas

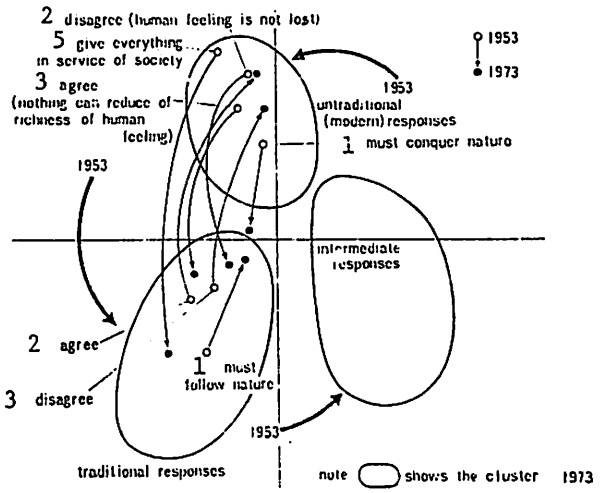


Fig. 8.

However, carefully reading the graphic representation, the new change has been found in 1978. The configuration seems to swing back. In order to make clear, the following analysis is adopted. Traditional response category cluster and modern response category cluster are remarked in Fig. 7. The points (response categories in items) belonging to these clusters are confirmed. The response categories toward the science and civilization are determined as follow.

Remark Table 2. Three categories (a), (b) and (c) in Question 1, two categories (a) and (c) in Question 2 and two categories (a) and (c) in Question 3 are taken up. The coordinates in Fig. 7 are shown in $x_i(t)$ and $y_i(t)$, i=1, 2, ..., 7, t=1953, 1963, 1968, 1973, 1978 where i is the category mentioned above and t is the time of survey.

Now we define

$$\frac{1}{J}\sum_{j}^{J} d_{ij}(t) = {}^{M}d_{i}(t)$$

where $d_{ij}(t)$ means the Euclidean distance between i and j at the time t where i is the category mentioned above, j is the category belonging to modern cluster and J is the total number of the categories belonging to modern cluster. As the same we define

$$\frac{1}{K}\sum_{k}^{K} d_{ik}(t) = {}^{TR}d_{i}(t)$$

where $d_{ik}(t)$ means the Euclidean distance between i and k at the time t where i is the category mentioned above, k is the category belonging to traditional cluster and K is the total number of the categories belonging to traditional cluster.

Then we define

$$D(t,t') = \sum_{i}^{7} \{ | {}^{M}d_{i}(t) - {}^{M}d_{i}(t') | + | {}^{TR}d_{i}(t) - {}^{TR}d_{i}(t') | \}$$

where t and t' are different times t and t'. D(t, t') may be regarded as one measure of difference to t and t' of the relation (relative configuration) between the attitude (response categories) toward science and civilization and the attitude (response categories) toward traditional and modern ideas. That is to say, D(t, t') may be a difference at t and t' between the two patterns in the sense mentioned above. D(t, t') is, with validity, classified into the 4 classes which means large difference —— small difference, since D(t, t') is not measurable, as it is, in a strict numerical sence. The relation is shown in Table 3.

Talbe 3.

Dissimilarity matrix* between t and t'

	1953 I	1963 III	1968 IV	1973 V	1978 VI
I		2	2	4	3
III			2	4	3
IV				2	1
V					1
VI					

* 1 means smaller difference ⟶ 4 means larger difference

Here we apply minimum dimension analysis in an ordered case (MDA-OR) [2, 3] and the configuration of time is shown in Figure 9.

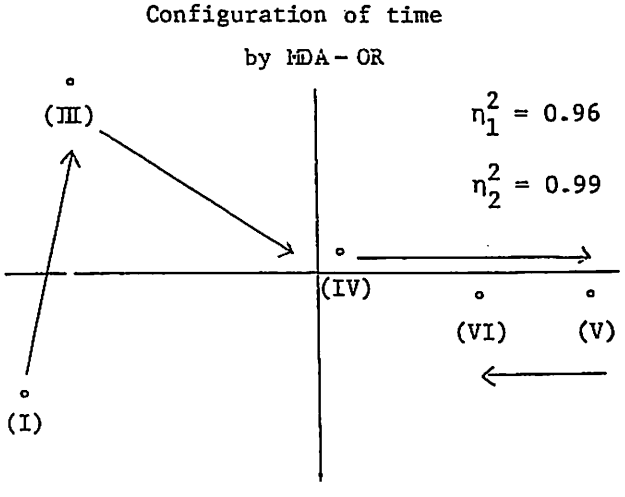


Fig. 9

In Figure 9, the relative difference of configuration of the relations between the attitude toward science and civilization and that toward traditional and modern ideas is clearly revealed. I $\longrightarrow$ V shows one-sided movement though the difference between I and II shows somewhat diffenent movement too, while VI shows the swing back. It is notable that the intuitive conjecture from the graphs Figure 7 has been confirmed in a statistical and objective representation.

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II.

COMPARATIVE STUDY AND WAYS OF THINKING

1. INTRODUCTION

In the comparative studies, it is not sufficient merely to compare the marginal distributions of responses, because this cannot clarify the system of thought which expresses characteristics of various groups. Differences in the system of thought form a barrier to mutual understanding and consequently result in the lack of communication. In the case of difference of scale values on the same scale if any, we can still understand each other as long as they are measurable on the same scale. While we can understand why others have different opinions, those not measurable on the same scale are beyond mutual understanding. This is the reason why we need a new methodology for comparative studies.

Let us consider the following example as a case where the systems of thought are different even when the marginal distributions are the same. Suppose we have two questions, their systems of thought may be clarified by the cross tabulation of these two questions. Let questions be I and II, and responses be dichotomous (α_1, α_2) and (β_1, β_2). A and B are groups, and consist of 100 people respectively.

The marginal distributions are exactly the same and there is no difference between groups A and B on both questions I and II (Table 1). If we take two cross tabulations, however, very different patterns are obtained as in Table 2. In group A, α_1 with β_1, and α_2 with β_2 are related closely respectively, whereas in group B, α_1 with β_2, and α_2 with β_1 are related closely respectively. That is to say, it is shown that a strong relation exists between α_1 and β_1, and α_2 and β_2 respectively in group A, and between α_1 and β_2, and α_2 and β_1 respectively in group B. In a case like this, mutual understanding between groups A and B is quite difficult, as the system of thought, which is revealed by the cross-tabulation of two questions, is different.

Table 1 Example of marginal distribution

	I		II		Total
	α_1	α_2	β_1	β_2	
A	60	40	60	40	100
B	60	40	60	40	100

Table 2 Example of cross tabulation

A

I \ II	β_1	β_2	Total
α_1	50	10	60
α_2	10	30	40
Total	60	40	100

B

I \ II	β_1	β_2	Total
α_1	20	40	60
α_2	40	0	40
Total	60	40	100

It can be recognized that the system of thought will be realized through the analysis of response patterns of people in many question items. It may be said that we call the group structure, which is revealed by the analysis of response patterns of people, as the system of thought in that population. Along this line, the idea of a cross tabulation analysis may be regarded as a useful method to reveal the system of thought.

The discussion mentioned above is a simple example of the difference of system of thought between groups A and B. In order to see the relation among many questions, a factor analytic method should be applied. This method is what we call quantification on response pattern (by Guttman-Hayashi, [3] and [5]), which is quite similar to the method of Benzecri ([1]). This method is a variation of principal component analysis based on the qualitative data expressed by categorical response, and called the third method of quantification in Japan.
To clarify such relations, we shall develop the discussions using the actual data.

2. DATA SOURCE

Data source is as below [13, 14 and #].

Abbreviation		Description
J53	:	Japanese (1953 survey,
J63	:	Japanese (1963 survey,
J68	:	Japanese (1968 survey, } nation wide sample)
J73	:	Japanese (1973 survey,
J78	:	Japanese (1978 survey,
JA71	:	Japanese Americans in Honolulu (1971 survey)
JA78	:	Japanese Americans in Honolulu (1978 survey)
ABIH	:	Americans in Honolulu Born In Hawaii (1978 survey)
ABIM	:	Americans in Honolulu Born In Mainland (1978 survey)
A78	:	Americans (white) in Mainland (1978 survey, nation wide sample)
PHBL	:	Philipine Baguio Lions Club

The following breakdowns of samples are used in the analysis.

An unpublished report presented to The Toyota Foundation by C. Hayashi, T. Suzuki, S. Nisihira, K. Mizuno, Y. Sakamoto, K. Nomoto, S. Koyano and N. Honma.
The questions of A1, A2, A3 and questions of M1, M2 in Section 6 are used by the permission of Prof. P.E. Converse and Prof. R. Ingelhart in ISR.

J73Y, J78Y, JA71Y, JA78Y : age group 20-49 in J73, J78, JA71, JA78
J730, J780, JA710, JA780 : age group 50- in J73, J78, JA71, JA78
J73SY, J78SY : age group 20-24 in J73, J78
JA71J, JA78J : cultural orientation - Japanese in JA71, JA78
JA71A, JA78A : cultural orientation - American in JA71, JA78

This cultural orientation is scaled through the responses on the question items concerning some Japanese habits [7,14].

N.B. Random sample except PHBL

3. GIRI-NINJO QUESTIONS*

"giri-ninjo" questions are used as the first example, since "giri-ninjo" is said to be one of the major characteristic of the Japanese. The following questions are used as the ones related to "giri-ninjo". It is our understanding that "giri-ninjo" should not be viewed as a combination of two terms, "giri" and "ninjo", but as one unified term. Expressing one idea, Japanese do not necessarily determine their action only with "giri-ninjo" in their mind, but rather, they do so by considering various other matters. However, even when an action has not been taken from the standpoint of "giri-ninjo", it often becomes necessary to express "giri-ninjo" feelings afterwards or to take "giri-ninjo" type care toward the action to maintain good human relations. On the other hand, even when they think from a "giri-ninjo" standpoint, they do not necessarily behave in accordance with "giri-ninjo". They oscillate between demonstrating "giri-ninjo" behavior at one time and not doing so at another. And, on the whole, survey data indicate that there is a tendency to show "giri-ninjo" type behavior more frequently than not. Therefore, when we consider the problem of the Japanese "giri-ninjo", it should be a complex and multi-faced consideration, and it should be realized that reducing everything to "giri-ninjo" would lead to misunderstanding. It may be remarked that the "giri-ninjo" idea is often unconsciously taken into consideration needless of their actual behavior and form a deep rooted stable pillar in the Japanese personal relations [13].

Next, let us to list the questionnaires we used. These questions contain the items which directly concern giri-ninjo idea and those which indirectly concern and have an important meaning as a factor influencial on giri-ninjo behaviors.

Giri-ninjo questionnaires response: o traditional × non-traditional

1. 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?
   o (a) Deny it × (b) Tell the truth

2. Imagine this situation. Mr. Minami was orphaned at an early age and was brought up by Mr. Nishi a kind neighbor. Mr. Nishi gave him a good education, sent him to a university, and now Mr. Minami has become the president of a company. One day he gets a telegram saying that Mr. Nishi, who brought him up, is seriously ill and asking if he would come at once. This telegram arrives as he is going to an important meeting which will decide whether his firm is to go bankrupt or to survive. Which of the following things do you think he should do? (Answer Sheet shown)

---

* The phrase giri-ninjo may be loosely defined as "duty and affection". Broadly speaking, it refers to a "traditional" Japanese stance toward human relationship. The point is not that Japanese always act on the basis of giri-ninjo standards, but our surveys over the years have found that such standards are likely to be applied to behavior more often than not. We tested this style of "traditionalism" with a battery of seven questions.

o (a) Leave everything and go back home.
× (b) However worried he might be about Mr. Nishi, he should go to the meeting.

3. The last question supposed that Mr. Nishi had taken him in as an orphan in his youth and brought him up. Suppose that was his real father who was on his death-bed. Which would have been your answer then?
o (a) Go back home × (b) Go to the meeting

4. Suppose that you are the president of a company. The company decides to employ one person, and then carries out an employment examination. The supervisor in charge reports to you saying, "Your relative who took the examination got the second highest grade. But I believe that either your relative or the candidate who got the highest grade would be satisfactory. What shall we do?"
In such a case, which person would you employ? (Answer Sheet shown)
× (a) One with the highest grade o (b) Your relative

5. In the last question we supposed that the one getting the second highest grade was your relative. Suppose that the second was the son of parents to whom you felt indebted. Which person would you employ? (Answer Sheet shown)
× (a) One with the highest grade o (b) Son of your benefactor

6. Suppose you are working in a firm. There are two types of department chiefs. Which of these two would you prefer to work under? (Answer Sheet Shown)
× (a) A man who always sticks to the work rules and never demands any unreasonable work, but who, on the other hand, never does anything for you personally in matters not connected with the work.
o (b) A man who sometimes demands extra work in spite of rules against it, but who, on the other hand, looks after you personally in matters not connected with the work.

7. If you were asked to choose two out of the following, which two would you choose? (Answer Sheet shown)
o (a) Filial piety, obligational respect to your parents (Oya-kōkō)
o (b) Repaying obligations to benefactors (On-gaeshi)
× (c) Respecting rights of the individual
× (d) Respecting freedom of the individual

Generally speaking, for each question, circle, "o", represents the response which may be regarded as traditional (i.e. "giri-ninjo" type) and "×" represents non-traditional (i.e. not "giri-ninjo" type).

First of all, to simplify the matter, let us assign 1 to those who give "giri-ninjo" type responses and 0 to those who give "non-giri-ninjo" responses. By adding up the scores, we may have a scale for measuring "giri-ninjo" upon which we can base our comparison. This idea is slightly different from "o" and "×" representations mentioned above. In doing so, the response to the second question with that to the third, the fourth with the fifth, and the response to the seventh question were pooled respectively, and 1 was given to those combinations which were considered to be "giri-ninjo" type as in the Table 3. This scale value may be rather appropriate for the representation of more typical giri-ninjo. Thus, the scale values will be used are from 0 to 5, and the results are shown in Table 4.

Table 3 Scale value for response categories

	Question	Response category	Scale Value
1	1	(a)	1
2	2 x 3	(a) in 2 and (b) in 3	1
3	4 x 5	(a) in 4 and (b) in 5	1
4	7	(a) and (b) in 7	1
5	6	(b)	1

As you see in Table 4, it is clear that Japanese(J) and Japanese-Americans(JA) differ considerably at the scale value 0 where always only several percent in J versus some 30 percent in JA. The distributions on scale value show J always are the most inclosed to giri-ninjo with high stability and JA is less. It is shown that ABIM (American born in Mainland) and A are the least.

Table 4 Distribution of giri-ninjo scale value (%)

Scale value	J63	J68	J73	J78	JA71	JA78	ABIH	ABIM	A
0	7.1	6.1	8.4	5.8	30.2	30.1	31.2	40.2	40.0
1	34.6	37.8	37.0	33.5	44.9	51.9	51.7	47.6	47.4
2	35.7	34.8	33.7	36.5	20.3	14.1	14.6	11.1	10.7
3	18.2	17.1	17.4	19.0	3.9	3.8	2.5	1.1	1.6
4	4.0	3.8	3.2	4.9	0.7	0	0	0	0.1
5	0.4	0.4	0.3	0.4	0	0	0	0	0

Scale Value	JA71O	JA71J	JA71A	JA78J	JA78A	PHBL
0	24.4	26.6	33.1	28.3	31.6	43.2
1	45.5	45.8	44.2	44.9	57.5	41.9
2	22.0	20.8	19.8	21.0	8.6	13.2
3	6.5	5.2	2.9	5.8	2.3	1.0
4	1.6	1.6	0	0	0	0.6
5	0	0	0	0	0	0

4. PATTERN CLASSIFICATION OF GIRI-NINJO QUESTION

By treating the responses to each question separately — there are seven questions and eight responses — a pattern classification is used according to the quantification method.

First, let us indicate the results of J and JA, separately as a whole. Figures signify code numbers of question items. Generally speaking, "o" shows the traditional response category, and "×" shows non-traditional response category. ^{1}X is the latent vector of response categories corresponding to the maximum latent root and ^{2}X is that corresponding to the second maximum latent root. In Fig. 1, the upper left figure shows the result of J(78) and the upper right is the one on JA(78). The latent roots in the J are 0.21 and 0.20. The third maximum latent root is 0.14 and smaller. The latent roots are 0.24 and 0.21 in the JA. The third maximum latent root is 0.16 and smaller.

The comparison is very interesting. Apparently those two are different. However in the J, the first axis ^{1}X means the discrimination of traditional and modern. In other words, this is the axis which clearly indicates the, so called, "giri-ninjo" versus "non-giri-ninjo" responses. If we use a general expression, we may call it personal, private, or human relations orientated. Left side is traditional and the right side is modern. The second axis shows realistic orientated traditional and human orientated modern. This is caused by interrelation of responses in questions 2 and 3 which asked respondents to compare the two attitudes, i.e., "attending company meeting" and "go home because of the benefactor's or parent's illness", indicating what they think they should do.

The results obtained are quite different, however these questions 2 and 3 may be similar to question 4 and 5. "giri-ninjo" in questions 2 and 3 is not that of a realistic view point but related to stereo-typed "giri-ninjo", while "giri-ninjo" in questions 4 and 5 can be called to be rather utilitarian and ostentatious. And also, it is interesting that "non-giri-ninjo" responses to questions 4 and 5 —

the opposite tendency also holds — to form the second dominant axis. In a two dimensional space, we can recognize three clusters consisting of questions 4 and 5, 2 and 3, and others respectively among "giri-ninjo" responses. The corresponding clusters also appear among "non-giri-ninjo" responses though they are not so of clear shapes.

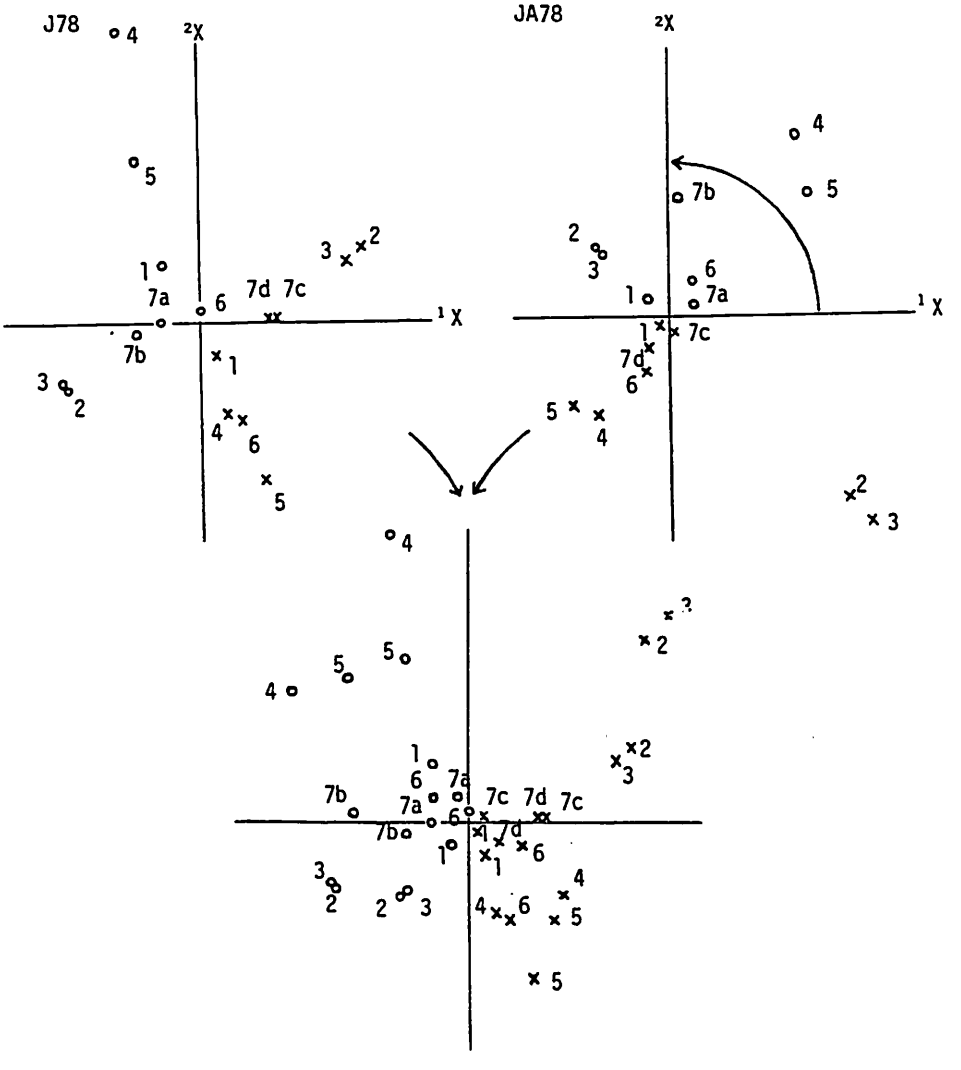


Fig. 1

Remark JA(Fig. 1). ^1X corresponds to the second axis ^2X of the J. ^2X corresponds to the first axis ^1X of the J. However, the quite similar interrelations are shown in two dimensional space. i.e., relative position of the response categories are quite similar in two dimentional space. This is clearly revealed by overlapping the two groups after the anti-clockwise rotation of 90 degrees of the JA. An interesting point is that there are some differences in the system of thought concerning personal relations but not totally dissimilar — that is, in the large, the J and the JA show the similar interrelationships of responses in their constellations — however, the

two groups differ in how and what they emphasize in their thinking. The results of J in 1963, 1968, 1973 and 1978 are quite the same as shown in Fig. 2. The results of JA in 1971 and 1978 have been considered to be the same too (in Fig. 3). This shows the stability of system of thought for J and JA.

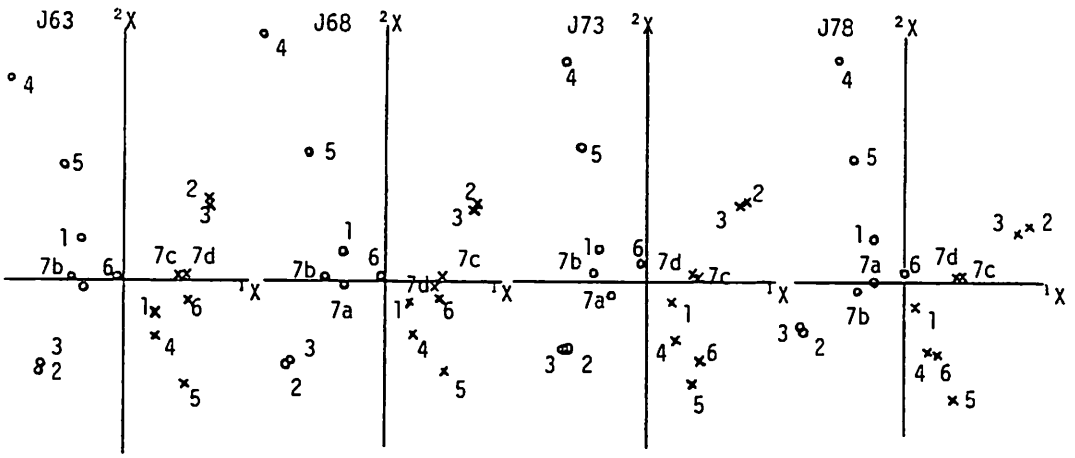


Fig. 2 Stability of configuration in J

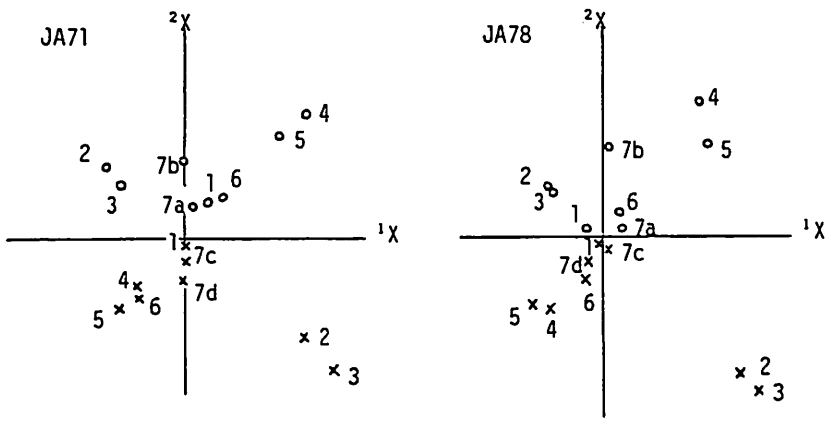


Fig. 3 Stability of configuration in JA

To make clear the relations among J68, J73, J78, JA71, JA78, ABIH and ABIM, A and etc., we necessarily calculate the Euclidean distance between the two points of the same response category in each 2 groups, in the two dimensional space obtained by the quantification response patter and sum up over all item categories. That is to say, we define the dissimilarity d_{st} between the two groups s,t as below,

$$d_{st} = \frac{1}{K} \sum_{k=1}^{K} \sqrt{ ({}^1x_k(s) - {}^1x_k(t))^2 + ({}^2x_k(s) - {}^2x_k(t))^2 }$$

where

${}^r x_k(s)$: numerical value assigned to the k-th category of the s-th group in the r-th dimension, r=1,2 (solution by the quantification method of response pattern mentioned above)

K : total number of categories in items.

The distance matrix α between the two groups are shown in coding (a classified form) to give a good perspective (See Table 5).

Table 5 Raw Distance Matrix

(α)

A																							
AB IH	2																						
AB IM	4	3																					
JA78	2	1	3																				
JA78Y	2	1	3	1																			
JA780	3	1	3	1	2																		
JA78J	2	2	3	1	2	2																	
JA78A	2	2	3	1	1	1	2																
JA71	2	1	3	1	1	1	1	2															
JA71Y	2	2	3	1	2	2	1	2	1														
JA710	4	3	2	3	3	3	3	3	3	4													
JA71J	4	3	2	3	4	3	4	3	3	4	1												
JA71A	2	2	3	1	2	2	1	2	1	1	3	3											
J73SY	3	2	3	2	2	2	2	2	2	2	3	3	2										
J73	4	3	2	3	4	3	4	3	3	4	1	1	3	3									
J73Y	4	3	2	3	3	3	3	3	3	3	1	2	3	2	1								
J730	4	4	2	4	4	3	4	3	4	4	1	1	4	3	1	2							
J68	4	3	2	3	4	3	4	3	3	4	1	2	4	3	1	1	1						
J63	4	3	2	3	4	3	4	3	3	4	1	2	4	3	1	1	1	1					
J78	4	3	2	3	3	3	3	3	3	3	1	2	3	2	1	1	2	1	1				
J78SY	4	3	2	3	4	3	4	3	3	4	1	2	4	3	1	2	2	1	1	1			
J78Y	4	3	2	3	3	3	3	3	3	3	2	2	3	2	1	1	3	1	1	1	1		
J780	4	4	3	4	4	3	4	4	4	4	2	2	4	3	1	2	1	2	1	2	2	2	
PHBL	2	2	3	2	2	2	2	2	2	2	4	4	2	2	4	3	4	4	4	3	4	3	4
	A	AB IH	AB IM	JA78	JA78Y	JA780	JA78J	JA78A	JA71	JA71Y	JA710	JA71J	JA71A	J73SY	J73	J73Y	J730	J68	J63	J78	J78SY	J78Y	J780	PHBL

1	d<1.20
2	1.20≤d<2.50
3	2.50≤d<4.00
4	4.00≤d

If we transform ^1X and ^2X only in non-Japanese group taking the +- sign and rotation of axes into consideration for the maximum goodness of fit and calculate the distance as mentioned above, the following matrix β is obtained (Table 6). It is remarked that the new vectors obtained by the rotation of axes keep the normalized property too. This gives the similarity of configurations themselves except for the rotation of axes.

Table 6 Distance Matrix after Optimum Rotation

(β)

A																							
AB IH	2																						
AB IM	3	2																					
JA78	2	1	3																				
JA78Y	2	1	3	1																			
JA780	2	1	2	1	2																		
JA78J	2	2	3	1	2	1																	
JA78A	2	2	3	1	1	1	2																
JA71	2	1	3	1	1	1	1	2															
JA71Y	2	2	3	1	2	2	1	2	1														
JA710	2	2	3	2	2	2	2	3	1	1													
JA71J	2	2	3	2	2	2	2	2	1	1	1												
JA71A	3	2	3	1	2	2	1	2	1	1	2	2											
J73SY	2	3	3	2	3	2	2	2	2	2	2	2	3										
J73	2	2	3	2	3	2	2	3	1	1	1	1	2	1									
J73Y	2	3	2	2	3	2	2	3	2	2	1	2	3	1	1								
J730	3	2	3	2	2	2	2	3	1	2	1	1	2	2	1	2							
J68	3	3	3	2	3	2	2	3	2	2	1	2	2	1	1	1	1						
J63	3	3	3	2	3	2	2	3	2	2	1	2	2	1	1	1	1	1					
J78	2	3	2	3	3	2	2	3	2	2	1	2	3	1	1	1	2	1	1				
J78SY	3	2	2	2	3	2	2	3	2	2	1	2	2	2	1	2	2	1	1	1			
J78Y	2	2	2	2	3	1	2	2	2	2	2	2	3	1	1	1	2	1	1	1	1		
J780	3	3	3	2	3	3	3	3	2	2	2	2	2	3	1	2	1	2	1	2	2	2	
PHBL	2	2	3	2	2	3	2	2	2	2	2	2	3	3	2	2	3	2	2	3	3	3	3
	A	AB IH	AB IM	JA78	JA78Y	JA780	JA78J	JA78A	JA71	JA71Y	JA710	JA71J	JA71A	J73SY	J73	J73Y	J730	J68	J63	J78	J78SY	J78Y	J780	PHBL

1	d<1.20
2	1.20≤d<1.80
3	1.80≤d

These matrixes α and β would show that the configurations in J and JA are different as they are but fairly coincident by the rotation axes i.e. J and JA have similar configurations except for the rotation of axes, however the other groups may have a different configuration of points and a different way of thinking. To clarify the group difference we reveal the relation as a configuration in two dimensional Euclidean space by using one method of multidimensional scaling, MDA-OR [6, 9, 10].

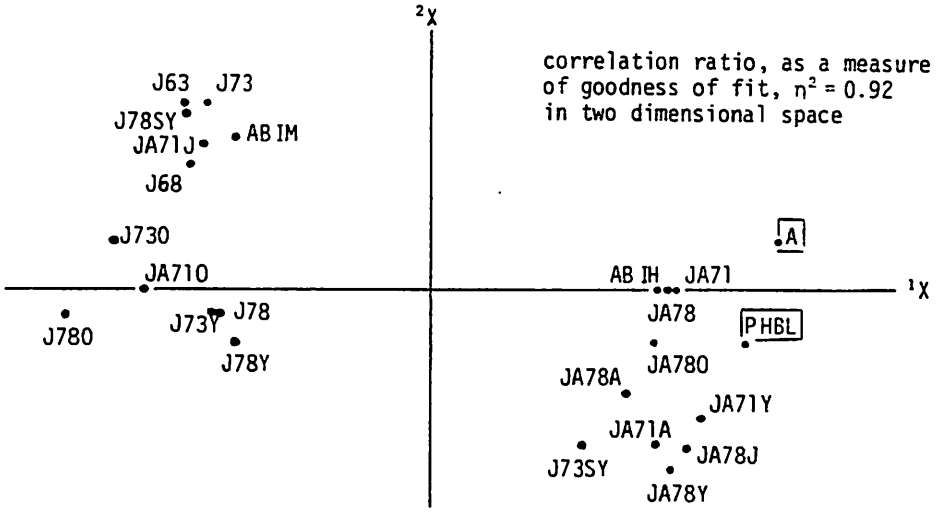


Fig. 4 Configuration by Matrix (α)

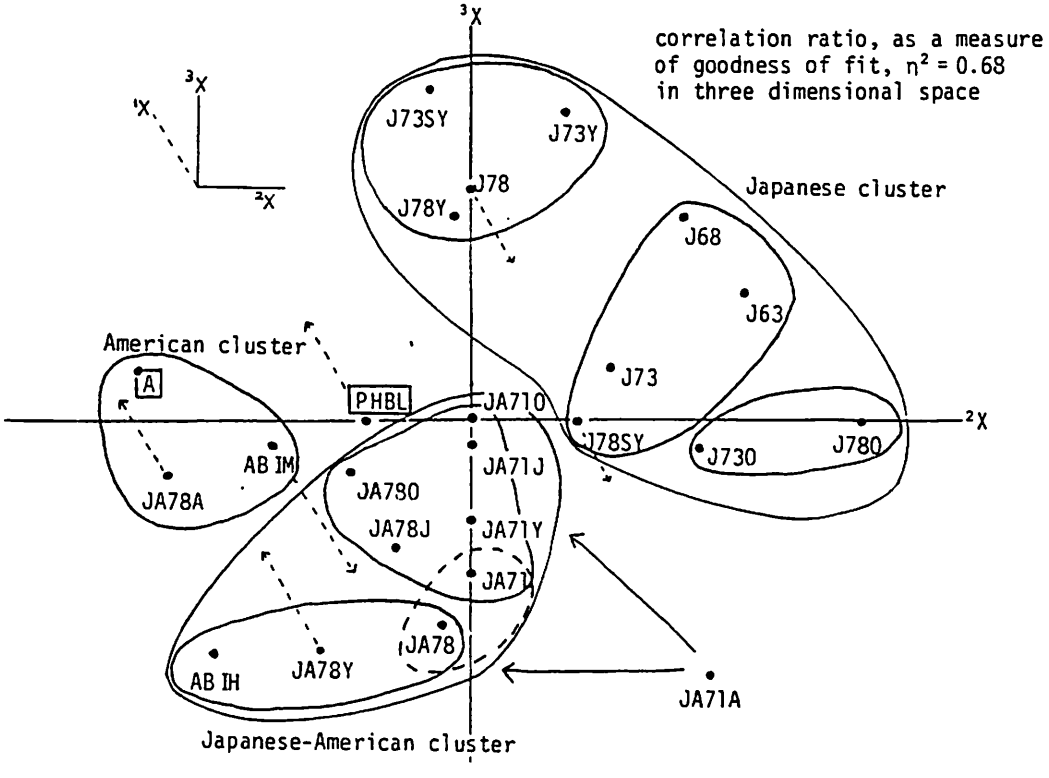


Fig. 5 Configuration by Matrix (β)

The results are shown in Fig. 4 and Fig. 5. Fig.4 makes two clear groups, however this may have the complicated meaning. The configuration in Fig.5 is easily interpreted and gives a clear perspective. In the case of giri-ninjo which is closely related to harmony in personal relations, it is interesting that the difference among the groups is unexpectedly small in an absolute sense. This is based on the similarity configuration of the responses in the questions of (2,3) and (4,5). The data analysis reveals the difference in a relative sense. The fact that the difference is fairly small, will be verified through the analysis of the following case.

5. RESPONSE STRUCTURE OF TRADITIONAL-MODERN ITEMS

Here we have taken up those questions concerning Japanese-unJapanese ideas, some of which permit intermediate responses instead of straight "yes" or "no", since they say that Japanese like an intermediate response. The underlying idea under these questions turns out to be deeply relevant to the traditional versus modern concept in Japan. It is realized that a great difference exists between J, JA in Hawaii and A on these questions. Responses are divided into three; "o" indicates Japanese (traditional), "×" for unJapanese (modern) , and "Δ" for intermediate in Japanese thought. The "o" and "Δ" in question 4 can not be determined so easily but an effort is made to follow the pattern. In question 6, "×" have more Japanese feature in traditional sense, however, we treat "o" as more Japanese since there are far more "o" in the present Japan. In order to simplify the matter, the expression, "Japanese -unJapanese" will be used in the following discussion. Although we believe another interpretation may be more appropriate, we shall hold it for later discussion. The list of question is given below.

1. 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?
   o (1) Would adopt × (2) Would not adopt Δ (3) Depends on

2. If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?
   × (1) Go ahead o (2) Follow custom Δ (3) Depends on

3. Here are three opinions about man and nature. Which one of these do you think is closest to the truth? (Answer Sheet shown)
   o (1) In order to be happy, man must follow nature.
   Δ (2) In order to be happy, man must make use of nature.
   × (3) In order to be happy, man must conquer nature.

4. Please choose from among the following statements the one with which you agree most. (Answer Sheet shown)
   × (1) If individuals are made happy, then and only then will the country as a whole improve.
   o (2) If the country as a whole improves, then and only then can individuals be made happy.
   Δ (3) Improving the country and making individuals happy are the same thing.

5. Some people say that if we get good political leaders, the best way to improve the country is for the people to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?
   o (1) Agree × (2) Disagree

6. In raising children of elementary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?
   o (1) Agree × (2) Disagree

On these questions, we applied the mathematical method of pattern classification as in the previous sections. The latent roots are as Table 7. Not much difference between J and JA is observed.

Table 7 Latent roots

	Maximum latent root	2nd maximum latent root
J 78 (J 73)	0.30 (0.30)	0.22 (0.22)
JA78 (JA71)	0.22 (0.23)	0.20 (0.21)

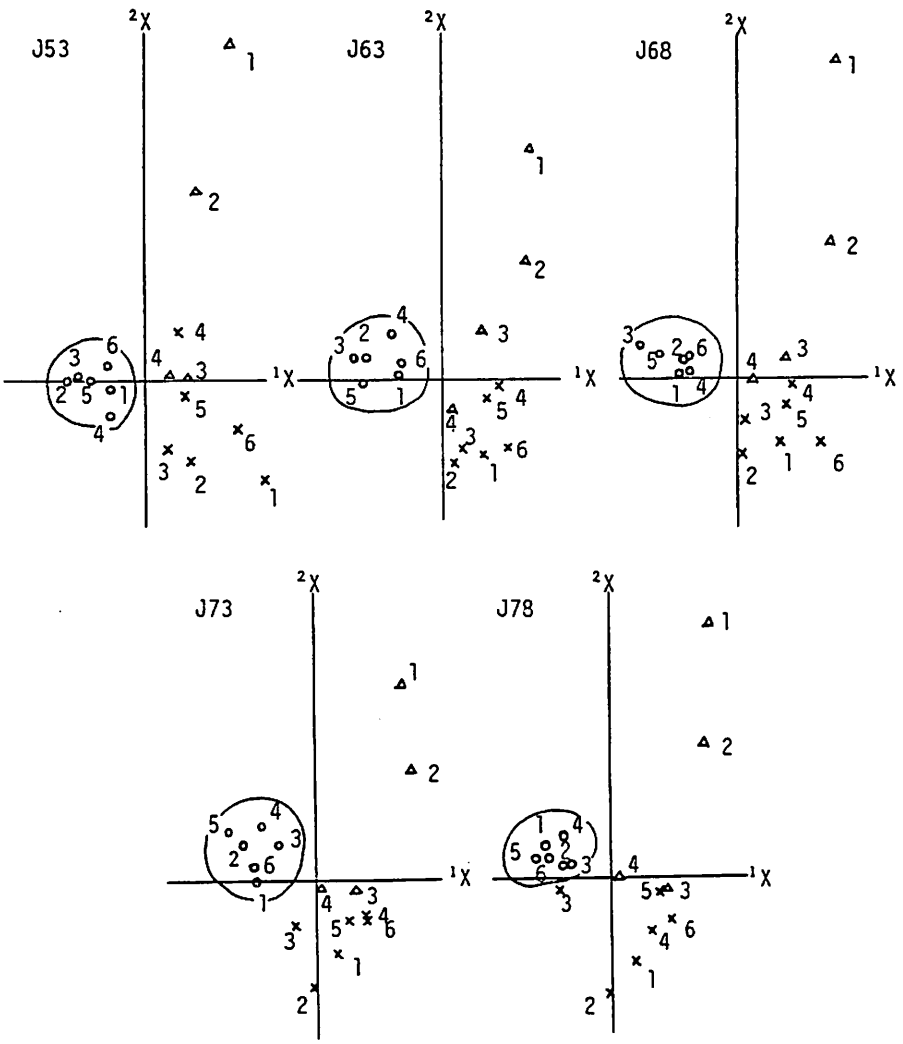


Fig. 6 Stability of Configuration in J

In Fig.6, we can see that Japanese (traditional), unJapanese (modern), or intermediate responses are neatly separated along ^1X, while unJapanese and in-between responses are divided into upper and lower parts along ^2X. In this case, a very clear-cut configuration is obtained when Japanese responses are laid between the other two types as if they were not influenced by ^2X. ^1X is Japanese-unJapanese

axis. It was mentioned that Japanese responses and unJapanese responses are separated along ^1X axis. But, when the content of those responses is closely examined, it is more appropriate to say that the response categories on the left side of the figures(Fig. 6) are rural opinions and those on the right side are urban opinions. In our survey result, those responses dominated in rural area of Japan are the following; "will follow nature"; "will adopt" to the question of adoption (as farming is based on stable asset and it is necessary to find an heir for the family); "individuals can be happy only after the nation improves" (Total → Individual); "will leave politics to good politicians"; "will teach that money is important" (money is regarded as extremely important in rural areas). Therefore, it is more understandable for Japanese people to term it as "urban-rural" or "modern-traditional" rather than "Japanese-unJapanese" for the axis ^1X in this case. ^2X is an axis which distinguishes the straight forward thinking from the deliberate thinking and withholding responses. It is remarked that these Japanese-traditional responses make a cluster of a smaller variance. The configurations of points in J53, J68, J73 and J78 are noticeably stable (see Fig.6). This structure of ways of thinking is, generally speaking, rigid for the Japanese.

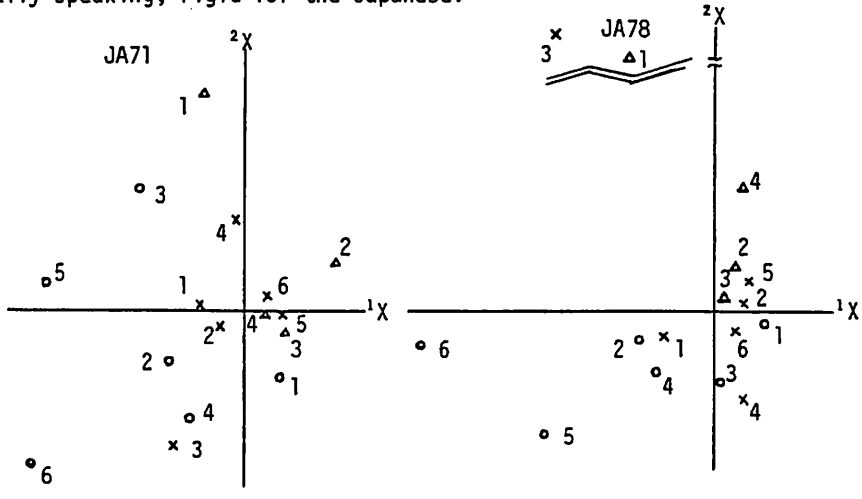


Fig. 7-1 Configuration in JA

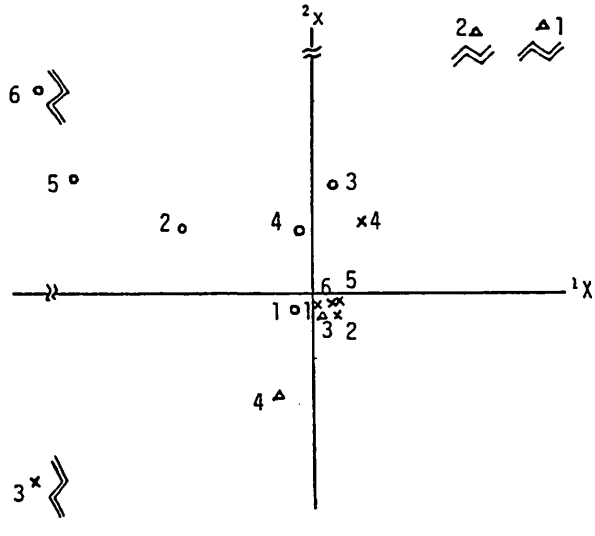


Fig. 7-2 Configuration in A

As Fig.7-1 shows the results of JA, it is quite unlike the case of "giri-ninjo" question. We find this as a different case from that of J. This can be seen along ^1X, and intermediate responses are not clearly observed along ^1X. This means that the content of intermediate responses are not the same as that of J. Yet, the intermediate responses are in the relatively similar places as those of Japanese, whereas "o" and "×" are intermingled to produce a very different constellation. Therefore, their inner meaning should be interpreted quite differently. Those "o" of Japanese responses are concentrated in a small area, while those of Japanese-Americans scattered. This states that responses are highly related and cohesive in "o" and "×" responses for J. Thus, it shows that non-Japanese groups have different system of thought. This will be verified in the analysis of JA78, ABIH, ABIM and A (Fig.7-2).

Table 8 Matrix of distance in coding

	ABIH	ABIM	JA78	JA71	J73	J68	J63	J53	J78	A	PHBL
ABIH											
ABIM	3		(α)								
JA78	3	3									
JA71	3	3	3								
J73	3	3	3	3							
J68	3	3	3	3	1						
J63	3	3	3	3	1	1					
J53	3	3	3	3	2	2	2				
J78	3	3	3	3	1	1	1	2			
A	3	3	3	3	3	3	3	3	3		
PHBL	2	3	3	3	3	3	3	3	3	3	

1	$d < 1.20$
2	$1.20 \leq d < 3.20$
3	$3.20 \leq d$

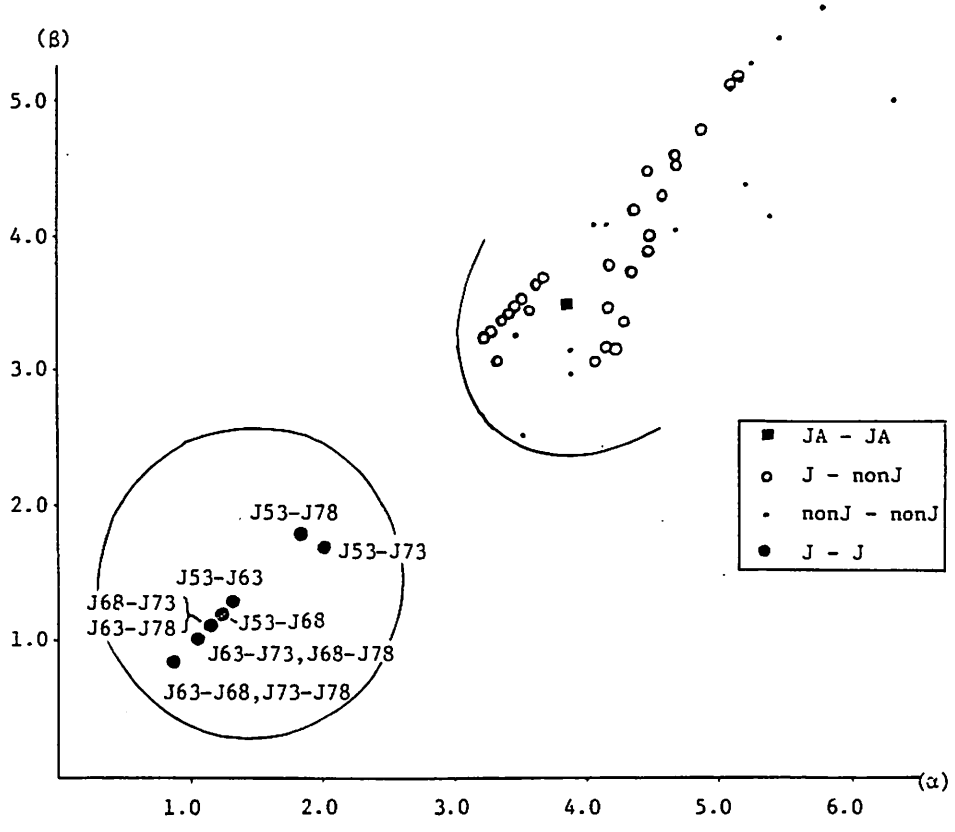


Fig. 8 Relation between distances α and β

Now, we calculate the distances between two groups as in the case of giri-ninjo. In the Table 8, matrix α is given. The figures themselves of distances in this matrix α are extremely larger than those of the matrix in the case of giri-ninjo and so the present matrix α which is obtained by the mapping through the similar criteria as in the case of giri-ninjo seems to be so much simple that the unfolding of the matrix α by MDA-OR may be unnecessarily. Generally speaking the matrix β is quite similar to α because the structure of the Japanese people is stable and any clear structure is not found in the others and then the rotation of axis is almost meaningless. Here only the correlation diagram of the figures of the distances between α and β are given (Fig. 8). Almost all points are on the line of inclination 45°. This diagram suggests the indifference of the rotation of axis and both the stability of ways of thinking in Japanese (smaller distances) and non structure of the others.

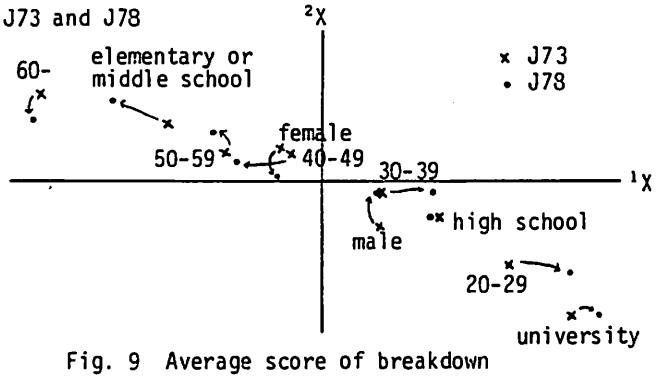


Fig. 9 Average score of breakdown

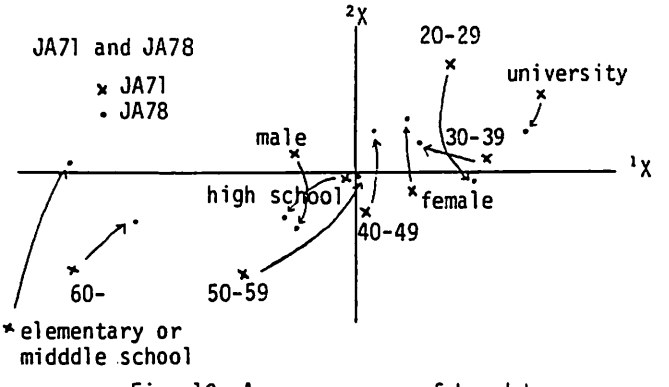


Fig. 10 Average score of breakdown

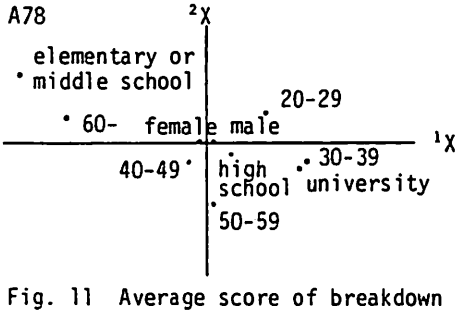


Fig. 11 Average score of breakdown

Now we calculate the average score of a breakdown on the numerical values obtained previously through the response patterns of the persons who have that breakdown. The discussion is made by these average score. These behaviors of average scores are very much informative in the comparison of those different societies.

In the Figs. 9, 10 and 11 the average scores of individuals for the demographic factors are plotted for J, JA and A respectively. We should note that most of the scores are scattered along ^1X. And as for the JA, all of the average scores are not systematic on ^2X. This means that responses are scattered and there may be no special meaning in JA along ^2X. But with respect to J, there is a decreasing linear relation which can be understood as that more unJapanese responses and fewer intermediate responses are observed among college graduates as well as high school graduates and the twenties. If we compare them with JA, the contents of response patterns are not so similar as we discussed previously. But as we can see in the above figures, those constellations are quite similar in which the college graduates and the twenties (Hawaiian sample includes their thirties), and the primary school graduates and the over sixties are holding both ends along ^1X though the relative position of male and female is opposite. But the remarkable point in this analysis is that the demographic categories are scattered in similar way for J and JA even though the contents are different.

Now we pay attention to the analysis of ABIH-IM and A. We can make the same diagrams as in Figs. 9, 10 and 11. To have a clear perspective, the rank order of the magnitude of the breakdowns' scores are determind respectively in the groups, J71, J78, JA71, JA78, ABIH, ABIM and A. Thus we have the following Table (Table 9). The clear cut discussions are made concerning the similarity and dissimilarity among the groups.

Table 9 Rank order by average scores of breakdowns

	Sex		Age					Education*		
	M.	F.	20	30	40	50	60-	E	H	U
J53	1	2	1	2	3	4	5	3	2	1
J63	1	2	1	2	3	4	5	3	2	1
J68	1	2	1	2	3	4	5	3	2	1
J73	1	2	1	2	3	4	5	3	2	1
J78	1	2	1	2	3	4	5	3	2	1
JA71	2	1	2	1	3	4	5	3	2	1
JA78	2	1	1	2	3	4	5	3	2	1
ABIH	2	1	1	2	3	4	5	3	2	1
ABIM	2	1	2	4	1	3	5	3	2	1
A	1	2	2	1	4	3	5	3	2	1

* Education E; Elementary or middle school
H; High school
U; University

Rank order is assigned by the order of magnitude of average score on ^1X by a breakdown. 1 in that rank order means the largest average score on ^1X, etc.

6. COMPARISON OF THE OPINION DIFFERENCE BY BREAKDOWNS

It is informative in a comparative study esp. a cross-cultural and -societal study that the opinion differences are investigated by some breakdowns. These may suggest the difference of the system of thought. The following heuristic example tells the situation. In groups A and B, the marginal distribution is the same on a question. In group A the difference of percentage of yes response on this question is larger in sex than in age. On the contrary, in group B, the difference of percentage of yes is larger in age than in sex. In this case the existence of the group difference is clear even though the marginal distribution is the same in A and B. This may be deeply relevent to the difference of opinion structure (formation) which we call the system of thought or ways of thinking. Here we shall make clear the opinion structure on the data analysis by breakdowns.

A kind of multidimensional scaling method known as e_{ij}-type quantification is applied

[4 , 9] to have a good perspective for the opinion differences by breakdowns. Here we shall describe only how to read the figure, showing an heuristic example. The details of this method are found in the paper [11,12] Suppose that the opinion difference is represented by the between variance of responses, for example, of male and female or of 20-29 years old, 30-44 years old, ... , over 70 years old. Concretely speaking, the between variances are calculated w.r.t. every category in one item and then the between variance of that item is obtained by the weighted sum of those between variances of categories, the weight being the response rate on the category in the total. To have a clear perspective disregarding the smaller details, we transform the magnitude of between variances into the rank order, and data processing is performed. Let the younger rank order mean the larger between variance. A simple heuristic example is given in the Table 10, which is, for example, read as, in question I, the largest between variance is by sex the second is by age the third is by education and the smallest is by religion and etc.

Table 10 Rank Order Matrix

question / brekdown	I	II	III
sex	1	3	4
age	2	1	3
education	3	2	1
religion	4	4	2

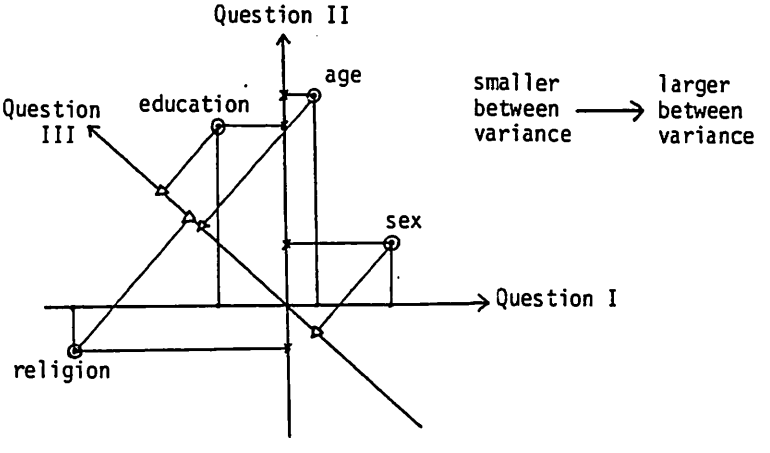


Fig. 12 Unfolding of Table 10

This table is mapped into Fig. 12 by a computer algorithm based on the method mentioned above [8, 11]. This figure says that the breakdowns are given as the points by the application of e_{ij}-type quantification and the questions are expressed by the corresponding straight lines in the two dimensional Euclidean space. The rank order by between variances is shown by the position on the straight lines which is determined as mentioned below. The measure of goodness of fit is represented by the Spearman's rank correlation coefficient between the data in the table and the result in the figure. The straight line which expresses a question is determined to attain the maximum Spearman's rank correlation coefficient between the data and the model. The solution concerning the straight line is not always unique. In this case the proper rule may be adopted to fix the solution. We use the rule of adopting, as the solution, the straight line of the minimum of rotation angle in the sense of polar cordinate to satisfy the maximum Spearman's rank correlation coefficient.

It is easily read from Fig. 12 that in the question I, breakdown difference by sex is the largest and breakdown difference by religion is the smallest. The rank order is to be determind by the position of intersection of question-line with the straight line perpendicular to the question-line from the breakdown point. The rank correlation coefficients are always equal to 1 in this example.

The following questions in Japanese survey '78 and American survey '78 are used. As breakdowns, the followings are used; sex, age, education, place of birth, education × age and religion. These have been used in the comparative survey of Japanese and Americans besides the questions mentioned in sections 3 and 5 in this paper.

Questions of Japanese style

J1. If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?
× (1) Go ahead even if contrary o (2) Follow custom (3) Depends on

J2. Some people say that if we get outstanding political leaders, the best way to improve the country is for the people to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?
o (1) Agree × (2) Disagree

J3. Would you say you are on the whole more inclined than the average to honor your ancestors or less?
o (1) More than the average × (2) Less then the average (3) Average

J4. Suppose that you are the president of a company. The company decides to employ one person, and then carries out an employment examination. The supervisor in chage reports to you saying, "Your relative who took the examination got the second highest grade. But I believe that either your relative or the candidate who got the highest grade would be satisfactory. What shall we do?" In such a case, which person would you employ?
× (1) One with the highest grade o (2) Your relative

J5. In the last question we supposed that the one getting the second highest grade was your relative. Suppose that the one who got the second highest grade was the son of parents to whom you felt indebted. Which person would you employ?
× (1) One with the highest grade o (2) Son of your benefactor

J6. Which one of the following personality types would you like best?
× (1) A person who stresses a rational desicion according to a principle
o (2) A person who stresses the value of maintaining interpersonal harmony

J7. Suppose you are working in a firm. Which of the following department chiefs would you prefer to work under?
× (1) A man who always sticks to the work rules and never demands any unreasonable work, but who, on the other hand, never does anything for you personally in matters not connected with work
o (2) A man who sometimes demands extra work in spite of rules against it, but who, on the other hand, looks after you personally in matters not connected with the work

N.B. The response of o sign means "the Japanese-like(traditional)" and × sign means "modern" in Japan.

Questions of American style

A1. Would you say that most of the time, people try to be helpful, or that they are mostly just looking out for themselves?
Δ (1) Try to be helpful (2) Look out for themselves

A2. Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?
(1) Take advantage Δ(2) Try to be fair

A3. Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?
Δ(1) Can be trusted (2) Can't be too careful

N.B. The responses of Δ sign are said to make a good scale of human trustfulness in Americans.

Questions which may be common to the modernized societies

M1. Here are some of the things people usually take into account in relation to their work. Which one would you personally place first?
(1) A good salary so that you do not have any worries about money
(2) A safe job with no risk of closing down or unemployment
(3) Working with people you like
(4) Doing an important job which gives you a feeling of accomplishment

M2. If you were to get enough money to live as comfortable as you would like for the rest of your life, would you continue to work or would you stop working?
(1) Continue to work (2) Stop working

M3. Some people say that however mechanized the world gets, nothing can reduce the richness of human feelings. Do you agree with this opinion, or do you disagree?
(1) Agree (2) Disagree (3) Cannot say

Table 11 Response distribution

Questions / Categories	J1			J2		J3			J4		J5		J6		J7	
	1	②	3	①	2	①	2	3	1	②	1	②	1	②	1	②
Japanese	30	42	24	32	58	72	10	16	72	23	47	46	44	50	10	87
Americans	76	15	6	8	89	55	21	20	72	22	70	25	48	46	47	50

Questions / Categories	A1		A2		A3		M1				M2		M3		
	Δ	2	1	Δ	Δ	2	1	2	3	4	1	2	1	2	3
Japanese	19	74	39	53	26	68	7	23	30	38	69	25	53	25	15
Americans	49	46	31	65	52	44	15	18	14	52	67	27	71	21	5

N.B. The figures in the table are %. The sum of the figures in each question is equal to the percentage 100-p(p:percentage of others + DK) in each group.

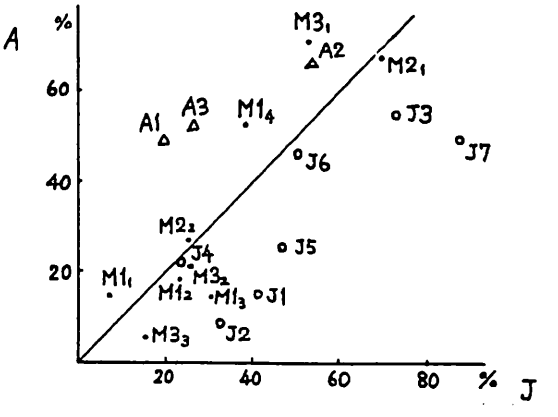
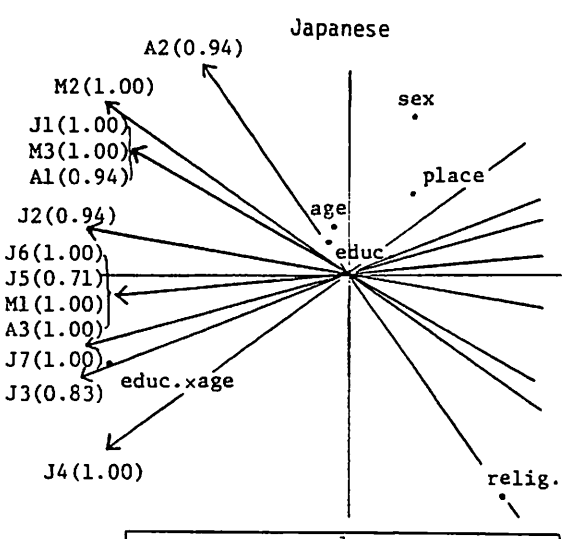
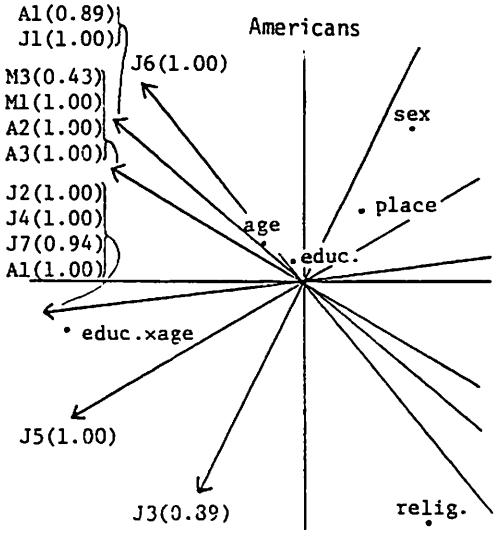


Fig. 13 Relation of percentage in responses between J78 and A78

To have a perspective, the simple tabulation is given in Table 11. The difference of the marginal distribution of opinion between Japanese and Americans is more clearly shown in Fig. 13. The large difference will be seen. The signs o and Δ are defined in the Table and J and A with suffix are question number and M with double suffixes are question number with categories.

The opinion difference by breakdowns are graphically well represented by the method mentioned above in Fig. 14 in Japanese and Fig. 14 in Americans. Here the points of breakdowns and the straight lines representing the questions are given with the Spearman's correlation coefficient as a measure of goodness of fit. The direction → means the ascending order of between variances (descending rank order). Judging from the correlation coefficients, these graphs seem to represent the information of opinion differences by breakdowns with high goodness of fit except only one question M3. First of all, the configuration of points of breakdowns are surprisingly similar between Japanese and Americans. The straight lines which represent the questions have fairly similar slopes with → direction. These graphs are interpreted with much interest as the features of opinion differences by breakdowns being, generally speaking, similar in Japanese and Americans. The mean values of rank orders of the between variances by breakdowns are given in the table of Fig. 14 which also supports that conclusion.





	sex	age	educ.	place of birth	age x educ.	relig.
Japanese	5	3	3	5	1	6
Americans	6	3	2	4	1	6

(ρ): Spearman's rank correlation coefficient

smaller between variance → larger between variance

Fig. 14

7. DATA STRUCTURE OF THE QUESTIONS MENTIONED ABOVE IN JAPANESE AND AMERICANS

Taking these points into consideration, the ways of thinking are analysed by the method of quantification of response pattern as mentioned above, using the same questions. The results are given in Fig. 15 and Fig. 16. The configuration of response categories in Japanese gives the same dominant ways of thinking with those which have been revealed in the survey data of the past 25 years, that is to say, traditional(Japanese-like) - modern axis is given as the latent vector to the maximum latent root ("+" means traditional whereas "-" means modern). Fig. 15 shows the configuration of 4 categories which we take into account in relation to work, good salary, safe job, working with people you like, doing an important job (Q-M1) and two categories in Q-M2, continue to work or stop to work.

This configuration is easily interpreted. The configuration of response categories in Americans (Fig. 16) gives the axis of trustfulness - non-trustfulness as the most dominant ways of thinking, that is to say, two poles of trustfulness and non-trustfulness are clearly found in the ^1X-axis. The difference between Japanese and Americans is clear cut. The 4 categories in Q-M1 and two categories Q-M2 are found unexpectedly in the same relative configuration with that of Japanese. It may be interesting that the common ways of thinking in relation to work are revealed in the modernized societies such as Japan and America. However the responses in the question of the relation between the development of science and technology and the loss of human feeling (Q-M3) gives a slightly different relative configuration. Each country may have its own property. The difference is remarkable that the responses, "good salary", "safe job" and "working with people you like" in Q-M1 belong to the traditional side with the category of "stop to work" in Q-M2 in Japanese and "important job" belongs to the modern side while the former three categories in Q-M1 belong to the human untrustfulness with the response "stop to work" in Q-M2 in Americans and "important job" belongs to the trustfulness side. This may be reasonably interpreted in each country but the contents of the responses toward "job" are considered to suggest the difference of meaning in that context between Japan and America. The configuration responses of American type questions of human trustfulness is buried near the origin in the Japanese figure (Fig. 15) keeping its loose American-like configuration.

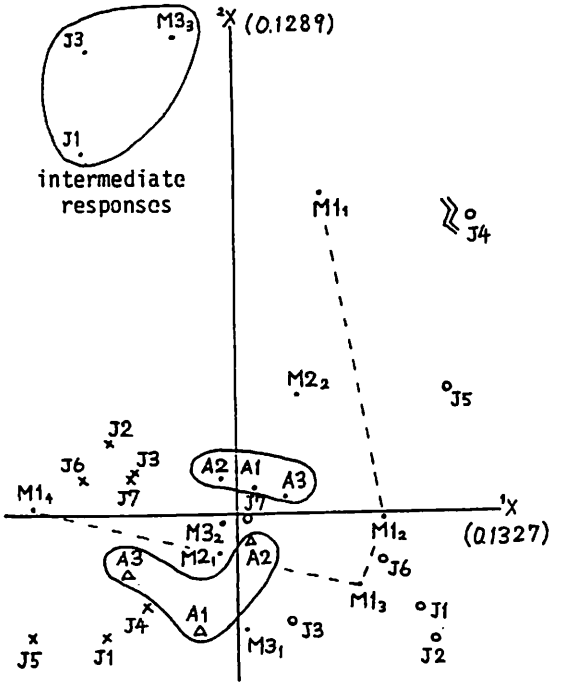


Fig. 15 Configuration in Japanese

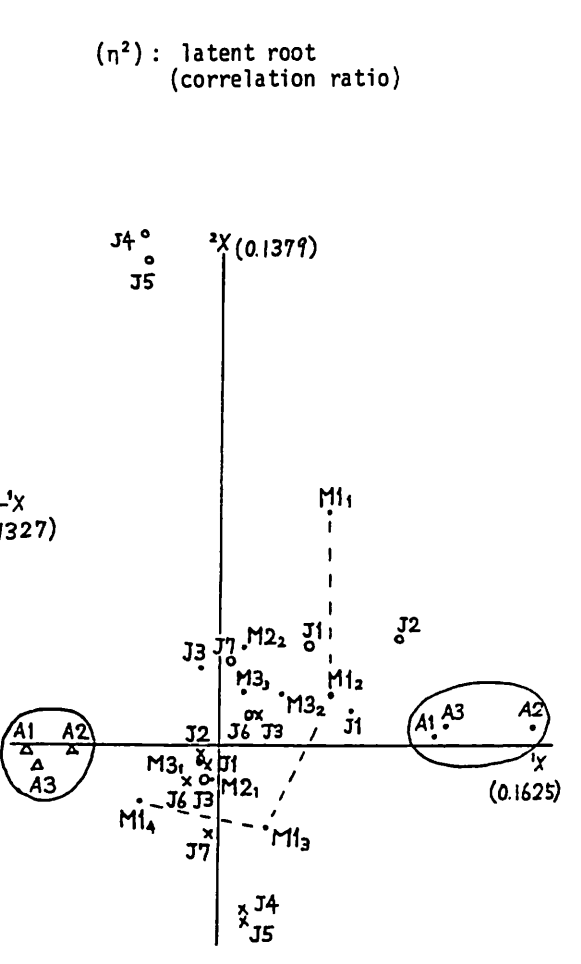


Fig. 16 Configuration in Americans

We could find the similar poles with the American in Fig. 17 (the latent vectors corresponding to the 4th maximum with the 3th maximum latent roots) in Japanese with a slight different configuration of Q-M1, even though the poles in "X are not so clear as those in Americans. The similar ways of thinking with the American ideas are found in the Japanese ideas except for the deep-rooted traditional-modern idea. However the traditional-modern idea as in the japanese ideas is not clearly found in the American ideas by our data analysis. Such a data analysis as stated here rather seems to reveal the structure of mutual misunderstanding concerning the interpretation of human behaviors in the total.

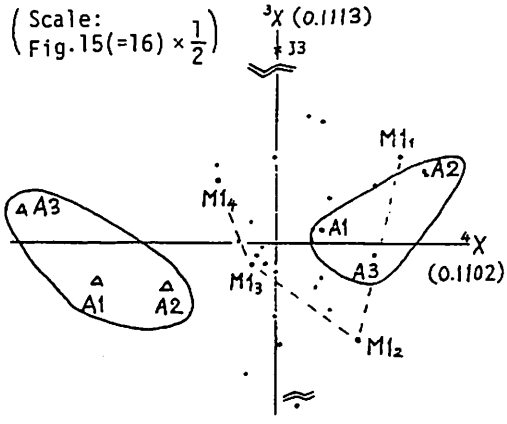


Fig. 17

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III.

WAYS OF LIFE AND SOCIAL MILIEUS IN JAPAN AND THE UNITED STATES : A COMPARATIVE STUDY

Introduction

The postwar decades in Japanese history provides a fascinating setting for the study of systems of beliefs. In the first place, these were decades during which new political ideals were deliberately introduced. Under the Occupation-sponsored "democratization", a set of newly defined ideals provided a radically altered definitions of the individual's roles in society. Specifically, the new constitution explicitly recognized and guaranteed popular rights. In addition to the classic rights of eighteenth century thought--life, liberty, equality, and the pursuit of happiness--the new constitution provided for the equality of the sexes, and the right of labor to bargain and act collectively. The Occupation-period reforms also ended the authority of a main family over branch families and the family head over adult and children in the family.

Second, and relatedly, educational reforms were carried out in these Occupation years. Compulsory education was now made to nine years; and, more importantly, provided an important institutional setting in which new beliefs and ideals could be inculcated systematically, and on a sustained basis.

Third, the economic recovery and the subsequent growth and prosperity created for the Japanese vast, new opportunities for employment. With these new opportunities for employment, the power the traditionally significant corporate groups exerted over the individual began to wane. For an increasingly large number of Japanese during these postwar decades, the bureaucratic setting of the employer organization became the primary locus of commitment and loyalty (cf. Vogel, 1963).

Finally, the postwar economic growth was accompanied by a large-scale relocation of the population from rural areas to urban centers. As a

consequence, a growing number of Japanese find themselves in the relatively anonymous environment of the city and the suburbs, away from the controls exerted by the webs of traditional social relations. Too, the accompanying decline in the number of three-generation stem families (e.g., Economic Planning Agency, 1979:105-108) makes it more possible for the individual to adopt and assimilate new beliefs and ideals without having to face potential intra-family conflicts.

Taken together, these fundamental changes in the social, political, and economic landscapes in Japan have produced a fertile ground upon which new beliefs could take root. Indeed, Wolf (1968) argues that it is precisely at such times, when the character of social relations is being reshaped by institutional changes, that we may expect to find changes in "the norms governing these relations, and in the symbolic forms assumed by these norms" (1968:19). Analyses of data gathered since 1953 in our National Character Surveys have, indeed, provided ample evidence of wide-ranging attitudinal changes in Japan (e.g., Committee for the Study of National Character, 1974;1979).

What impact have these changes in attitudes had on the systems of beliefs in Japan? As Converse (1964) points out in his seminal essay, the configuration of ideas and attitudes making up a belief system is bound together by some form of constraint or interdependence. It is the existence of such underlying constraints which enables us to predict, on the basis of what we know about an individual's attitude in another area, his ideas and attitudes. To the extent there is such a constraint, moreover, a change in the perceived status of one idea-element is likely to bring about some compensating change(s) in the status of idea-elements elsewhere in the configuration (Converse, 1964:207-208). The postwar

changes in attitudes among Japanese, therefore, are likely to be reflected in the configuration of ideas and attitudes comprising the systems of beliefs in Japan.

Data and Method

Three sets of data are utilized in this discussion. First of these is the cross-societal comparative data obtained through the 1978 surveys carried out in the United States and Japan. These data were gathered from a national sample of adult population in each society, chosen on the basis of a multi-stage probability sampling.

A second set is the time-series data collected since 1953 by the Institute of Statistical Mathematics through its ongoing project, the National Character Survey. These data consist of national samples of adults, twenty years of age or older. The data were gathered at five-year intervals since 1953. At the conclusion of the 1978 survey, therefore, the time-series consisted of six observation points.

The last set consists of survey data collected in Honolulu, Hawaii, in 1971 and 1978. The 1971 Honolulu survey gathered data from a sample of Japanese-Americans residing in that city. In comparison, the 1978 Honolulu survey obtained data from three groups of residents: Japanese-Americans, Americans of non-Japanese descent who were born in Hawaii, and Americans of non-Japanese descent who were born in the mainland United States.

Our method of analysis in the following pages will be factor analytic. It is a variation of principal component analysis for qualitative data. For a more detailed exposition of the method, the reader is referred to Appendix.

A primary function of this method is to present in an Euclidean space the extent of correlations among a group of attitudinal items. Displaying data in this manner has the advantage of presenting simultaneously the intercorrelations among various response categories.

To familiarize the reader with what is entailed in this approach, we begin by presenting a relatively simple example. For this example, we choose three items from the questionnaires administered in Japan and the United States in 1978. These questions bear on the individual's attitudes toward work, and they are a part of a larger set of items we will analyze later in our discussion. Throughout our discussion, each question item will be referred to by its code number; these code numbers have been utilized consistently in all the surveys.

****

Insert Table 1 about here

****

Table 1 presents the frequency distribution of responses for each of the items obtained in Japan and the United States. Notable about these distributions is the relative similarity in the patterns of responses obtained for these national samples. When these responses are cross-classified, the resulting three-fold tables for Japan and the United States continue to reveal a large degree of similarity.

****

Insert Tables 2a and 2b about here

****

Despite this overall similarity present in these three-fold tables --Tables 2a and 2b--we find some variations between Japan and the United States. For example, the Japanese show an overwhelming preference for

Table 1

Percentage Distribution[a] of Responses to Selected Questions, Japan and the United States, 1978

#2.8 "If you were to get enough money to live as comfortable as you would like for the rest of your life, would you continue to work, or would you stop working?"

	Japan	U.S.
1. Continue to work	69%	67%
2. Stop working	25	27

#5.1C-1 "Suppose that you are the president of a company. The company decides to employ one person, and then carries out an employment examination. The supervisor in charge reports to you saying, 'Your relative who took the examination got the second highest grade. But I believe that either your relative or the candidate who got the highest grade would be satisfactory. What shall I do?' In such a case, which person would you employ?"

1. One with the highest grade	72	72
2. Your relative	23	22

#5.6H "Whom do you consider more desirable as a man?
(a) Mr. S who is friendly and can be counted on to help others but who is not an efficient worker; or
(b) Mr. T who is an efficient worker but is indifferent to the worries and affairs of others."

1. Friendly but inefficient	72	65
2. Efficient but not concerned about others	11	23

a. The totals for each country do not add to 100%; the remainder in each case includes NAs and DKs.

Table 2a

Cross-Tabulation of Responses in Japan,
#2.8 by #5.6H by #5.1C-1*

		#5.6H (1)				#5.6H (2)			
		#5.1C-1 (1)		#5.1C-1 (2)		#5.1C-1 (1)		#5.1C-1 (2)	
#2.8	(1)	750	(73.5)	229	(72.2)	110	(74.8)	31	(64.6)
	(2)	270	(26.5)	88	(27.8)	37	(25.2)	17	(35.4)

Table 2b

Cross-Tabulation of Responses in the United States,
#2.8 by #5.6H by #5.1C-1*

		#5.6H (1)				#5.6H (2)			
		#5.1C-1 (1)		#5.1C-1 (2)		#5.1C-1 (1)		#5.1C-1 (2)	
#2.8	(1)	423	(72.2)	134	(67.7)	155	(73.1)	36	(59.0)
	(2)	163	(27.8)	64	(32.3)	57	(26.9)	25	(41.0)

*Percentage distribution, in parentheses, is for item #2.8.

a co-worker who is "friendly but not efficient"; while American respondents, too, prefer this type of worker to the other, the level of support given this category in #5.6H in the United States is below what we find in Japan.

****

Insert Figures 1 and 2 about here

****

In Figures 1 and 2, we present the results obtained by applying our factor analytic method to the data presented earlier in Tables 2a and 2b. In viewing these figures, and all others which follow in our discussion, interpretation of the results would be facilitated by bearing in mind the following three guides:

(1) The level of support given to a specific category is indicated by its proximity to the intersection of the two axes--i.e., the point of origin. Thus, the greater the level of support given to a particular category, the closer the location of this category to the intersection.

(2) The degree of intercorrelation between any two categories (of any two question items) is indicated by their relative proximity in the Euclidean space. Hence, the larger the correlation between two categories, the closer they will be located. If two items "hang together", i.e., if the probability is high that an individual selecting one category will select the other, then these two categories will be located close to each other.

(3) The axes in a typical multi-dimensional space are ordered on the basis of their discriminating power. The discriminating power of each dimension is defined by the latent root, or its correlation ratio. In the following displays of data, the correlation ratio corres-

Figure 1

Patterns of Response,
Three-Items, Japan

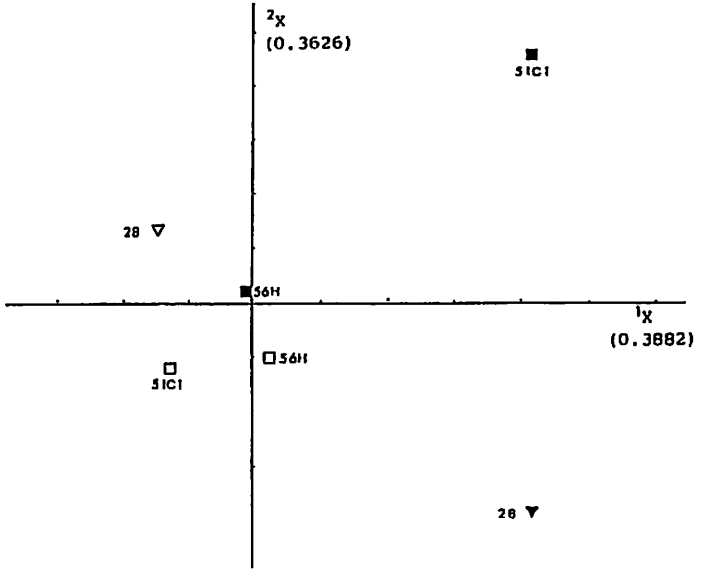
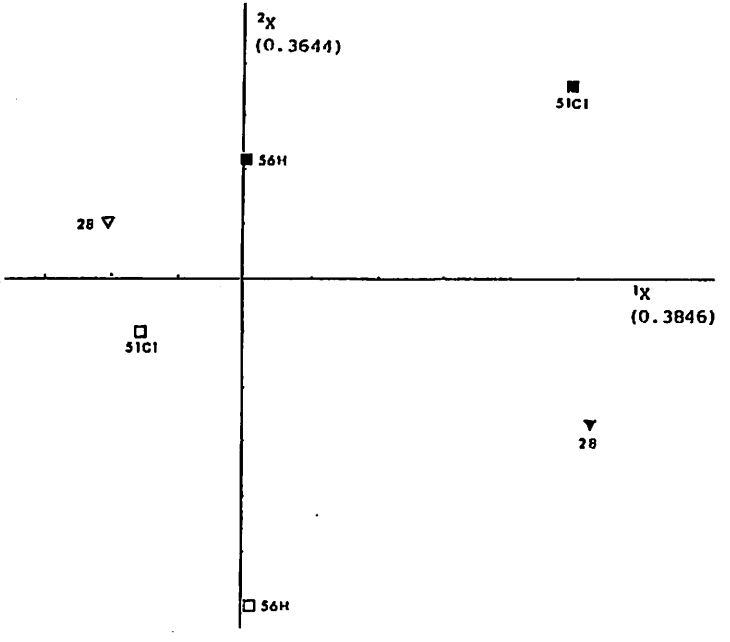


Figure 2

Patterns of Response,
Three-Items, United States



ponding to a particular dimension will be presented alongside that axis. As we have presented in Figures 1 and 2, the horizontal axis, the X-axis, has greater discriminant power than the vertical, Y-axis.

Not surprisingly, Figures 1 and 2 reveal a great deal of similarities. In both instances, items #2.8 and #5.1C-1 show a high degree of intercorrelation; in addition, for both Japan and the United States, the relative weakness of the correlation between #5.6H and each of the first two items is evidenced by their locations along the X-axis. Finally, the overwhelmingly popular support for the first category of #5.6H is domonstrated in its close proximity to the point of origin. The location of the same item for the United States is somewhat farther away from the intersection of these two axes.

We now move to analyze a more wide-ranging set of data gathered in Japan and the United States in 1978, using the same analytical technique.

Systems of Beliefs in Japan and the United States

A vast reordering of institutions and social relations accompanying economic development has given rise to a variety of speculations as to its ramifications on the systems of beliefs. Arguing for a "convergence" in ideas and attitudes, one school of students suggests a growing similarity in the attitudes of individuals in industrial societies. Among these, Inkeles and Smith (1974) characterize this development in terms of a "modern" man, whereas Moore (1979) emphasizes a growing "rationality" in evaluation and actions as a consequence of "modernization".

By contrast, Wolf (1968) assigns to modern institutional changes a relatively minor role in promoting attitudinal shifts. Instead, Wolf directs our attention to the character of informal relations in these complex societies, and suggests that such "supplementary" (informal) social relations provide vital structural settings in which normative diversity is nurtured.

In his view, an individual's ideas and attitudes are shaped importantly by informal social relations in which he is enmeshed. Since complex societies in the modern world "differ less in the formal organization of their economic or legal or political systems" than in the character of their informal interpersonal relations (Wolf, 1968:19), a similarity in institutional developments does not perforce lead to a convergence in ideas and attitudes. Rather, persistent variations in attitudes across these societies are to be expected so long as the character of significant informal social relations continue to differ.

These two lines of reasoning predict, on the one hand, attitudinal changes consequent to large-scale institutional transformations and, on

the other, a persistence in ideas and attitudes facilitated by stability in the character of interpersonal relations. Do our data from Japan give support to either of these predictions? Neither of these outcomes would be implausible. In the first place, as we noted earlier, Japan underwent wide-ranging institutional changes in the postwar decades. Should these changes promote shifts in attitudes, we could expect to find some evidence for them in our data.

At the same time, in the second place, a variety of observers has noted that small, informal groups comprise the essential building blocks, indeed the core, of social relations in Japan. Moreover, their observations suggest a relative immutability in the character of these informal groups. For example, Nakane (1970) argues that a single most characteristic feature of Japanese society is the salience of vertically-organized ties. These social ties tend to be enduring, and they comprise to an important extent an individual's "social capital". Because these enduring, informal interpersonal relations are important in social life, deliberate steps are taken to cultivate and to maintain them (e.g., Rohlen, 1974). In short, the stability in the character of interpersonal relations in Japan, in this view, promotes a persistence of "traditional" normative outlooks among Japanese.

In order to assess the adequacy of these two lines of reasoning and to highlight the systems of beliefs in industrial society, we will analyze our data from the United States and Japan. In particular, we will examine the respondents' attitudes toward work, since we could expect the impact both of institutional changes accompanying industrial growth and of informal interpersonal relations to be salient in the context of work.

Table 3

Questionnaire Items

2.28 Which one of the following personality types would you like best?

1. A person who stresses a rational desicion according to a principle
2. A person who stresses the value of maintaining interpersonal harmony

2.4 There are all sorts of attitudes toward life. Which one of the following statements would you say comes closest to your way of life?

1. Work hard and get rich
2. Study earnestly and make a name for yourself
3. Don't think about money or fame; just live a life that suits your own taste
4. Live each day as it comes, cheerfully and without worrying
5. Resist all evils in the world and live a pure and just life
6. Never think of yourself, give everything in service of society

2.8 If you were to get enough money to live as comfortable as you would like for the rest of your life, would you continue to work or would you stop working?

1. Continue to work
2. Stop working

5.1 Imagine this situation. Mr. A was orphaned at an early age and was brought up by Mr. B, a kind neighbor. Mr. B gave him a good education, sent him to a university, and now Mr. A has become the president of a company. One day he gets a telegram saying that Mr. B who brought him up, is seriously ill and asking if he would come at once. This telegram arrives as he is leaving to attend an important meeting which will deicide whether his firm is to go bankrupt or to survive. Which of the following things do you think he should do?

1. Leave everything and go back home
2. However worried he might be about Mr. B, he should go to the meeting

5.1c-1 Suppose that you are the president of a company. The company decides to employ one person, and then carries out an employment examination. The supervisor in charge reports to you saying, "Your relative who took the examination got the second highest grade. But I believe that either your relative or the candidate who got the highest grade would be satisfactory. What shall we do?" In such a case, which person would you employ?

1. One with the highest grade
2. Your relative

5.6H Whom do you consider more desirable as a man?

1. Mr. S. who is friendly and can be counted on to help others but is not an efficient worker
2. Mr. I. who is an efficient worker but is indifferent to the worries and affairs of others

8.10 Here are some of the things people usually take into account in relation to their work. Which one would you personally place first?

1. A good salary so that you do not have any worries about money
2. A safe job with no risk of closing down or unemployment
3. Working with people you like
4. Doing an important job which gives you a feeling of accomplishment

2.1 If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?

1. Go ahead even if contrary
2. Depends
3. Follow custom

4.5 In raising children of elementary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?

1. Agree
2. Undecided
3. Disagree

5.6 Suppose you are working in a firm. Which of the following department chiefs would you prefer to work under?

1. A: A man who always sticks to the work rules and never demands any unreasonable work, but who, on the other hand, never does anything for you personally in matters not connected with the work

2. B: A man who sometimes demands extra work in spite of rules against it, but who, on the other hand, looks after you personally in matters not connected with the work

8.1 Some people say that if we get outstanding political leaders, the best way to improve the country is for the people to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?

1. Agree
2. Disagree

Table 4

Marginal Distributions for Question Items,
Japan and United States, 1978

#	Question Items	Response Categories	*	1978 Survey Japan	U.S.
2.2B	Two personality types	1. According to principle	▽	44	48
		2. Maintaining interpersonal harmony	▼	50	46
2.4	Way of life	1. Get rich	*	14	7
		2. Become famous	–	2	6
		3. Life that suits own taste	*	39	36
		4. Cheerfully, without worry	*	22	36
		5. Live pure and just life	*	11	10
		6. Serve society	–	7	2
2.8	Continue to work	1. Continue to work	▽	69	67
		2. Stop working	▼	25	27
5.1	Benefactor vs. business	1. Go back home	■	51	64
		2. Go to the meeting	□	42	29
5.1c-1	Employment examination (relative)	1. One with the highest grade	□	72	72
		2. Your relative	■	23	22
5.6H	Friendly vs. efficient	1. Friendly but not an efficient worker	⊠	72	65
		2. Efficient worker but not worry others	□	11	23
8.10	One's job goals	1. A good salary	×	7	15
		2. No risk of unemployment	×	23	18
		3. Working with people you like	×	30	14
		4. A feeling of accomplishment	×	38	52
2.1	Custom vs. conscience	1. Go ahead	○	30	76
		2. Depends	×	24	5
		3. Follow	●	42	15
4.5	Teaching children money is the most important thing	1. Agree	●	45	5
		2. Undecided	×	13	1
		3. Disagree	○	40	94
5.6	Type of supervisor preferred	1. Never does anything personally	□	10	47
		2. Looks after you personally	■	87	50
8.1	Leave things to political leaders	1. Agree	●	32	8
		2. Disagree	○	58	89

*Classification of response categories

****

Insert Table 3 about here

****

In Table 3 we present the list of items we utilize in the following analysis. Seven items will be used. Of these, we have already encountered three in the previous example. Specifically, these questions query how much importance the respondent places upon his work (#2.8), priority given to social obligations outside of work vs. those emanating from work (#5.1, #5.1C1), the types of personality and co-worker preferred (#2.2B, #5.6H), the type of job preferred (#8.10), and priority given to different life goals (#2.4).

****

Insert Table 4 about here

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The upper panel--above the solid horizontal line--in Table 4 presents the levels of support obtained for different categories of the items utilized in this analysis. A comparison of percentage distributions for Japan and the United States reveals a substantial similarity. More often than not, the degree of support obtained in Japan for a given category is duplicated in the United States. To a surprising extent, therefore, these two highly industrialized societies show patterns of response more similar than what one might expect given their rather different political-historical experiences as well as cultural traditions.

How do these responses "hang together"? In order to delineate the character of interdependence undergirding the systems of beliefs in Japan and the United States, we applied the aforementioned factor analytic technique to the data. Summary representations of these results are presented in Figures 3 and 4.

****

Insert Figures 3 and 4 about here

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In the plane defined by the first two loadings, the response patterns we obtained for Japan in Figure 3 suggests that the horizontal axis discriminates the response categories into two distinct configurations. In particular, located in the upper-right quadrant is a configuration of outlooks which may be labeled "old" type responses; one in the lower-left quadrant, conversely, may be labeled "new" type responses. As we will observe later, the "old" type responses tend to be supported by older respondents in Japan; on the other hand, "new" type responses are more popular among younger respondents.

Specifically, the upper-right quadrant contains the response "living cheerfully without worrying" (#2.4-4), to the question about ways of life; "no risk of unemployment" (#8.10-2) and "working with people you like" (#8.10-3) in the question about work; and the personality preferred is one who stresses "interpersonal harmony" (#2.2B). In addition, this configuration also contains "leave everything and go back home" (#5.1) when the benefactor is seriously ill.

In comparison, the lower-left quadrant consists of a preference for a person who sticks to his "principle" (#2.2B), as well as for "living a life that suits your own taste" (#2.4-3). This quadrant also contains the response, "a job which gives a feeling of accomplishment" (#8.10-4), to the question about work; and "go to the meeting" (#5.1) even if the benefactor is seriously ill.

As noted earlier in our example, a proximity among several responses point to a high degree of interdependence among them. Hence, each clus-

Figure 3

Configuration of Response Patterns,
Work-Related Items, Japan, 1978

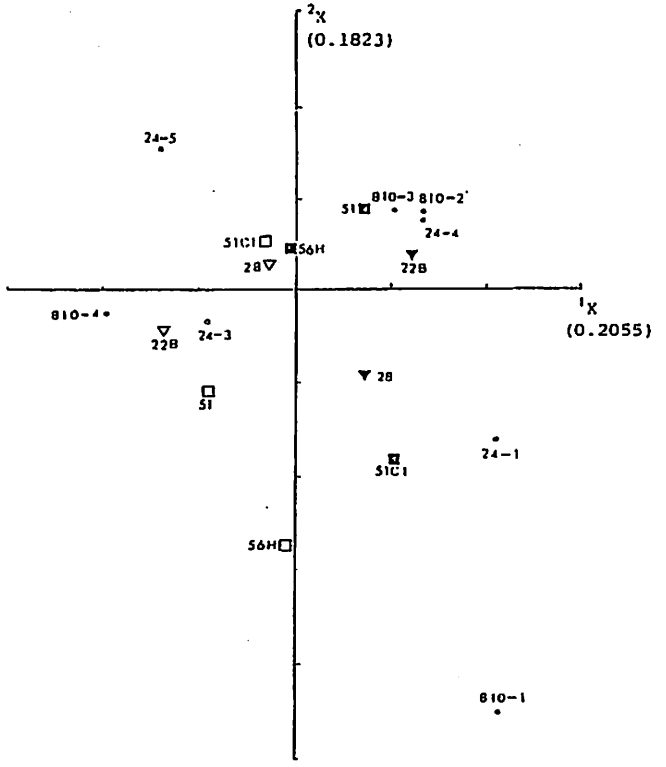
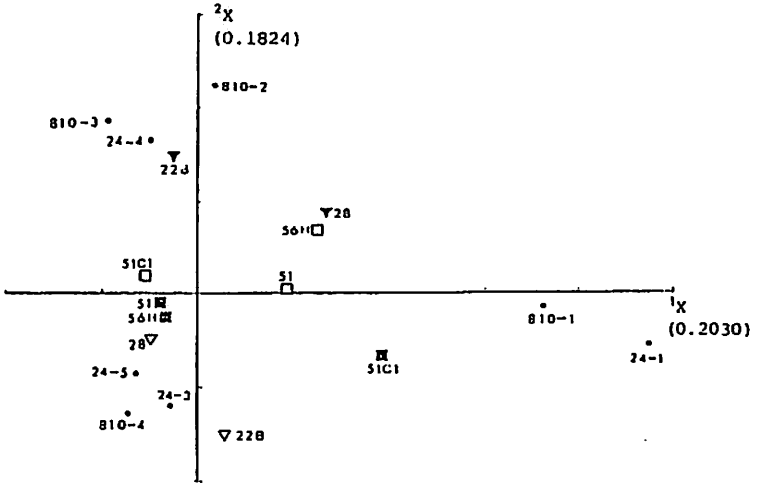


Figure 4

Configuration of Response Patterns,
Work-Related Items, United States, 1978



ter may be interpreted as composing a system of beliefs within which there is a high probability that if one category is selected another in the cluster will also be selected. A respondent who prefers someone stressing "interpersonal harmony", therefore, will likely choose "working with people you like", as well as "going back home" when the benefactor is seriously ill.

The horizontal axis also discriminates the response categories distributed on the lower-right quadrant from those on the upper left. Although these form less obvious clusters than do the first two, they nonetheless fall into the dichotomous configurations of "old" and "new". For example, for the question about which candidate to hire (#5.1C-1), the response category stressing the importance of social obligations, i.e., "hiring your relative", will be found on the lower-right quadrant; conversely, hiring "one with highest grade", without consideration to social ties will be found on the upper-left quadrant. In other words, they fall, respectively, into "old" and "new" configurations of beliefs.

When we move on to the American results--Figure 4--we find that the horizontal axis does not discriminate the same set of response categories. What we find, in fact, is the cluster of opinions labeled "old" type in Japan straddling upper-left quadrant. Those opinions which we labeled "new" type are found on the lower half of the plane, along the vertical axis. Located far to the right along the horizontal axis are two opinions stressing acquisition of money: "a good salary" (#8.10-1) in work, and "get rich" (#2.4-1) in way of life.

A detailed comparison of the patterns of response in Japan and the United States suggests, however, a substantial similarity in the degrees of intercorrelation among response categories. If we rotate the con-

figuration for the United States clockwise sixty degrees, we find that the resulting pattern nearly parallel the one we depicted for Japan. In other words, the contents of the systems of beliefs do not differ to any large extent in these two societies.

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Insert Tables 5 and 6 about here

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An insight into the bases for these response patterns may be obtained when we glean the average scores for individuals by several demographic characteristics. These results are presented in Tables 5 and 6 for Japan and the United States, respectively. To facilitate a visual comparison of these results, we select the average scores by sex, age, and education, and present them in Figures 5 and 6.

****

Insert Figures 5 and 6 about here

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With a sixty-degree clockwise rotation of the configuration of scores for the United States--presented in Figure 6--the distribution of average scores by education assumes a pattern nearly similar to the pattern for Japan, shown in Figure 5. The pattern of distribution of these average scores for Japan indicates that those supporting "old" type opinions tend to be females, older, and with less than high school education. In comparison, the better educated, males, and the younger tend to support "new" type opinions.

For the United States, on the other hand, education most effectively discriminates those opinions we labeled "old" and "new" in the Japanese context. When we inspect Figure 4 along with Figure 6, we

Table 5

Average Scores for Individuals by Demographic Categories, Japan, 1978

Demographic Variables	Number of Respondents	Average Scores 1	2	3
Sex				
Male	896	-0.059	-0.032	0.049
Female	1133	0.047	0.026	-0.039
Age				
20 - 34	676	-0.062	-0.104	-0.035
35 - 49	709	-0.028	-0.007	0.055
50 & over	644	0.096	0.117	-0.023
Education				
Low	856	0.134	0.069	0.046
High	836	-0.050	-0.036	-0.028
Univ.	297	-0.240	-0.105	-0.064
Occupation				
Male				
Self-employed	252	-0.075	0.015	0.116
White collar	250	-0.160	-0.109	0.013
Blue collar	267	-0.009	-0.031	0.100
Not working	109	0.081	0.033	-0.123
Female				
Self-employed	191	0.133	0.056	0.085
Employee	295	-0.039	0.013	-0.027
Not working	606	0.059	0.018	-0.078
Sex by Age				
Male				
20 - 34	286	-0.093	-0.165	0.010
35 - 49	319	-0.082	-0.053	0.119
50 & over	291	-0.002	0.122	0.011
Female				
20 - 34	390	-0.040	-0.060	-0.068
35 - 49	390	0.016	0.031	0.002
50 & over	353	0.177	0.114	-0.052
Sex by Education				
Male				
Low	361	0.072	0.041	0.104
High	338	-0.097	-0.069	0.017
Univ.	181	-0.258	-0.112	-0.010
Female				
Low	495	0.180	0.088	0.003
High	498	-0.019	-0.014	-0.059
Univ.	116	-0.211	-0.094	-0.148

Table 6

Average Scores for Individuals by Demographic Categories, United States, 1978

Demographic Variables	Number of Respondents	Average Scores 1	2	3
Sex				
Male	638	0.042	-0.022	-0.021
Female	684	-0.040	0.030	0.020
Age				
20 - 34	471	-0.001	-0.014	0.034
35 - 49	307	-0.002	-0.042	-0.042
50 & over	544	0.002	0.035	-0.005
Education				
Low	329	0.031	0.151	-0.015
High	512	0.002	0.044	0.021
Univ.	478	-0.024	-0.149	-0.011
Occupation				
Male				
Self-employed	37	0.056	-0.089	-0.095
White collar	193	0.024	-0.193	-0.017
Blue collar	257	0.041	0.022	-0.001
Not working	142	0.067	0.103	-0.050
Female				
Self-employed	10	-0.050	-0.018	0.049
Employee	267	-0.054	-0.024	0.024
Not working	391	-0.033	0.067	0.020
Sex by Age				
Male				
20 - 34	217	0.060	-0.092	0.039
35 - 49	140	0.036	-0.074	-0.090
50 & over	281	0.032	0.035	-0.033
Female				
20 - 34	254	-0.053	0.053	0.029
35 - 49	167	-0.033	-0.014	-0.002
50 & over	263	-0.030	0.035	0.024
Sex by Education				
Male				
Low	165	0.072	0.148	-0.007
High	205	0.044	0.028	-0.011
Univ.	265	0.023	-0.183	-0.036
Female				
Low	164	-0.010	0.161	-0.023
High	307	-0.026	0.055	0.042
Univ.	213	-0.082	-0.107	0.020

Figure 5

Average Scores, Sex, Age, and Education,
Japan, 1978

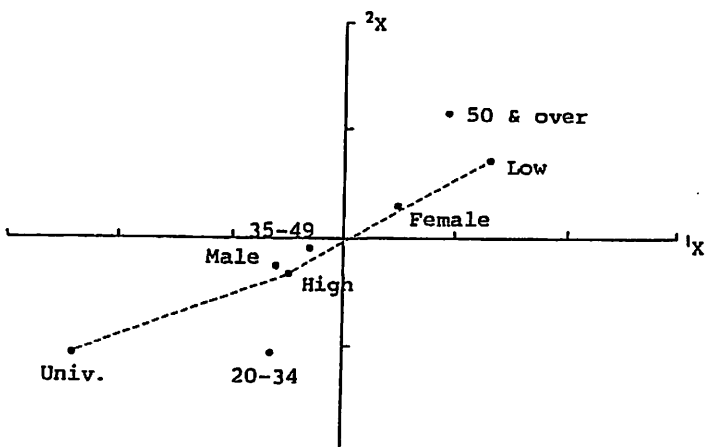
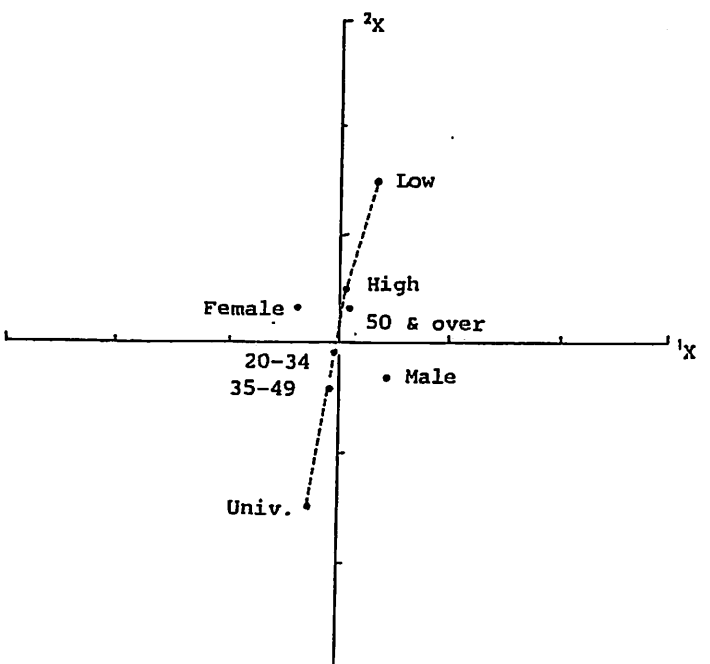


Figure 6

Average Scores, Sex, Age, and Education,
United States, 1978



find that sex-variation in attitudes in the United States to be substantial, as it exerts largest impact along the horizontal axis. In addition, we find that females in the United States are more likely than their male counterparts to give support to majority opinions. Finally, unlike in Japan, we find no singular trend for age in the United States.

Our comparison of the responses in Japan and the United States to the seven-item set of work-related questions reveals striking similarities as well as some important differences. Specifically, an inspection of the configurations for Japan and the United States show a similar degree of interdependence (constraint) among several items. For example, an individual who expresses support for "living each day as it comes, cheerfully and without worrying" (#2.4-4) is also likely to show a preference for "working with people you like" (#8.10-3), whether he is an American or a Japanese. In both these societies, moreover, these opinions tend to be supported more strongly by those with less education and by females.

On the other hand, these configurations also disclose major differences. In brief, our analysis reveals for Japan two distinct clusters of opinions along the horizontal, or the most discriminating, axis. These are the opinion clusters we labeled "old" and "new" in the preceding discussion. In contrast, the configuration for the United States does not contain two competing systems of attitudes. Instead, the horizontal, or the most discriminating, axis divides the responses into two dissimilar halves. On the one hand, we find on the left-hand side a set of responses which is highly interdependent. These tightly constrained opinions are located for the most part close to the point of origin, indicating their numerical dominance in the responses found in America. Because of their popularity, as well as their interdependence, one may view these opinions as being a part

of the "core" outlook among Americans.

By contrast, the right-hand side of the configuration discloses only a weak constraint among responses. These (numerically) less popular views are scattered widely about, forming no discernible cluster of interdependent opinions. Thus, unlike in Japan, there is in America no evidence of a viable competing system of beliefs.

The patterns of response we have delineated for these two advanced industrial societies raise two questions. First, will we find similarities in patterns of response for Japan and the United States in areas that are not connected to work? This is in essence a question about interdependence among attitudes in different facets of one's social life. To the extent an individual's attitudes toward various facets of life are not interdependent--i.e., his attitudes are "compartmentalized"--we will not likely find similarities in the patterns of response to questions covering other areas of concern. By the same token, if one's attitudes toward a wide spectrum of issues and concern are interdependent, our earlier results would suggest that we could expect the configurations of response patterns for Japan and the United States to be similar generally.

Second, have the similarities we have obtained in the preceding analysis come about quite recently, possibly as a result of the postwar institutional changes? If these institutional changes in Japan facilitated a shift in attitudes both about work and the social relations around it, a comparison of data obtained at different points in time should reveal the nature of this change.

In the remainder of this discussion, we will address these two questions. To approach the issue of interdependence among attitudes, we will assess simultaneously the intercorrelations among responses both to questions that are work-related as well those which are not. In examining the issue of stability in the systems of beliefs, we will employ both the time-series data gathered in Japan since 1953, and the data collected in Hawaii among Japanese-Americans. In both contexts, we will utilize the same factor analytic method as we employed earlier.

Interdependence Among Attitudes in Different Areas of Concern

Are the similarities in patterns of response to questions restricted largely to work-related areas? To examine this question, we supplemented the original seven items with an additional set of four question items. For the wording of these items, the reader is referred back to Table 3; and to Table 4--below the solid horizontal line--for the simple marginal distribution obtained for each question.

Unlike the first seven items for which similar marginal distributions were obtained for Japan and the United States, the marginal distributions for the newly included set differ substantially. In three of these four items, the American respondents indicated a strong preference: by an overwhelming margin, Americans are likely to "go ahead and do something, if you think is right" (#2.1-1), to disagree that "money is the most important thing" (#4.5-3), and to disagree with the notion that "things should be left to the political leaders" (#8.1-2). Indeed, these appear to be "core" outlooks in America. By contrast, we find no similar consensus in Japan with regard to each of these three items.

For the last item among this newly introduced set, however, the pattern is reversed. A great majority of Japanese shows a preference for a supervisor "who demands extra work, but who looks after you in matters not connected with work" (#5.6-2). In this instance, we find no similar consensus in America.

In this expanded list of items, we have both those items which show similar marginal distributions in Japan and the United States, as well as those which exhibit markedly different marginal distributions. Too, this list includes items which bear on work and the social relations around it, along with those which have more general implications. To determine how

these items intercorrelate is our immediate objective.

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Insert Figures 7a and 7b about here

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In Figure 7b we present graphically the results obtained for Japan. We may make three observations about the configurations presented in Figure 7. First, the newly included items toward which the Japanese express no clear consensus--i.e. items #2.1, #4.5, and #8.1--reveal considerable interdependence even in the absence of such a consensus. For example, a person who thinks it is more desirable to "follow custom" (#2.1-3) is likely to agree that "things should be left to political leaders" (#8.1-1). The clustering of dark circles on the right-hand section of Figure 7b--the clustering is highlighted in Fugure 7a--reveals the extent of intercorrelations among these responses. A similar clustering of response categories is visible on the left-hand side, among those which stand opposite in content to the elements of the right-hand cluster. These are represented by (unfilled) circles in Figures 7a and 7b. We find, in other words, that a Japanese who disagree with the notion that "things should be left to political leaders" (#8.1-2) also tends to disagree that "money is most important" (#4.5-3), and to believe "one should go ahead and do something even if it is contrary to custom" (#2.1-1).

Second, these newly delineated clusters overlap those which had been referred to earlier in our discussion as the "old" and "new" types of responses. The overlap--see Figure 7a--suggests that a person who selects one of the "old" type responses, as for example, "leaving everything and returning home" (#5.1-1), is also likely to prefer "leaving things to political leaders". Similarly, a Japanese who gives support

Figure 7a

Clusters of Responses,
Expanded List, Japan, 1978

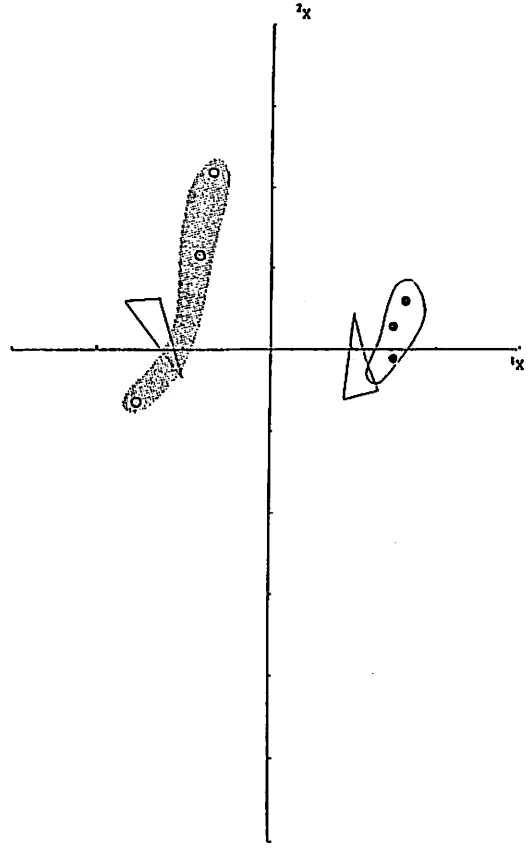
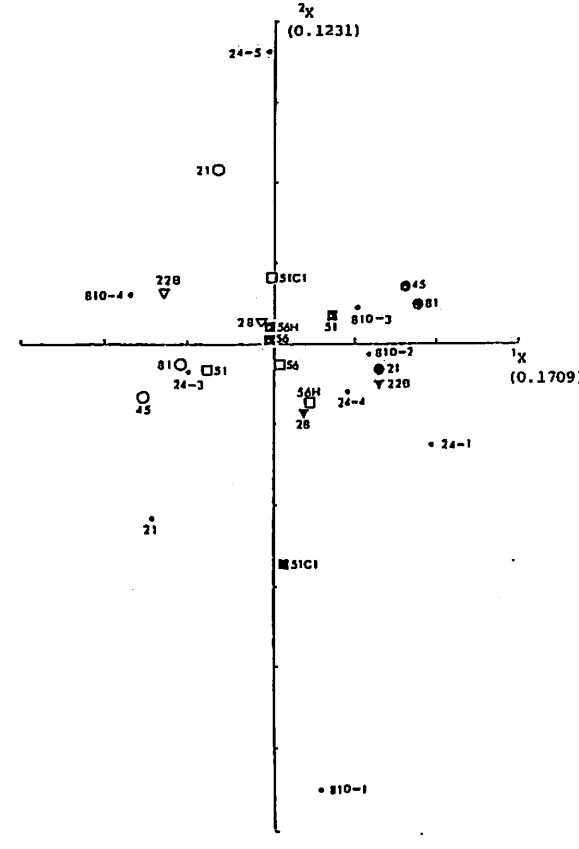


Figure 7b

Configuration of Response Patterns,
Expanded List, Japan, 1978



to one of the "new" type responses, for example, "to live a life that suits your own taste" (#2.4-3), will likely disagree that "money is most important". Overall, the addition of these new items has not altered to any substantial degree the patterns of response we had witnessed earlier.

Finally, Figure 7b reveals a group of elements which do not fall into either of the two clusters depicted in Figure 7a. In the main, these are items which have to do with work, and they are largely located atop the vertical axis. Their locations suggest that these items stand independent of those items which are clustered into two distinct parts along the horizontal axis. In other words, in the absence of any notable constraint, our knowledge of a person's response toward any of the items clustered on the right- or left-hand side does not aid us in predicting his response toward this group of questions. Put another way, items in this third cluster may be selected by any individual, irrespective of his preference in other attitudinal areas.

Specifically, this cluster includes the preference for a supervisor "who looks after you personally" (#5.6-2), an item selected by eighty-seven percent of the Japanese respondents in 1978. Closely located nearby is another popular item, receiving seventy-two percent support, a preference for a person who is "friendly" despite the fact he may not be an efficient worker (#5.6H-1). The proximity of these two items suggest that a person who opts for a demanding supervisor will likely also prefer an inefficient co-worker, because both persons show a concern for personal matters. We find, moreover, that a preference for diffuse social relations is characteristic among those who would "continue to work" even if they had enough money to live comfortably (#2.8-1). Evidently, diffuse social relations characterized by warmth and flexibility are sought after precisely

because work for most Japanese is not a purely instrumental activity.

Having taken note of the importance Japanese place on expressive qualities in the social relations at work, we now point out a fourth element in this cluster. Our results indicate that those who prefer diffuse social relations are also likely to employ "one with the highest grade" (#5.1C-1-1) rather than a relative, even though this relative is likely to perform satisfactorily. We suggest that there is no contradiction in these results, whereby a person who employs the candidate with a highest grade also opts for a person who is inefficient but friendly. In fact, the pattern fits quite well what are known about industrial relations in Japan. Put simply, a great care would be taken in selecting a new member into the group, simply because employment relations in Japan tend to be more stable than their counterparts in the West. Too, because wide-ranging demands are made on the social relations emanating from work, a desirable person would be one who would willingly share the burden which others may thrust upon him. We now move to analyze the results from the United States.

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Insert Figures 8a and 8b about here

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Figure 8a

Clusters of Responses,
Expanded List, United States, 1978

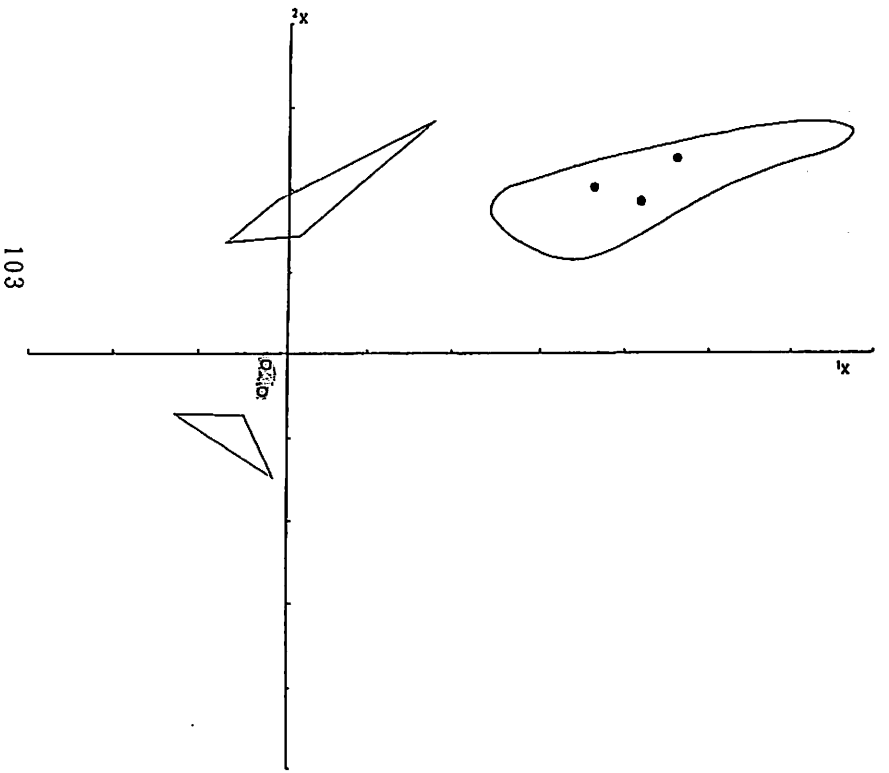
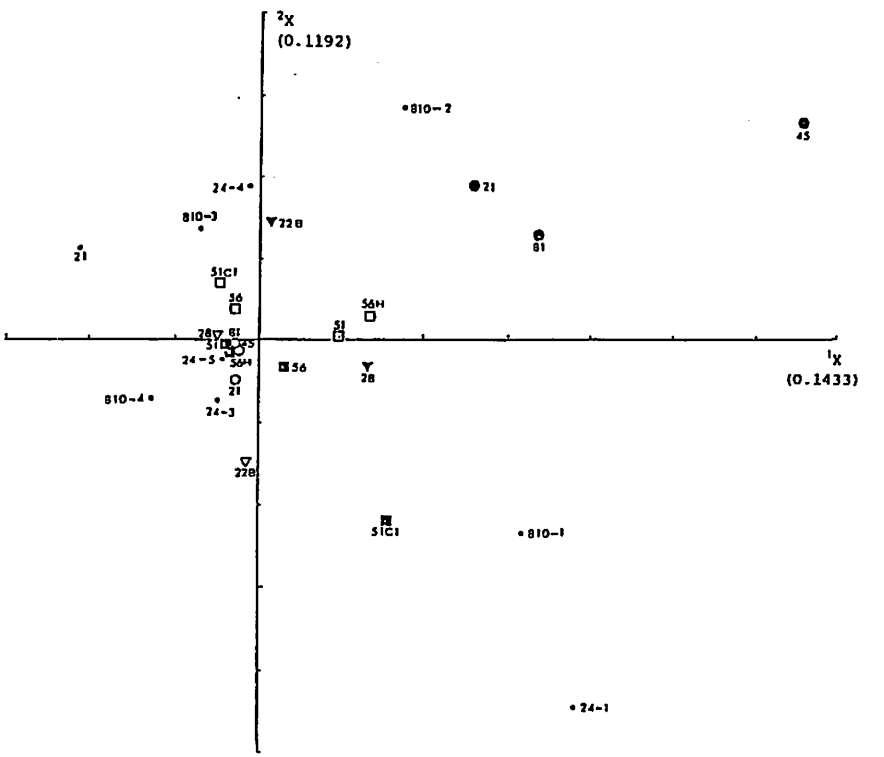


Figure 8b

Configuration of Response Patterns,
Expanded List, United States, 1978



Our results for the United States reveal, in the first place, a dominant cluster on the left-hand side along the horizontal--the most discriminating--axis. Included in this cluster are the items receiving highly popular support in America: nearly nine out of every ten disagreeing with the notion that "things should be left to political leaders" (#8.1-2), ninety-four percent also disagreeing that we should teach children "money is most important" (#4.5-2), and better than three our of four asserting that it is better to do something if one thinks it is a right thing to do, even if it is contrary to usual custom (#2.1-1). These are items which we had earlier found to "hang" together in Japan, and the pattern is found to be similar in this regard for the United States.

However, interestingly, we find located alongside these three popular items a group of elements which, for Japan, was found in other clusters. Specifically, this dominant cluster includes three work-related items: "continuing to work" even if there were enough money to live comfortably (#2.8-1), preferring a person who is friendly but inefficient as a worker (#5.6H-2), and going back to see the benefactor who is seriously ill (#5.1-1). We found earlier that the first two of these items belonged in Japan to an independent cluster comprised of work-related elements; the pattern of response delineated for the United States fails to disclose a separate cluster of work-related elements. Too, the last of these three belong in Japan to the cluster we had labeled "old" type attitudes, and preference for them is typically expected among those who place high priority on fulfilling giri-on social obligations. For the United States, then, the distinction we had made for Japan between "new" and "old" systems of beliefs does not apply. This point will be elaborated shortly.

A second observation we may make about the results for the United States is the absence of a coherent, competing system of attitudes. Those

items whose content stand in opposition to the items included in the dominant cluster do not form closely interdependent clusters. For example, the darkened circles located in the upper-left quadrant in Figure 8b represent outlooks which find very little support in America. As the contour of the cluster they form indicates--highlighted in Figure 8a--the extent of the constraint among them is rather minimal. Specifically, the likelihood is small a person who agrees that we should teach children "money is most important" (#4.5-1) would also agree that we should "leave things to political leaders" (#8.1-1). In other words, there is no distinct system of "minority" opinions in America, standing in competition to the dominant system of ideas. Instead, what we find here is a configuration in which a system of "core" outlooks is being surrounded by peripheral views.

In the third place, some of the similarities we had noted earlier in the configurations obtained for these two societies are still preserved even with the addition of new items. For example, we observe both in Japan and the United States two clusters. First consists of three elements: a preference for a person who values interpersonal harmony (#2.2B-2), living each day as it comes (#2.4-4), and working with people you like (#8.10-3). A second cluster, having a contrasting content to the first, consists of: a preference for a person who stresses rational decision (#2.2B-1), living a life that suits your own taste (#2.4-3), and doing a job that gives you a sense of accomplishment (#8.10-4). In a broad sense, then, our results suggest an essential similarity between Japan and the United States in the systems of outlooks toward styles of life. Too, in both societies, it is the better educated who show a greater preference for the second cluster than for the first.

Finally, we note that the nature of constraints among work-related items found for the American data differs somewhat from what we had observed for Japan. For example, those who would employ the candidate with the highest grade (#5.1C-1-1) would likely prefer a supervisor who "never does anything personally" but who also does not demand unreasonable work (#5.6-1). It may be recalled that a different pattern obtained for Japan. Too, we do not find in the United States the close interdependence we found in Japan between a preference for a demanding supervisor and a friendly but inefficient worker.

To summarize, the systems of attitudes in Japan and the United States reveal similarities over a wide spectrum of issues and concerns. Our results indicate that interdependence is visible among similar, if not identical, items in these two societies. Considering that our analysis at this stage included items which received rather different patterns of support in Japan and the United States, the similitude is remarkable.

However, at the same time, our results also reveal some fundamental differences. Perhaps most visibly, a difference appears in the configurations obtained for these two societies. Even with the addition of new items, the pattern for Japan continues to evidence two competing systems of outlooks. In comparison, the results obtained for the United States display a dominant system containing "core" outlooks, but they do not disclose a presence of a competing system of beliefs. Those items which fall outside this cluster are very loosely constrained, and do not provide a viable basis for a system of "minority" beliefs.

The configuration depicted for Japan suggests a third cluster of elements, standing independently of the "old" and "new" systems of outlooks. This cluster consists of several items which are work-related: items

#2.8, #5.1C-1, #5.6 and #5.6H. Evidently these two competing systems exert no significant constraint on those areas of concern which bear directly on work. Put another way, in the individual's attitudes toward work in Japan there is no specifically "new" (or "old") outlooks.

For the United States, our analysis fails to disclose an independent cluster consisting solely of these work-related items. Instead, we find in America such responses as "friendly but inefficient co-worker" (#5.6H-2) falling in the "core" cluster. To the extent that this "core" consists of such items as "returning home to see the benefactor" (#5.1-1), an item which falls into the "old" system of outlooks in Japan, our results provide very little support to the expectation that the systems of beliefs in Japan will increasingly "converge" with those found in the West.

Japan Yesterday and Today

A comparison of data gathered during 1978 discloses similarities as well as differences in the systems of beliefs in Japan and the United States. Based on our results, we might conclude that at this juncture in history, the systems of beliefs in these highly industrialized and prosperous societies have not "converged" in any real sense. However, to the extent that the data are cross-sectional with respect to time, we are able to say very little in the way of the process which may give rise to an eventual convergence in some aspects of belief systems in industrial society. In order to hazard more than a random guessing, one needs to draw on evidence gathered over time (cf. Cole, 1979:chap. 1).

The problem entailed here may be illustrated with an analogy. Suppose we have two aircrafts located some distance from each other. With an observation made only at one point in time, the most we are able to say about each aircraft is its altitude; the most we can say about the relationship between these two aircrafts is the distance separating them. With merely one observation, we are unable to predict whether the two

aircrafts are going to collide mid-air at a future point in time, or to move toward a common compass direction, always keeping the same distance from each other, or to move away from each other. In short, in order to gauge both the direction and the speed of the movement each craft is making, at least two observations are needed.

To assess the nature of change in the systems of beliefs in Japan, our analysis will draw on the data gathered at two points in time, separated by a twenty-five-year span. From the nation-wide survey data collected in 1953 and 1978, we have selected a set of eight question items.

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Insert Table 7 about here

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Table 7 enumerates each of the items used in this analysis. Six of the eight items already appeared in our discussion at earlier points: choosing between following one's beliefs or custom (#2.1); whether or not one should teach children money is most important (#4.5); whether things should be left to political leaders (#8.1); life goals (#2.4); obligations to the benefactor (#5.1); and the type of supervisor preferred (#5.6). The two additional items in this set consist of a question about a teacher's wrongdoing and whether or not the parents should lie to maintain an appropriate facade (#4.4); and one about man and his relationship with nature (#2.5). In Table 8, we present the marginal distributions for each of the items obtained at five observation points spanning twenty-five years.

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Insert Table 8 about here

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Table 7

Question Items

2.1 If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?

1. Go ahead even if contrary
2. Depends
3. Follow custom

4.4 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?

1. Deny it
2. Tell the truth

4.5 In raising children of elementary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?

1. Agree
2. Undecided
3. Disagree

8.1 Some people say that if we get outstanding political leaders, the best way to improve the country is for the people to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?

1. Agree
2. Disagree

2.4 There are all sorts of attitudes toward life. Which one of the following statements would you say comes closest to your way of life?

1. Work hard and get rich
2. Study earnestly and make a name for yourself
3. Don't think about money or fame; just live a life that suits your own taste
4. Live each day as it comes, cheerfully and without worrying
5. Resist all evils in the world and live a pure and just life
6. Never think of yourself, give everything in service of society

2.5 Here are three opinions about man and nature. Which one of these do you think is closest to the truth?

1. In order to be happy, man must follow nature
2. In order to be happy, man must make use of nature
3. In order to be happy, man must conquer nature

5.1 Imagine this situation. Mr. A was orphaned at an early age and was brought up by Mr. B, a kind neighbor. Mr. B gave him a good education, sent him to a university, and now Mr. A has become the president of a company. One day he gets a telegram saying that Mr. B who brought him up, is seriously ill and asking if he would come at once. This telegram arrives as he is leaving to attend an important meeting which will decide whether his firm is to go bankrupt or to survive. Which of the following things do you think he should do?

1. Leave everything and go back home
2. However worried he might be about Mr.B, he should go to the meeting

5.6 Suppose you are working in a firm. Which of the following department chiefs would you prefer to work under?

1. A: A man who always sticks to the work rules and never demands any unreasonable work, but who, on the other hand, never does anything for you personally in matters not connected with the work

2. B: A man who sometimes demands extra work in spite of rules against it, but who, on the other hand, looks after you personally in matters not connected with the work

Table 8

Marginal Distributions,
National Character Surveys, Japan,
1953 - 1978

#	Question Items	Response Categories	'53	'63	'68	'73	'78
2.1	Custom vs. conscience	1. Go ahead	41	40	42	36	30
		2. Depends	19	25	20	29	24
		3. Follow	36	32	34	32	42
4.4	Rumor about teacher	1. Deny it (●)*	38	32	29	31	27
		2. Tell the truth (○)	42	50	52	54	57
4.5	Teaching children money is the most important thing	1. Agree	65	60	57	44	45
		2. Undecided	9	15	12	17	13
		3. Disagree	24	24	28	38	40
8.1	Leave things to political leaders	1. Agree	52	41	40	38	32
		2. Disagree	38	47	51	51	58
2.4	Way of life	1. Get rich	15	17	17	14	14
		2. Become famous	6	4	3	3	2
		3. Suit own taste	21	30	32	39	39
		4. Cheerfully, without worry	11	19	20	23	22
		5. Live pure and just life	29	18	17	11	11
		6. Serve society	10	6	6	5	7
2.5	Man and Nature	1. Adapt to nature (▲)	27	19	19	31	33
		2. Utilize nature (×)	41	40	40	45	44
		3. Conquer nature (△)	23	30	34	17	16
5.1	Benefactor vs. business	1. Go back home	54	46	46	51	51
		2. Go to the meeting	41	46	47	40	42
5.6	Type of supervisor preferred	1. Never does anything personally	12	13	12	13	10
		2. Looks after you personally	85	82	84	81	87
	Abbreviation :		K1	K3	K4	K5	K6

* Classification of response categories

As is evident in Table 8, the shifts recorded in the postwar era do not convey a singular trend. For example, some items show a movement toward "individuation" (cf. Dore, 1967; Ike, 1973): a steady increase in the proportion disagreeing that things should be left to political leaders (#8.1-2), as well as in the number selecting "living a life that suits one's taste" (#2.4-3). However, the response obtained for item #2.1 during this period cautions us against making a facile interpretation of what appears to be a complex process: rather than showing an increase in the level of support for "going ahead with one's belief", as we would expect when "individuation" is on the rise, the proportion actually declined. Two other items, #4.4 and #4.5, reveal a stable trend in the ordering of priorities: an increasing proportion prefers to tell the truth rather than to lie and maintain a facade of decorum, and chooses not to tell children that money is most important.

In contrast to those items showing a clear shift in popularity, others manifest very little change in the levels of support they obtain. Such is the case for items #5.1 and #5.6.

In the following analysis, we will take the data from two observation points, 1953 and 1978, and delineate the relationships among response categories. As before, we will apply the same factor analytic method to our data.

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Insert Figures 9a and 9b about here

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Figure 9b depicts the patterns of response we obtain from our 1953 data. Briefly, the 1953 configuration consists of three discernible clusters. In the first place, the horizontal axis--defined by the first

Figure 9a

Clusters of Responses,
Japan, 1953

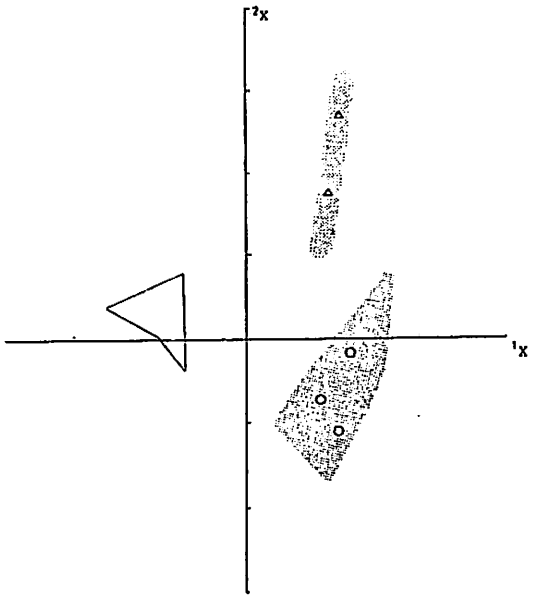
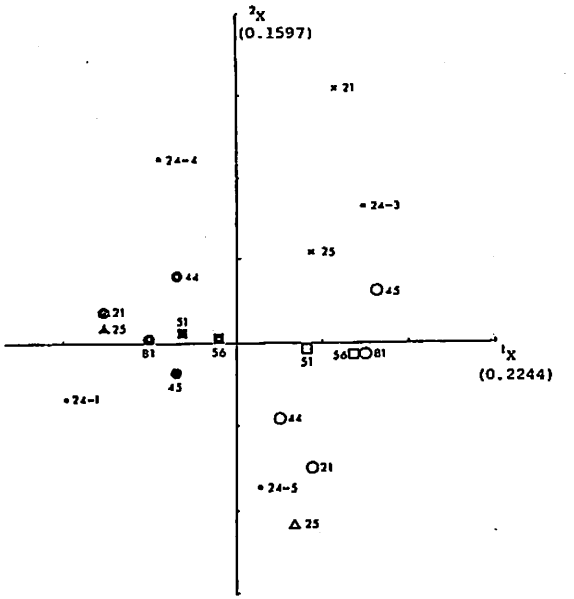


Figure 9b

Configuration of Response Patterns,
Japan, 1953



loading in our factor analytic method--discriminates the clusters into two groups. As visible in the darkened points of reference in Figure 9b, the elements on the left comprises a closely constrained cluster. Included in this cluster are those items which we had labeled "old" type outlooks: following custom (#2.1-3); leaving things to political leaders (#8.1-1); going back home to see the benefactor (#5.1-1), etc. Of the two newly introduced items, denying the truthfulness of the rumor about teacher (#4.4-1) and adapting to nature (#2.5-1) fall into this cluster. Overall, a passive posture characterize these elements.

In contrast to the elements on the left-hand side, those on the right-hand side are much more widely scattered. Still, the vertical axis--the second loading--discriminates these items into two clusters. Figure 9a depicts the locations of these clusters. The cluster in the lower-right quadrant, and straddling the horizontal axis, consists of those items referred to earlier as "new" type views: disagreeing that things should be left to political leaders (#8.1-2); disagreeing that money is most important (#4.5-3); going ahead with what one believes in (#2.1-1), etc. With regard to the new questions, telling the child the rumor about his teacher is true (#4.4-2) and conquering nature (#2.5-3) fall into this cluster.

Unlike the active posture implicit in the "new" type response categories, more tentative, situational outlooks characterize the cluster in the upper-right quadrant. Specifically, this cluster consists of the response, "it depends", to the question whether or not one should follow custom (#2.1-2), and "utilize nature" to the question about man and nature (#2.5-2). "Living a life that suits one's taste" (#2.4-3), among possible ways of life, fall close to this cluster.

We find, then, the horizontal axis separating "old" type responses from the rest. On the other hand, among the non-"old" responses, the vertical axis sets apart the "new" type views from the more tentative, "intermediate", views. As the tightness of the cluster suggests, "old" attitudes in 1953 comprise a fairly coherent system of outlooks. By contrast, the elements found on the right-hand side of Figure 9b show a much weaker degree of interdependence.

What changes did the systems of beliefs in Japan undergo during the next quarter century? In Figures 10a and 10b, we present the results obtained for 1978.

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Insert Figures 10a and 10b about here

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By 1978, several changes are evident. First, the horizontal axis does not separate the opinion clusters as clearly as it did in 1953. A comparison with the configuration obtained for 1953 reveals that in these twenty-five years the constellation of clusters has shifted clockwise. As elaborated in the Appendix section of this report, a rotation implies a shift in the constraint among idea elements. Specifically, it suggests that the systems of beliefs are no longer as self-contained as before and, as a consequence, there is an increased likelihood that an individual selecting an element in one cluster would choose a response category found in another cluster. In other words, by 1978, we are not as certain as before that a person who selects an "old" type response for one question item would also select an "old" type category for another item.

Second, the loosening of constraint which this rotation implies is also evident in the space occupied by each cluster. On the whole, each

Figure 10a

Clusters of Responses,
Japan, 1978

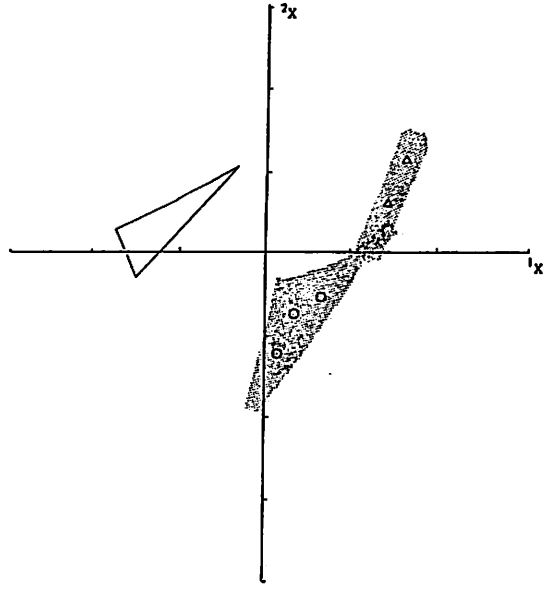
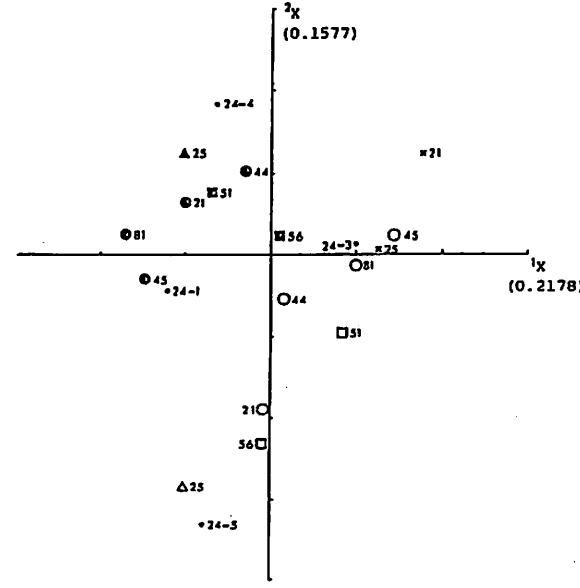


Figure 10b

Configuration of Response Patterns,
Japan, 1978



of the clusters is less tightly organized and, in the case of non-"old" type clusters, less independent than was the case previously (see Figure 10a).

Much of these changes--the rotation of the constellations overall, and the loosening of constraints within each cluster--may be attributed to the uneven mark that the intervening twenty-five years left on the systems of beliefs. Specifically, a comparison of the results for 1953 and 1978--Figures 9b and 10b--reveals a relative stability in the location of some items, such as #4.5 and #8.1. It is other items in each cluster which have shifted their locations. For example, in 1953, a preference for a supervisor who never does anything personally (#5.6-1) was found alongside the belief things should not be left to political leaders (#8.1-2). Too, the opinion that one should attend the meeting instead of going off to see the benefactor (#5.1-2) was also located nearby. In sharp contrast to the stability evinced by #8.1-2, we find by 1978 that the other two elements--#5.1-2 and #5.6-1--have made substantial movements in their location.

In conjunction with the trends over the twenty-five-year period we witnessed in Table 8, our results here provide a direct evidence in support of what is one of our central theses: we cannot make any inference about changes in the systems of beliefs merely on the basis of shifts in the popularity of idea elements. Our results disclose that stability was observed in the location of those elements whose popularity saw sharp movements; in contrast, those whose locations in the cluster witnessed large shifts were elements which recorded very little fluctuation in popularity over the years. Furthermore, these results also suggest that a change in the popularity of an element does not preclude a substantial movement of this ele-

ment. For example, a clockwise movement accompanied the rapid increase in the popularity of "living a life that suits one's taste" (#2.4-3).

We undertook the preceding analysis in order to determine whether or not the similarities (as well as the differences) in the configurations delineated for Japan and the United States were of a recent origin. Based on our analysis of time-series data, our conclusions are rather equivocal. On the one hand, significant changes are evident in a comparison of data from 1953 and 1978. By 1978, the systems of beliefs are not as self-contained as earlier, and the patterns of response are less easily placed into the categories of "old" and "new" lines of logic. Clearly, time has left its mark.

By the same token, on the other hand, our results for 1978 continue to disclose two constellations of views, in the manner not too different from the pattern we delineated for 1953. In other words, even amidst change, we continue to find a certain "Japanese" quality in the systems of beliefs.

Two conclusions may be drawn. First, the processes of social change did not bring about a disappearance of a "traditional" outlook, to be replaced by a "modern" outlook. Despite all the changes in the postwar era, the systems of views in Japan have continued to provide culturally legitimate and meaningful outlets for different ideas.

Second, large-scale institutional changes may occur without drastic shifts in the systems of attitudes. In fact, in view of the Japanese experience, we are inclined to argue that it is precisely the relative stability in the systems of beliefs which allows institutional changes to take place, for example in the areas of economy and polity, without major social dislocations. Moreover, we suggest that the systems of beliefs in Japan owe their relative stability to the stability in the structure both of

family relations and of "supplementary", informal, social relations elsewhere.

What conclusions might we draw about the direction of change we can anticipate in the systems of beliefs? Based on our results, we are inclined to argue that a "convergence" in systems of beliefs in industrial societies will be, at the most, partial. While we can most assuredly expect changes in the systems of beliefs, the nature of these changes will differ across societies. This variation is expected, in part because the array of cultural vocabulary available in each society is always limited; and because, as we noted, the structural bases of supplementary relations in each complex society remain stable. Hence, we are likely to witness a greater convergence in the systems of beliefs among those societies sharing common cultural histories. By the same token, convergence is expected to be minimal among societies which do not share a broad range of common cultural experiences. For example, we are likely to find, now and in the future, greater similarities in the systems of beliefs in Great Britain and the United States than in Japan and the United States.

Our analysis detected important changes in the systems of beliefs in Japan during the twenty-five-year span between 1953 and 1978. One way of characterizing these changes is to view them in terms of a weakening constraint among elements in a cluster: some elements, largely work-related, broke away from what had been tightly-clustered groups of views. We stress, however, that these shifts do not necessarily presage a convergence toward the pattern we observed for the United States. Rather, the shifts we can expect in Japan and, indeed, in any society will likely be "dialectical", a process which reflects the constraints of limited cultural vocabulary and socio-historical experiences. Expressed in terms of our analogy, we

are likely to find the aircrafts--representing, for example, Japan and the United States--becoming somewhat closer in altitude or in the direction of their movement. However, a large gap will likely separate the two for the foreseeable future.

We have stressed that stability characterize the systems of beliefs in complex society. In the face of large-scale social change, these systems retain considerable stability because elements of social structure nurturing such systems remain stable, and also because individuals rarely find themselves faced with alternative systems of logic. In the following section, we assess the consequences of precisely such a situation.

Systems of Beliefs and Social Milieus

To this point in our discussion, we have linked the systems of beliefs in industrial society to both the cultural-historical experiences of that society as well as its characteristic structural features. To assess further this line of logic, we will now examine data gathered among Japanese-Americans in Hawaii, using the same battery of questions.

Specifically, the first phase of our analysis examines the patterns of response obtained from two groups of Japanese-Americans in Hawaii: the nisei--those who are born in the United States but whose parents were immigrants from Japan--and the sansei--the third-generation Japanese-Americans whose grandparents were immigrants. Inasmuch as their parents were from Japan, nisei as a group have a greater affinity with Japanese culture than their offspring, sansei. For example, they are likely to have a better command of Japanese than sansei. Still, because they were born and educated in the United States, and operate in a distinctly non-Japanese social milieu, we would expect the systems of beliefs among nisei to differ

substantially from those depicted in Japan. Moreover, this variation from the patterns found in Japan is expected to be even greater for sansei. An inspection of the responses recorded by these two groups in 1971 and 1978 suggest that, as expected, the marginal distributions of responses from nisei are more similar to the marginals obtained in Japan than for sansei.

****

Insert Table 9 about here

****

Item by item, the results presented in Table 9 reveal that nisei responses tend to be more similar to the Japanese responses. By contrast, sansei respond in a manner more similar to the pattern of response obtained in the mainland United States.

As we have noted repeatedly, however, similarities (or differences) in marginal distributions do not perforce imply similarities (or differences) in the systems of views characterizing each population. While we may expect sansei in Hawaii to be have assimilated to a greater degree than their parents the major elements of the dominant American culture, the extent of this assimilation remains an empirical question. Using these same data, we will delineate the systems of beliefs among nisei, sansei, and a national sample of mainland Americans.

****

Insert Figures 11a to 13b about here

****

The configurations our factor analytic method yields are presented in Figures 11a through 13b. As depicted in Figures 11a and 11b, the patterns of response for nisei show a substantial similarity with the results for Japan in 1978, earlier presented in Figures 10a and 10b. Despite having

Table 9

Marginal Distributions, Hawaii and Mainland United States

#	Question Items	Response Categories	Hawaii, Honolulu Survey (Japanese-Americans) 1971 Total	1971 Ni-sei	1971 San-sei	1978 Total	1978 Ni-sei	1978 San-sei	(Non J-A.) Total	Born in Hawaii	Born in Main-land	Survey in the U.S. '78
2.1	Custom vs. conscience	1. Go ahead	55	55	55	58	52	68	66	60	75	76
		2. Depends	28	26	33	13	13	13	13	14	12	5
		3. Follow	14	17	8	25	32	16	19	23	11	15
4.4	Rumor about teacher	1. Deny it (●)*	8	10	5	8	12	2	6	6	4	7
		2. Tell the truth (○)	76	72	84	72	68	78	74	76	74	85
4.5	Teaching children money is the most important thing	1. Agree	9	12	4	7	8	3	6	6	2	5
		2. Undecided	2	2	2	1	1	0	1	1	1	1
		3. Disagree	88	85	93	91	90	94	92	92	96	94
8.1	Leave things to political leaders	1. Agree	23	27	15	16	19	11	11	10	9	8
		2. Disagree	70	65	79	81	79	86	83	86	85	89
2.4	Way of life	1. Get rich	18	18	18							7
		2. Become famous	4	5	3							6
		3. Suit own taste	39	34	48							36
		4. Cheerfully, without worry	23	27	18							36
		5. Live pure and just life	7	7	7							10
		6. Serve society	2	3	0							2
2.5	Man and Nature	1. Adapt to nature (▲)	21	18	26	28	27	28	31	35	29	25
		2. Utilize nature (×)	69	70	66	62	61	64	57	55	58	65
		3. Conquer nature (△)	6	7	4	4	6	2	5	5	4	5
5.1	Benefactor vs. business	1. Go back home	50	49	53	67	68	67	58	64	53	64
		2. Go to the meeting	36	38	32	27	26	28	34	30	36	29
5.6	Type of supervisor preferred	1. Never does anything personally	39	36	43	35	34	36	40	37	46	47
		2. Looks after you personally	58	60	54	63	63	62	57	60	53	50
	Abbreviation :		OJ	O2	O3	JA	H2	H3	NJ	HH	HM	US

* Classification of response categories

Figure 11a

Clusters of Responses,
Nisei in Hawaii, 1971

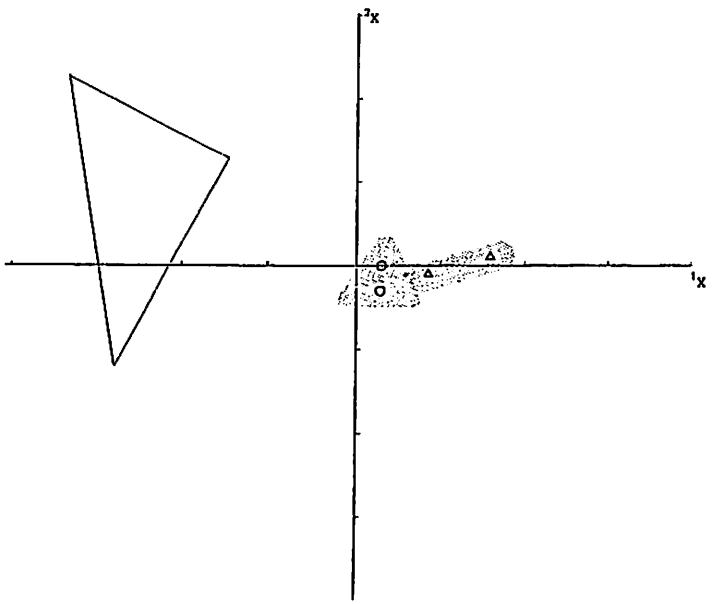


Figure 11b

Configuration of Response Patterns,
Nisei in Hawaii, 1971

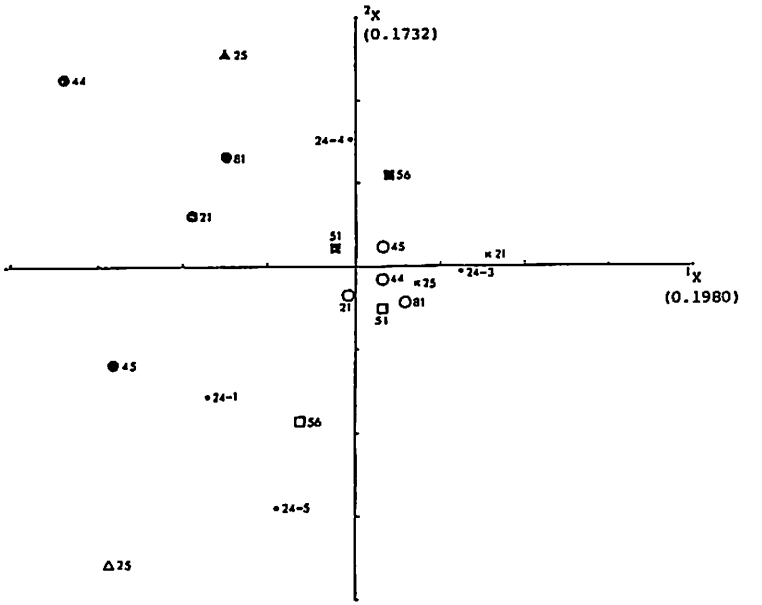


Figure 12a

Clusters of Responses,
Sansei in Hawaii, 1971

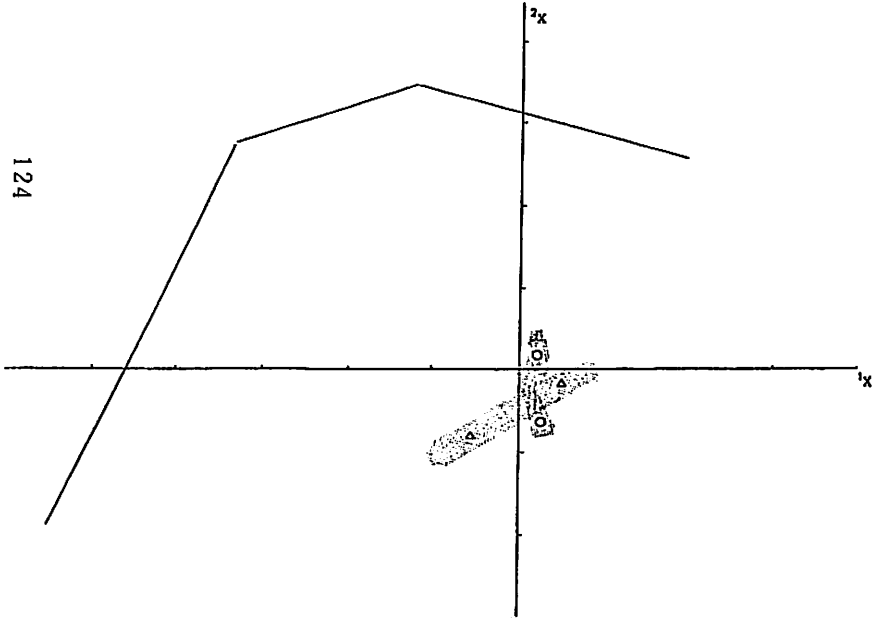


Figure 12b

Configuration of Response Patterns,
Sansei in Hawaii, 1971

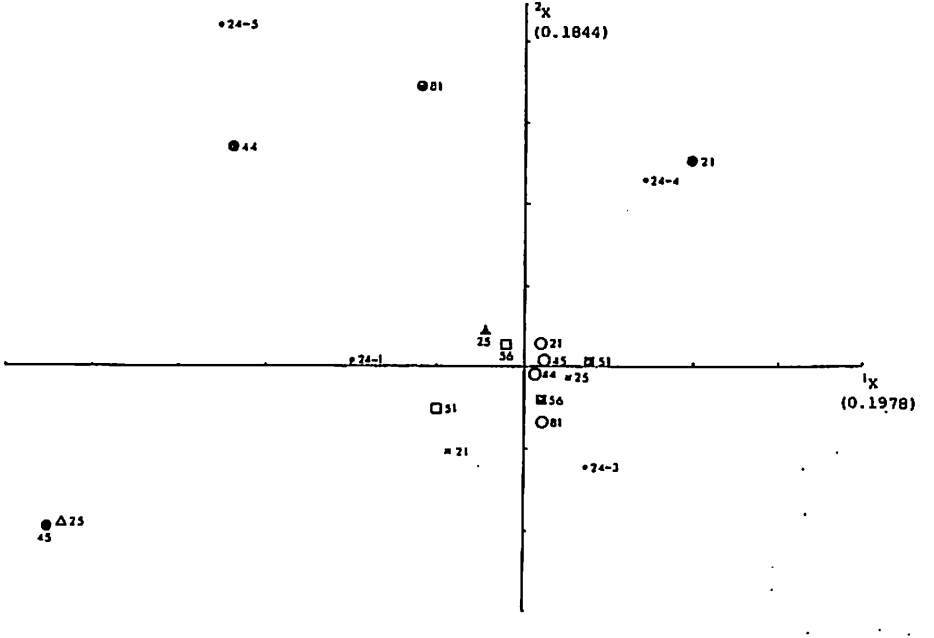


Figure 13a

Clusters of Responses,
Mainland United States, 1978

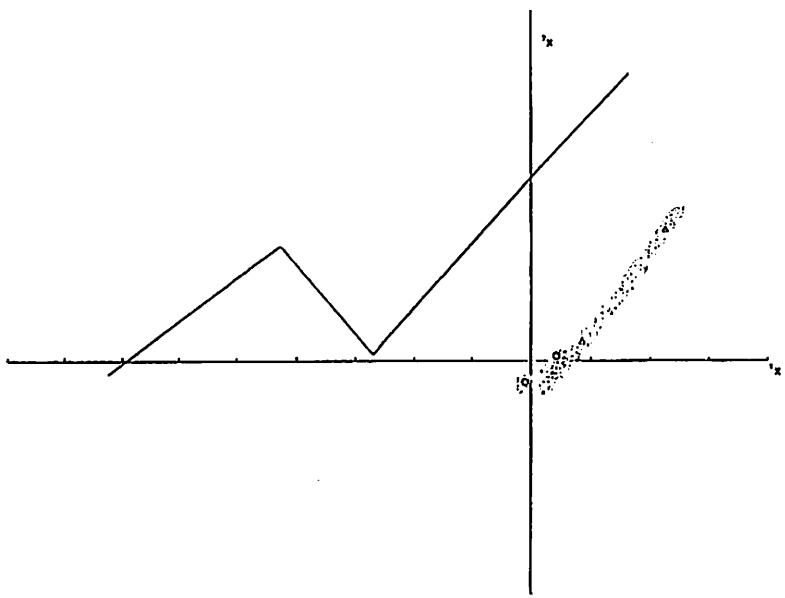
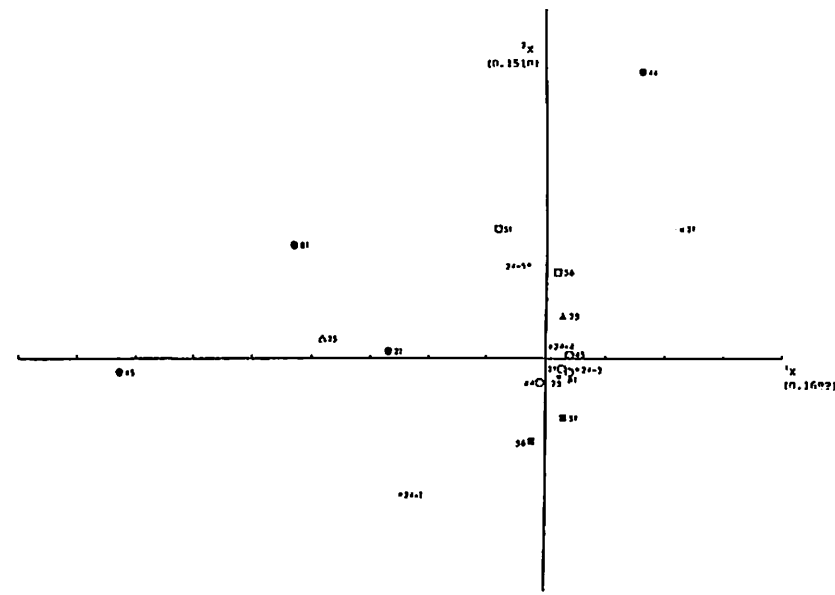


Figure 13b
Configuration of Response Patterns,
Mainland United States, 1978



been born and raised away from Japan, nisei evidence a strong cultural link to Japan. By contrast, sansei show appreciably weaker ties to Japan. In fact, a comparison of configurations for sansei and the United States --Figures 12b and 13b--suggests that these third-generation Japanese-Americans find a considerable affinity with the dominant, American systems of beliefs; the effects of their cultural links with Japan appear to be overwhelmed by the consequences of their exposure to the dominant culture. This trend toward acculturation is already visible in the patterns of response among nisei: the "old" type attitudes are scattered, and the "new" type attitudes are clustered into a tight core, mimicking the pattern we would find among sansei, and more particularly in the mainland United States.

Thus, our results disclose a pattern that is not altogether surprising: divorced from their original cultural "roots", and exposed to a different cultural milieu, the immigrant group will show over time a dramatic shift in their systems of beliefs. We may expect that the more distant Japan becomes culturally for the group, the more dissimilar will be their systems of attitudes from those disclosed in Japan. Specifically, how distant are the systems of beliefs among sansei from those found in Japan in 1953? Does the distance get any closer when we compare sansei's systems of beliefs with those of Japanese in 1978?

To address these questions, we constructed an index of dissimilarity, and applied them to our data. This index enables us to assess quantitatively the extent of similarity (or dissimilarity) found between two sets of responses. As is usually the case employing such an index, the smaller the value of index, the more similar the patterns of response. We present the results of our calculations in Table 10.

****

Insert Table 10 about here

****

The results presented in Table 10 are in a summary form. Specifically, we divided the entire range of index into four parts, assigning to each category the scores of one to four in ascending order. As the guide on the upper-right hand side of the table specifies, the score of one is given to all values (of dissimilarity) less than 1.15, the score of two is assigned to any comparison for which we calculate a value less than 1.40 but greater than 1.14, and so on. In other words, the more similar the patterns of response between any data sets, the lower the score.

In examining the left-most column of Table 10, we find that the patterns of response obtained for 1953 (K1) were not too different from those obtained for 1963 (K3), 1968 (K4), or 1973 (K5). [Table 9 provides the necessary keys for the symbols denoting different data sets.] A larger degree of dissimilarity becomes evident when we come to 1978 (K6). Yet, this difference between 1953 and 1978 is minor when we compare the patterns for 1953 with any one of the data sets obtained in Hawaii or the mainland United States. Although the patterns of response disclosed by nisei (O2 and H2) are more similar to the 1953 pattern than those recorded by sansei (O3 and H3), there exists a substantial gap between Hawaii and Japan.

By the 1978 (K6) survey, the patterns of response in Japan became more similar to those recorded in Hawaii. As the K6 column--fifth from the left--indicates, the patterns of response in Japan in 1978 are more similar than earlier to the patterns we have delineated for Japanese-Americans in Hawaii (OJ and JA). In particular, these 1978 results in Japan

Table 10

Index of Dissimilarity Across Surveys,
in Summary Scores

1	K1	0													
2	K3	1	0												
3	K4	1	1	0											
4	K5	1	1	1	0										
5	K6	2	1	1	1	0									
6	OJ	4	2	3	2	1	0								
7	O2	3	1	3	1	1	1	0							
8	O3	4	3	3	3	3	1	2	0						
9	JA	3	2	3	2	2	1	1	2	0					
10	H2	3	2	3	2	2	2	1	3	1	0				
11	H3	4	3	3	3	4	3	3	3	1	2	0			
12	NJ	4	4	3	3	4	3	3	2	3	2	3	0		
13	HH	3	2	2	2	3	2	2	2	3	3	2	1	0	
14	HM	4	4	3	3	4	3	4	2	3	3	3	1	2	0
15	US	4	3	4	3	4	3	3	4	2	2	2	2	1	4	0
		K1	K3	K4	K5	K6	OJ	O2	O3	JA	H2	H3	NJ	HH	HM	US

1: $d \leq 1.14$

2: $1.15 \leq d \leq 1.39$

3: $1.40 \leq d \leq 1.64$

4: $1.65 \leq d$

(d: dissimilarity)

find considerable similarities with the responses by nisei (O2 and H2). To a significant degree, then, the process of social change giving rise to a shift in the systems of beliefs in Japan yielded a consequence similar to the outcome the experiences of acculturation among nisei produced in Hawaii.

Lastly, our results indicate a very large gap still separating Japan and the United States. Despite the fact the systems of beliefs in Japan underwent a rather significant shift during the twenty-five-year span, a comparison in the patterns of response between the United States (US) and Japan in 1978 reveals a score of four. Too, that the process of acculturation is still to be completed among Japanese-Americans is also suggested by the gap each of these groups finds between its views and those of mainland Americans.

The distance separating these patterns of response is graphically presented in Figure 14. The figure is constructed out of the matrix of scores presented in Table 10. In brief, those patterns of response similar to each other find themselves located near to each other in this two-dimensional space. Conversely, the patterns of response which are dissimilar will be located farther apart from each other.

****

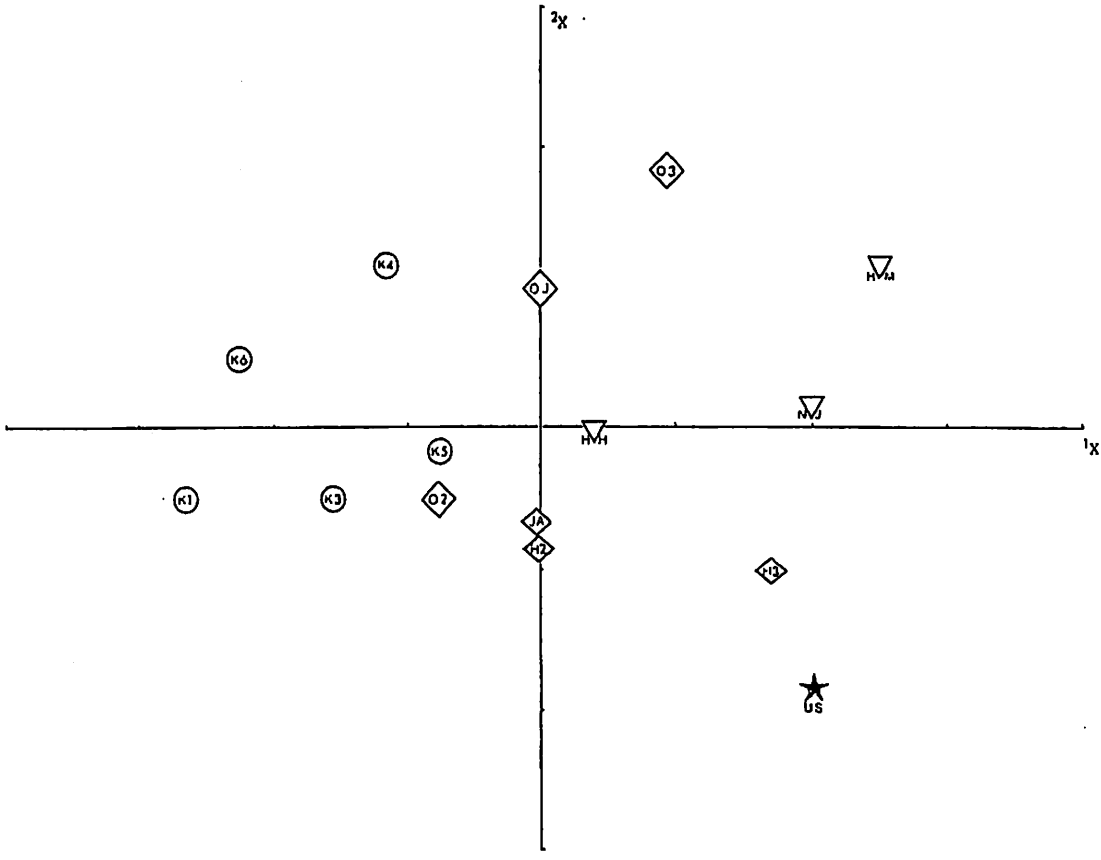
Insert Figure 14 about here

****

Figure 14 depicts in an Euclidean plane the nature of shifts the systems of beliefs underwent in Japan. Put simply, the changes in Japan have not been toward one direction. Up to 1973 (K5), the general trend was for the patterns of beliefs in Japan to become increasingly more similar to those found in Hawaii and, to a lesser extent, to those in the mainland

Figure 14

Similarities in Response Patterns Among Surveys,
Japan, Hawaii, and Mainland United States



United States. However, by 1978 (K6), the trend was reversed. The movements of these reference points provide an additional evidence that we cannot expect an immediate convergence of Japanese systems of beliefs with those found in America.

In a summary fashion, Figure 14 graphically underscores the gap separating the systems of beliefs delineated in Japan--found on the left-hand side-from those in the mainland United States--located in the lower-right quadrant. The responses from Japanese-Americans fall somewhere between these two. In this regard, East is not West, and there is no compelling evidence to suggest that the twain shall meet in a near future. The Kiplingian verse appears to summarize an important part of our results.

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Mathematical appendix

Quantification on Response Pattern

Factor analytic method for qualitative data (Principal components analysis in the qualitative case). The original paper by Hayashi is found in the Proc. Inst. Statist. Math., Vol. 4, No. 2, 1956, pp. 19-30, under the title *Theory and Example of Quantification (II)*. This is closely related to Guttman's 'Scale analysis (A. Stouffer ed., *Measurement and prediction*, Princeton University Press, 1952)' and quite the same as Benzécri's 'analyses des données (J.P. Benzécri *et al.*, *L'Analyse Des Données I, La Taxonomie II, L'Analyse des Correspondances*, Dunod, 1973)'.

Fundamental Theory This is one method of classification of individuals based on the similarity of responses to questions having several categories. This method is especially important here as no other method exists for classification. The response pattern of individuals is shown in Table app. 1. We assume that individuals are interviewed with L questions and give some responses to each question. In order that individuals with similar response patterns may be listed in a certain order in the chart, so that they are located in roughly the same area of the chart as well as categories having similar characteristics, we want to classify individuals and categories simultaneously. From this, we can find the configuration of both the individuals and response categories in multidimensional Euclidean space, in order to be able to make inference from them. Inferences can be made easily, if we have these configurations in one-dimensional space.

This means that we can summarize the information on similarity among the individuals and among response categories on one axis. If the configurations cannot be summarized on one axis, we shall have to interpret configurations in multi-dimensional space. So, first, we will start our interpretation in one-dimensional space and then continue to

Table app. 1

Response Pattern on Question Items

		A	1				2					L	
		B	1	2	⋯	K_1	K_1+1	⋯		⋯		⋯	R
		C	C_{11}	C_{12}	⋯	C_{1K_1}	C_{21}	⋯	C_{2K_2}	⋯	C_{L1}	⋯	C_{LK_L}
D	E	F											
l_1	s_1	1	✓					✓					✓
l_2	s_2	2	✓				✓						✓
l_3	s_3	3		✓					✓		✓		
⋮	⋮	⋮											
l_Q	s_Q	Q	✓						✓				✓

note) 1. '✓' sign shows the response category of an individual.
2. The categories contain neither D.K. nor 'other' responses. Those who select (D.K. or 'other' mentioned above) show no sign. Thus the number l's of responses in the question items of types are generally different.

A: item (question) B: consecutive number
C: response category D: total of signs
E: frequency F: response type (individuals)

multi-dimensional space.

We define $\delta_i(j)$ as

$$\delta_i(j)=\begin{cases}1, & \text{if the } i\text{-th individual (or type) selects the } j\text{-th response category}\\ 0, & \text{otherwise}\end{cases}$$

where $i=1, 2, \cdots, Q$ and $j=1, 2, \cdots, R$ and

$R=\sum_{j=1}^{L} K_j$; K_j is the number of response categories in the j-th item

$l_i=\sum_{j=1}^{R} \delta_i(j)$;

$n=\sum_{i=1}^{Q} s_i$; $\bar{l}=\frac{1}{n}\sum_{i=1}^{Q} l_i s_i$

where L is the number of items, s_i is the number of respondents that fall into the i-th type and n is sample size.

We want to quantify individuals (types) and categories by assigning numerical values to them which will maximize the correlation coefficient between individuals and categories. This is the idea of simultaneous grouping of individuals and categories and also is considered to be one method of taxonomy of individuals and categories based on response patterns.

Let the types be 1, 2, ⋯, Q and response categories be $1(C_{11})$, ⋯, $K_1(C_{1K_1})$, K_1+1 (C_{21}), ⋯, $R(C_{LK_L})$. Then we require $y_1, y_2, \cdots, y_Q$ given to types and $x_1, x_2, \cdots, x_R$ given to categories to maximize the correlation coefficient ${}^1\rho$ between x and y, where

$${}^1\rho=C_{xy}/\sigma_x\sigma_y$$

$$\sigma_x^2=\sum_{i=1}^{Q}\sum_{j=1}^{R}\delta_i(j)s_i x_j^2/(\bar{l}n)-\{\sum_{i=1}^{Q}\sum_{j=1}^{R}\delta_i(j)s_i x_j/(\bar{l}n)\}^2$$

$$\sigma_y^2=\sum_{i=1}^{Q} s_i l_i y_i^2/(\bar{l}n)-\{\sum_{i=1}^{Q} s_i l_i y_i/(\bar{l}n)\}^2$$

$$C_{xy}=\sum_{i=1}^{Q}\sum_{j=1}^{R}\delta_i(j)s_i x_j y_i/(\bar{l}n)-\{\sum_{i=1}^{Q}\sum_{j=1}^{R}\delta_i(j)s_i x_j/(\bar{l}n)\}\{\sum_{i=1}^{Q} s_i l_i y_i/(\bar{l}n)\}.$$

And in order to maximize ${}^1\rho$, it is to solve

$$\frac{\partial {}^1\rho}{\partial x_k}=0, \qquad \frac{\partial {}^1\rho}{\partial y_e}=0 \qquad (k=1, 2, \cdots, R;\ e=1, 2, \cdots, Q)$$

which implies

$$\sum_{j=1}^{R} h_{jk}x_j = {}^1\rho^2 \sum_{j=1}^{R} f_{jk}x_j \qquad (k=1, 2, \cdots, R)$$

where

$$f_{jk}=\begin{cases} -b_{jk}; & (j\neq k) \\ d_k-b_{jk}; & (j=k) \end{cases}$$

$$h_{jk}=a_{jk}-b_{jk}$$

$$a_{jk}=\sum_{i=1}^{Q}\frac{\delta_i(j)\delta_i(k)}{l_i}s_i$$

$$b_{jk}=\frac{1}{ln}\left\{\sum_{i=1}^{Q}\delta_i(j)s_i\right\}\left\{\sum_{i=1}^{Q}\delta_i(k)s_i\right\}$$

$$d_k=\sum_{i=1}^{Q}s_i\delta_i(k).$$

For further convenience, the matrix representation

$$HX={}^1\rho^2 FX$$

will be used in the following discussion, where the elements of the matrix H are h_{jk}, those of the matrix F are f_{jk}, and X is a column vector. Then calculate the latent vector corresponding to the maximum latent root of ${}^1\rho^2$, where we can set $\bar{x}=\frac{1}{ln}\sum_{j}^{R}\sum_{i}^{Q}\delta_i(j)s_ix_j=0$ and $\sigma_x^2=1$ without loss of generality. And we obtain

$$y_e=\frac{1}{{}^1\rho}\frac{\sigma_x}{\sigma_y}\left(\frac{1}{l_e}\sum_{j=1}^{R}x_j\delta_e(j)\right), \qquad (e=1, 2, \cdots, Q)$$

which implies

$$y_e=\frac{1}{l_e}\sum_{j=1}^{R}x_j\delta_e(j) \quad \text{in case of } \frac{1}{{}^1\rho}\frac{\sigma_x}{\sigma_y}=1.$$

This method is equivalent to that of maximizing $\eta^2=\sigma_b^2/\sigma^2$, where σ_b^2 is between individual (type) variance and σ^2 is total variance (σ_w^2 is variance within individual (type) and is equal to $\sigma^2-\sigma_b^2$).

We generalize this idea to multi-dimensional quantification. We want to quantify individuals (types) or categories by assigning numerical vectors to them to minimize the within generalized variance, $|W|$, with the total variance being constant. In other words, it is to minimize $|W|/|VT|$, where $|VT|$ is generalized total variance with respect to vector ${}^sx_i$ (or ${}^sy_j$) for $s=1, 2, \cdots, S$ and for all i (or j), and S is the number of dimension of the space.

The process mentioned above is described in detail below. We consider to maximize $1-|W|/|VT|$ under the reasonable condition that the non-diagonal elements in matrix W vanish, and this means to maximize $1-|\tilde{W}|/|VT|$ where $\tilde{W}$ is the diagonal matrix of W. As $|\tilde{W}|/|VT|\geqq|\tilde{W}|/|\tilde{VT}|$ and $|VT|\leqq|\tilde{VT}|$ hold, $1-|\tilde{W}|/|\tilde{VT}|\geq 1-|\tilde{W}|/|VT|$, where $\tilde{VT}$ is the diagonal matrix of VT. Thus, it is desirable to quantify the individuals and the categories (in other words, to require vector x_i (or y_j) for all i (or j)), so as to minimize $|\tilde{W}|/|\tilde{VT}|$, or to maximize $1-|\tilde{W}|/|\tilde{VT}|$. This reduces to the

maximizing of $\prod_{s}^{S} {}^{s}\eta^{2}$ for ${}^{s}\eta^{2}$ is the correlation ratio with respect to ${}^{s}x_{i}$ for all i, and which is equivalent to maximizing $\prod_{s}^{S} {}^{s}\rho^{2}$ where ${}^{s}\rho$ is the correlation coefficient between ${}^{s}x_{i}$ and ${}^{s}x_{j}$ for all i and j.

Thus, it leads us to solve the latent equation $HX=\rho^{2}FX$, and ${}^{s}X$ is the latent vector corresponding to the s-th largest latent root of H. Generally speaking, the smaller S is the more desirable, (for example, S being at most three). However, we do require that the minimum dimension, or minimum S, makes ${}^{s}\rho^{2}$ small.

In some cases, we make $\sigma_{{}^{s}x}^{2}={}^{s}\eta^{2}$, where $s=1, 2, \cdots, S$, without loss of generality, and when this assumption holds, it is also useful to describe some concentration ellipsoids and to classify the individuals and categories into several clusters. In the classification, some methods of statistical clustering are available with computer programs.

In order to visualize the result of above calculations, we would like to represent it in the following two-dimensional Euclidean spaces. In doing so, we take the two-dimensional vector $({}^{1}x, {}^{2}x)$, for ${}^{1}x$ and ${}^{2}x$ are the corresponding latent vectors to the maximum latent root, ${}^{1}\rho^{2}$, and the second maximum latent root, ${}^{2}\rho^{2}$ respectively.

In the two-dimensional spaces, the nearer the points are, the more it shows that the relations in response of the categories are the closer. That is to say, in Fig. app. 1, categories A and B have very close relation while A and C do not. Those who select category A(B) have a strong tendency to select category B(A) and not category C. So, the distance (far and near) between points corresponds to the similarity of categories in responses.

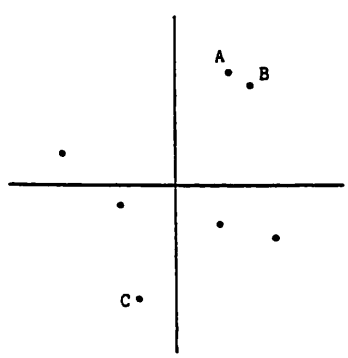

Fig. app. 1

Heuristic Example Suppose that we have Table app. 2 as the cross-tabulation from the data of a survey. In this case, $L=4$, $K_1=K_2=K_3=K_4=2$, $R=8$ and $n=2000$.

Let A, B, C and D be items and suffix 1 or 2 be the category. The marginal distributions are assumed to be always equal. The cross-tabulation between any two items shows the degree of correlation between them. For example, 'A and B' have the strongest degree of positive correlation and 'A and D' have the strongest degree of negative correlation, while 'A and C' have the weakest degree of correlation, *i.e.* no correlation in this case. The configuration of the categories in the items to reveal these interrelations are conjectured as in Fig. app. 2.

This is easily obtained by the direct observation of and intuitive mathematical reasoning from that table, because these artificial data are made to show very reasonable and simple interrelations without inconsistency. Calculation, by the method outlined in the previous section, gives Fig. app. 3. This is quite similar to Fig. app. 2, the intuitive expectation.

The transformation of A → B, B → C, C → D and D → A shows the counter clockwise rotation of the configuration. This reveals that the change in cross-tabulation (for example by the transformation mentioned above) between the two items brings about the rotation of the configuration.

Next we change Table app. 2 slightly resulting in Table app. 3, keeping all marginal distributions always unchanged. Checking this table carefully, we see that the similarity

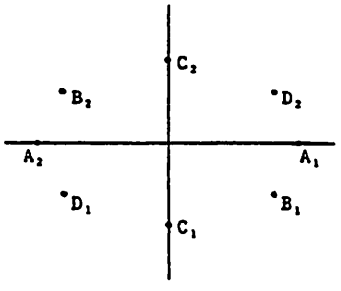

Fig. app. 2

Table app. 2

		B_1	B_2	C_1	C_2	D_1	D_2	A_2	A_1
		A_1	A_2	B_1	B_2	C_1	C_2	D_1	D_2
B_1	A_1	1000		800	200	500	500	200	800
B_2	A_2		1000	200	800	500	500	800	200
C_1	B_1			1000		700	300	400	600
C_2	B_2				1000	300	700	600	400
D_1	C_1					1000		700	300
D_2	C_2						1000	300	700
A_2	D_1							1000	
A_1	D_2								1000

Table app. 3

	A_1	A_2	B_1	B_2	C_1	C_2	D_1	D_2
A_1	1000		900	100	500	500	300	700
A_2		1000	100	900	500	500	700	300
B_1			1000		600	400	400	600
B_2				1000	400	600	600	400
C_1					1000		800	200
C_2						1000	200	800
D_1							1000	
D_2								1000

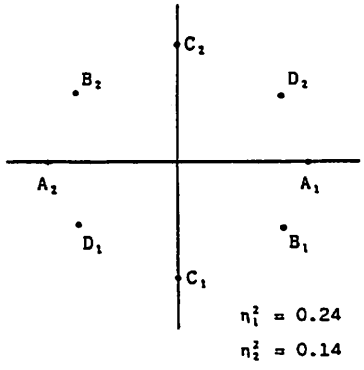

Fig. app. 3

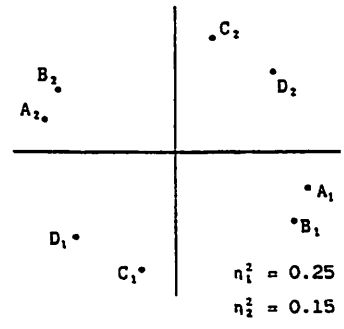

Fig. app. 4

between 'A and B' and that between 'C and D' are increased more than in Table app. 2, while the similarity between 'A and D' and that between 'B and C' are decreased more than in Table app. 2. In configuration of Table app. 3 it is intuitively expected that the distances between 'A and B' and 'C and D' be shorter and the distances between 'A and D' and 'B and C' be longer than in Fig. app. 3. The calculation by the method reveals the structure in Fig. app. 4 and the conjecture has been confirmed.

These discussions give some heuristic examples that the spacial unfolding of the table by theory, in a Euclidean space, gives the result which is intuited and interpreted from the table. We may call this spacial unfolding the 'data structure of cross-tabulations', represented by a configuration of points.

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IV.

AGE, SEX AND COHORT : EXPLICATING SCOIAL CHANGE IN POST-WAR JAPAN

Age, Sex and Cohort:
Explicating Social Change in Post-War Japan

Introduction

Beginning with the rejection of the previous political order, the past thirty-five years witnessed vast changes in Japan. The period provided a fertile ground upon which new ideas about the individuals and his roles in society could take root.

In the process of transforming itself from a war-ravaged, defeated nation to a great industrial power, significant changes took place in the Japanese social, economic and political landscapes. To take only some of the most obvious, there has been a large-scale redeployment of work force from the primary to the secondary and tertiary sectors. Concomitantly, the proportion of employees -- as contrasted from those who are self-employed or working for family -- in the work force showed a dramatic increase. Whereas less than a third of all workers in 1955 were employees, by 1978 nearly two out of three were employees (Rōdō Kyōkai, 1979: Table 3-3). Expanded employment opportunities in urban centers resulted in an ever-greater urban concentration of the population (Nohara, 1980: Table 10). Paralleling the demographic experience observed elsewhere in the world, the population consisting of a large non-agricultural, urban segment showed a dramatic increase in the proportion of nuclear family households. The modal Japanese household increasingly consisted of one or two-generation members (Prime Minister's Office, 1979: Table 19). Finally, the post-war years saw a precipitous rise in the level of educational achievement. In contrast to their older counterparts, the young Japanese are much more educated.

As even a most cursory depiction of the post-war trends suggests, the life experiences of a growing number of individuals have come to differ substantially from those of an earlier generation. In particular, the Japanese are, in an ever-growing number, coming in contact with institutions which serve to transmit new ideas and to nurture new attitudes. Be they the school or the factory, these "modern" institutions provide a setting where the individual learns to form or hold opinions on a large number of issues (cf. Inkeles and Smith, 1974: chap. 2).

Equally important, these same post-war trends have served to free individuals from the traditional social and economic constraints. With the great expansion of economic opportunities, the individual's economic well-being depends much less on his good standing in the family or the community. Rejecting traditional beliefs and assumptions and experimenting with new ideas becomes readily possible where the twin processes of nuclearization of the household and urbanization result in a physical separation of different generations in the family. In short, the major post-war trends in Japan have set a stage for a wide-ranging shift in the attitudes and beliefs among large segments of the population.

Indeed, a growing body of evidence indicates that significant changes in attitudes and behavior have taken place in the post-war decades. In particular, evidence suggests a growing trend toward individuation among Japanese. Individuals make more choices and, in doing so, are influenced by personal rather than group goals (Dore, 1967; Ike, 1973). However, the process of individuation appears to influence the Japanese unequally, with the young most strongly affected by this process (Ike, 1973). Moreover, the behavioral and

attitudinal outcomes of this process in Japan seem not to resemble too closely the patterns observed in the West (Inglehart, 1977; Ike, 1973; Cole, 1979: chap. 2).

Although the available body of evidence leaves little doubt that the major structural changes in post-war Japan have been accompanied by dramatic shifts in attitudes, it has yet to shed much light on the process(es) producing such shifts. Specifically, we know very little of the process in which each individual comprehends the major structural changes around him, and incorporates the meaning of these changes into his attitudinal system. Since much of the evidence gathered in earlier studies is based either on cross-sectional data or on time-series data of short time-span, it is not clear whether the reported changes in attitudes are enduring or merely short-term fluctuations. Neither is it clear whether the widely reported sex-variations in attitudes among Japanese are a permanent feature in Japan, or a vestige of the fast-disappearing traditional role expectations. This paper reports some of the findings obtained in an on-going study of attitudinal change in contemporary Japan.

Specifically, this paper examines the extent of attitudinal shifts shown by Japanese in their adult years. In his study of the growth of "Post-Materialist" values in the West, Inglehart (1977) argues that the individual's basic values are shaped in his formative years, and they remain relatively stable thereafter. According to this formulation, the critical variables are the economic and political conditions surrounding the individual in his formative years.

On the other hand, works by Inkeles and Smith (1974), Krauss (1974), and Rohlen (1974; 1975), point out the importance of adult soci-

alization experiences in shaping the individual's attitudes. In this latter formulation, the critical variables are the individual's membership in social groups and, more generally, the roles he performs in different institutional spheres. To the extent adult socialization exerts large impact on the individual, the shifts in attitudes in the individual's adult years are worthy of scrutiny.

Hence, our study examines the sources of both the variations in attitudes at a given point in time, as well as the changes in attitudes over time. In assessing the extent of variations and change in attitudes, our models will consider the following determinants:

1) Changes in social and economic environment (Period Effects): historical developments such as wars or economic depressions, as well as secular trends such as the growing affluence in industrial society, have been shown to produce significant changes in the attitudes of a population. For example, Campbell, Converse and Rogers (1976) demonstrate a marked decline in the early 1970's in the proportion of American respondents who say they are "very happy". They attribute this large decline to the Vietnam War and its draft, an extraordinary sequence of assassinations, the outbreak of urban violence, and other extreme forms of political turmoil characterizing the 1960's (Campbell, et al., 1976: 23-31).

To the extent both long-term secular trends and short-term events affect the individual's attitudes, we can expect fo find a significant period effect in the attitudinal shifts evinced by Japanese. The growing affluence, for example, is likely to exert a noticeable impact on the individual's priorities. Too, dramatic political events such as the 1960 demonstrations against the conclusion of the U.S.-Japan Mutual Security Treaty are expected to

shape people's opinions about their own roles in the political processes.

2) Life-cycle effects (Age Effects): In every society an important basis for allocation of rights and duties is the individual's age. To the extent age-roles confer upon individuals different rights, privileges, and obligations, we may expect the incumbents of these age-roles to evince different attitudes. For example, Duncan, Schuman and Duncan (1973) report that there is a persistent cleavage by age in the individuals' response to a question about the desirability of autonomy in the "younger generation". Using data obtained in 1956 and 1971, they find that younger adults saw the matter quite differently from older adults, the latter feeling that the younger generation should be taught to do what is right and the former more often stating that the younger generation should be taught to think for themselves (Duncan, et al., 1973: 40-43). Thus, since each society invariably consists of individuals at different stages in the life-cycle, significant attitudinal variations are to be expected.

3) Locations in the social structure (Structural Effects): Since Karl Marx, it has become axiomatic that the life chances of individuals in large-scale society are not all equal. Some individuals manage to obtain larger shares of scarce resources than others. A large body of social stratification literature demonstrates that a critical social consequence of stratification processes is the emergence and the maintenance of different life-styles (e.g., Merton, 1957; Lipset and Bendix, 1964). Hence, large variations in attitudes are to be expected among those occupying different locations in the social structure.

Although the patterns of sex-based allocation of tasks, authority, and status are by no means unique to Japan, they are partic-

ularly marked in the Japanese setting. To the extent these patterns influence the opportunities made available to women, the persistence of these patterns is likely to exert continuing impact on attitudes. 4) Continuing impact of history (Cohort Effects): In his seminal essay, "The Problem of Generations", Mannheim (1952) shows how each new cohort, starting its life course at a unique point in time, has unique characteristics because of the particular historical events undergone or the particular knowledge or attributes acquired in childhood. Subsequently amplified in the writings of Ryder (1965) and Cain (1964), the cohort perspective emphasizes the interplay between the societal changes and individual changes. Because society changes, the modal life-course patterns of people in different cohorts cannot be precisely alike. To the degree that the life-histories of people differ, they are likely to interpret and "digest" environmental stimuli in different fashions. Stressing this point, Inglehart (1977) argues that the prolonged absence of total wars and the post-WWII affluence in Western industrial society resulted in an inter-generational change in values. Having spent their formative years in an environment characterized by peace and relative affluence, the young in these Western societies tend to emphasize "Post-Materialist" values. In contrast, their elders who have been subjected to the impacts of a major war and/or economic turmoils of the Great Depression in their formative years tend to stress "Materialist" values even in a period of peace and prosperity. Variations in attitudes in society is inevitable, not only because it consists of people at different stages in life-cycle, but also because different cohorts age in different ways (Ryder, 1965; Riley, 1978).

Data and Method

Our study draws on the time-series data gathered since 1953 by the Institute of Statistical Mathematics through its ongoing project, the National Character Survey. Three items from the battery of questions normally administered in the survey are selected in our study:

> #2.1 "If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?"
>
> #4.5 "In bringing up children of primary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?"
>
> #8.1 "Some people say that if we get good political leaders, the best way to improve the country is for the people to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?"

Although the Surveys were carried out every five years since 1953, not all items were administered in each. Item #2.1 was administered in all six surveys. Item #4.5, however, was not administered in 1958; item #8.1, on the other hand, was not included in the 1978 survey.

Since our dependent variables are categorical, our testing procedure is one advanced by Goodman (1972), and later amplified by Davis (1972; 1974), and it entails an extension of the idea of odds and odds ratios. The logic involved in this method is uncomplicated.

****

Insert Table 1 about here

****

In Table 1 we have simple two-way tables, cross-classifying male respondents' response to item #2.1 in 1963 and 1978. Taking a look at the table for 1963, we see that the top row displays the frequency distribution of response to item #2.1 by those twenty to

Table 1

Frequency Distribution of Responses to
Item #2.1, by Age, for Males in 1963 and 1978

1963

		Go ahead	All Others
Age	20 - 34	223	252
	35 - 54	221	251
		244	303

1978

		Go ahead	All Others
Age	20 - 34	100	174
	35 - 54	114	257
		214	431

thirty-four years of age. The bottom row, on the other hand, categorizes the response of those thirty-five to fifty-four. The bottom table summarizes the responses to item 2.1 in 1978 in the same fashion.

We will measure "association" between age and the response to #2.1 by use of odds and odds ratios. An "odds" is the ratio of frequencies for two categories of a variable. To take a concrete example from Table 1, the odds of giving the response of "Go ahead" in 1963 among male respondents was 244/303. That is to say, the odds are slightly better than eight to ten that a male respondent would respond "Go ahead" in 1963. Similarly, the odds of a male respondent giving support to "Go ahead" in 1978 was 214/431, or about one to two.

An odds ratio is the ratio of conditional odds. A conditional odds is the ratio of frequencies for two categories of a variable for particular categories of another variable. Thus, the conditional odds on supporting "Go ahead" for those 20-34 is 223/252 in 1963. In other words, the odds are nearly 9 to 10 that a young male respondent -- 20 to 34 years of age -- will support the "Go ahead" position. The odds ratio of supporting "Go ahead" given the respondent's age is the ratio of the conditional odds of supporting the position for 20-34 years old to the conditional odds of support shown by those 35-54 years of age. Hence, the odds ratio of support given to "Go ahead", given respondents' age, in 1963 is (223/252)/(221/251). The odds ratio is elsewhere (e.g. Davis, 1972; 1974) referred to as the "relative" odds ratios.

If there were no association in each of the tables, i.e., if the likelihood of support given to a given category is independent of the respondent's age, the relative odds ratio calculated for the table will assume a value very close to unity. If, however, the

relative odds ratio does not equal unity (i.e. the two conditional odds are not equal), we would conclude that the two variables in the table show an association. We may therefore conclude an age effect on the pattern of response to #2.1 when the relative odds ratio assumes a value different from unity.

For 1963, there is no evidence of an age-effect. The odds ratio for the 1963 table is (223/252)/(221/251) = 1.006, a value very close to unity. That is to say, the level of support for this particular position in 1963 was very similar among both younger and older respondents.

For 1978, the relative odds ratio is (100/174)/(114/257) = 1.295. In other words, the younger respondents in 1978 were thirty percent more likely to support the position of "Go ahead" than their older counterparts. Put another way, by 1978 we find evidence of age exerting impact on how the Japanese males respond to item #2.1.

As noted earlier, the operation carried out to analyze our data entails an extension of the idea of odds ratios. Specifically, the dependent variable in this approach is the odds ratio of those giving support to "Go ahead" to all others, expressed in natural log, for item #2.1. In our analysis of items #4.5 and #8.1, the dependent variables in both instances will be the odds ratio of "Disagree" to all other responses. In examining items #2.1, #4.5 and #8.1, the variation in the odds ratio for each case will be attributed to four variables: the respondent's sex, his or her age, the level of educational attainment, and the time during which survey was administered. These four variables, individually as well as in combinations, will comprise the independent variables in the general model. The model expressed formally takes the following form:

$$E = a + A + B + C + D + AB + AC + AD + BC + BD + CD + ABC + ABD + ACD + BCD + ABCD \quad (1)$$

where E = odds ratio of levels of support given to response categories in a particular item, expressed in natural log, for a given year, a = the main effect, in natural log, of the general mean on E, A = the main effect of sex on E, in log, B = the main effect of age, also in log, C = the main effect of educational attainment, in log, and D = the main effect of period in log; the remaining eleven terms represent interaction effects of varying order.

Except for the period variable, D, the remaining four variables in model (1) are dichotomized. The number of categories in variable D will depend on the type of analysis we carry out.

Variable B dichotomizes the age of the respondent at the time of each survey: the first category contains those twenty to thirty-four years of age, and the other, thirty-five to fifty-four. Variable C dichotomizes educational attainment: one category contains those with only compulsory level education -- nine years or less -- and the other, ten or more years.

Model (1) summarizes all the hypotheses we wish to examine. For example, if sex is an important determinant of attitudes, the main effect of A must be significant. Similarly, if age or education exerts impact on attitudes, B or C, respectively, must be significant. If, in addition, a sex-variation in attitudes is attenuating over time, we can also expect a significant AD interaction effect. In particular, if the recently expanded opportunities for women have any impact at all, we would expect to find this AD interaction effect to be prominent in the recent years.

The interaction term BD estimates, in a very rough way, the cohort effect. To the extent that earlier experiences continue to

play a significant role in shaping the individual's attitudes, we can expect to find a significant BD effect in Japan.

Inasmuch as model (1) contains all possible effect which can be estimated, it is a "saturated" model (Goodman, 1972: eq. [35]), and it fits the observed data perfectly. Our aim is to determine which of the effects posited in model (1) can be set to zero and still describe the data adequately. To phrase the matter differently, we would like to determine which of the possible effects indeed has a significant impact on attitudes. The model we obtain by eliminating from (1) those effects that are insignificant will describe the process shaping the attitudes.

Results

For each item under analysis, responses given by our national samples were cross-classified on the basis of five variables, at least four of which are dichotomous. A fifth variable, D, indexing period, will be either dichotomous or trichotomous. To each of these five-way contingency tables we then applied a wide range of models. The relative efficacy of each model was evaluated by means of the likelihood-ratio chi-square statistic. In Table 2, we present some of the more illuminating results for the responses given to #2.1, for years 1968, 1973 and 1978.

****

Insert Table 2 about here

****

Let us elaborate briefly the procedure entailed in fitting these models. The reader will notice that the right-most column of Table 2 specifies the marginals fit under each model. He will also notice that each set of the fitted marginals contains the term [ABCD]. The function served by the term [ABCD] is to meet one fundamental requirement of modelling in the Goodman system of analysis of odds ratios: namely, the sum of the categories of the dependent variable--in our case, this is E--must always remain fixed for each cell defined by the joint variable ABCD (Goodman, 1972: [1] and [44]). The step is necessary insofar as the first object is to estimate the odds ratio between the categories of the dependent variable. For a dichotomous dependent variable, such as ours, the sum of the numerator and the denominator in each cell must always equal a fixed value, in this case the number of respondents in each cell of the fourfold table, Sex x Age x Education x Period.

Table 2

Chi-Square Values Obtained by
Fitting Several Models to Item #2.1 Responses,
1968, 1973 and 1978

Models[a]	Chi-Square[b]	Degrees of Freedom	P	Margins Fit
(1.1a)	149.52	23	<.001	[ABCD][E]
(1.1b)	99.05	22	<.001	[ABCD][AE]
(1.1c)	144.90	22	<.001	[ABCD][BE]
(1.1d)	147.74	22	<.001	[ABCD][CE]
(1.1e)	69.18	21	<.001	[ABCD][DE]
(1.1f)*	20.01	20	.458	[ABCD][AE][DE]
(1.1g)	16.85	19	>.500	[ABCD][AE][BE][DE]
(1.1h)	19.80	19	.407	[ABCD][AE][CE][DE]
(1.1i)	17.78	18	.470	[ABCD][ADE][AE][DE]
(1.1j)	14.64	17	>.500	[ABCD][ADE][AE][DE][BE]
(1.1k)	15.41	17	>.500	[ABCD][ABE][AE][DE][BE]

a. Variables are:
A = Sex
B = Age
C = Education
D = Period, where category 1 = 1968
2 = 1973
3 = 1978
E = Item #2.1, where category 1 = go ahead
2 = all others

b. Likelihood-ratio chi-square values

*The best-fitting model

The remaining term(s) in each set of the fixed marginals contains, without exception, the dependent variable E. The object here is to acertain whether or not the variation in the odds ratios of the dependent variable can be accounted for by the variable's relationship(s) with one or more of the independent variables.

To take a concrete example, model (1.1a) fits two marginals, [ABCD] and [E]. We have already noted the function of the constraining term [ABCD]. The second term, [E], represents the hypothesis that the odds ratios do not vary among the cells: i.e., variable E is independent of the joint variable ABCD. Expressed in terms of the relative odds ratios, the hypothesis represented by (1.1a) states that there is no significant difference among the odds ratios--or, E = a. Since the chi-square statistics we have calculated for model (1.1a) is 149.52 with twenty-three degrees of freedom, the likelihood is less than .001 that E would equal a (the overall average) on a random basis.

Model (1.1b) fits two marginals, [ABCD] and [AE]. The function of the latter term, [AE], is to control for the main effect of sex --i.e. the hypothesis represented by the model states that E does not equal a and, in addition, that E varies with A. As reported in Table 2, the chi-square statistic obtained for model (1.1b) is 99.05 with twenty-two degrees of freedom. In contrast to model (1.1a), model (1.1b) improves the fit of the data markedly. The improved fit obtained by model (1.1b)--as evidenced by the improvement in X^2, 50.47 with one degree of freedom, significant at less than .001--suggests that, at least during the decade between 1968 and 1978 there remained a significant sex-variation in the attitude toward the importance of following one's convictions.

By fitting model (1.1e), we find also that period has exerted

a significant impact on this attitudinal area. With model (1.1e), we obtain a large reduction in X^2 statistic--when contrasted to model (1.1a), the improvement is 80.34 with two degrees of freedom. Quite clearly, success with which the Japanese have met the challenges posed by internal unrest--e.g., the student riots in the latter 1960's--as well as external events such as the Arab oil embargo has given them a growing confidence in the reliability of the established ways of doing things.

In Table 2 we find that model (1.1f) fits the raw data in a most parsimonious manner. What the model, (1.1f), describes is this: we can successfully predict the likelihood of support given to the opinion "one should go ahead with what one thinks is right" by just knowing the respondent's sex and the year of his (her) response. It is essential to allow for the main effects of A and D, as the deletion of either term results in a significant reduction in the fit. Put another way, although the improvement in X^2 both models (1.1b) and (1.1e) obtain over the null hypothesis model (1.1a) is significant, the inclusion of both terms improves the fit substantially. However, adding to this model a term describing the respondent's age or education--thereby producing models (1.1g) and (1.1h), respectively--does not result in a significant reduction in the chi-square value. We may conclude, therefore, that neither age nor the level of educational attainment has exerted significant impact in shaping this attitudinal item.

In contrast to model (1.1f) which posits significant main effects of sex and period, model (1.1i) hypothesizes a variation in the impact of sex over time. When compared with the fit obtained with the best-fitting model (1.1f), the reduction in the chi-square value obtained by the sex-period interaction model, (1.1i), is not

significant. This suggests that the impact of sex has remained constant during the decade 1968-78.

Similarly, adding the BD interaction term to model (1.1f)--which results in model (1.1k)--produces an insignificant improvement in the chi-square value. In this opinion area, younger people have responded in a fashion similar to their older counterparts, and this pattern has not changed during the decade.

With item #4.5, we get to the heart of the question about an inter-generational value change. In the face of the great prosperity characterizing Japan in the recent period, we could expect to find a significant cohort variation in the response to this question about the importance of money. In Table 3, we present some of the important results for the responses given to #4.5, for years 1968, 1973 and 1978.

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Insert Table 3 about here

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From results obtained by applying a series of models, we find that model (1.2k) fits the raw data best. In comparison to other models in the table, model (1.2k) results in a highly significant improvement in the fit, producing a X^2 statistic value of 12.77 with fourteen degrees of freedom.

Although their relative impact differ, all of the main effects being examined, A, B, C, and D, show significance. In other words, sex, age, education, as well as period, all contribute to produce significant variations in the response. Individuals with different demographic characteristics differ in their rejection of the materialist view that "money is most important", and their responses have

Table 3

Chi-Square Values Obtained by
Fitting Several Models to Item #4.5 Responses,
1968, 1973 and 1978

Models[a]	Chi-Square[b]	Degrees of Freedom	P	Margins Fit
(1.2a)	549.68	23	< .001	[ABCD] [E]
(1.2b)	541.84	22	< .001	[ABCD] [AE]
(1.2c)	402.14	22	< .001	[ABCD] [BE]
(1.2d)	172.28	22	< .001	[ABCD] [CE]
(1.2e)	454.44	21	< .001	[ABCD] [DE]
(1.2f)	104.60	21	< .001	[ABCD] [BE] [CE]
(1.2g)	39.87	19	.004	[ABCD] [BE] [CE] [DE]
(1.2h)	32.98	18	.017	[ABCD] [AE] [BE] [CE] [DE]
(1.2i)	21.04	16	.177	[ABCD] [BDE] [BE] [DE] [AE] [CE]
(1.2j)	19.65	14	.142	[ABCD] [BDE] [ADE] [AE] [BE] [CE] [DE]
(1.2k)*	12.77	14	> .500	[ABCD] [BDE] [CDE] [AE] [BE] [CE] [DE]
(1.2l)	11.16	12	> .500	[ABCD] [ADE] [BDE] [CDE] [AE] [BE] [CE] [DE]

a. Variables are:
A = Sex
B = Age
C = Education
D = Period, where category 1 = 1968
2 = 1973
3 = 1978
E = Item #4.5, where category 1 = disagree
2 = all others

b. Likelihood-ratio chi-square values

*The best-fitting model

been significantly shaped by time. According to this model, the group with a most post-materialist view is composed of the highly educated young males in 1978.

A significant BDE interaction term suggests, in a rough fashion, a cohort effect. Evidently the young respondents are rejecting this materialist point of view more rapidly than their older counterparts.

Similarly, a significant CDE interaction term suggests that during these ten years the impact of education on this attitude has not remained constant. A closer inspection of the data--results are not presented here--reveals that the better educated are more rapidly rejecting this materialist view than the less educated.

This result is not altogether surprising. With a growing reliance on educational credentials as a basis of status allocation, the less educated as a group benefits least from the growing prosperity. Too, the trend toward "credentialism" has resulted in an overall increase in the level of educational attainment. For example, 69.2 percent of those completing nine years of compulsory education went on to obtain higher education in 1965. By 1975, this proportion increased to 90.9 percent (Prime Minister's Office, 1978: Table 412). Hence, the less educated of the recent years suffer from a growing comparative disadvantage, as opportunities formerly accessible to those with similar education are now becoming largely unavailable.

Adding ADE interaction term to model (1.2k)--thereby generating model (1.21)--does not result in a significant improvement in the fit. Hence, we may conclude that there has not been any lessening of the sex-variation in the level of support for a materialist position, despite the great affluence prevailing in society.

Items #8.1 asks the respondent whether it would be better to leave everything to good political leaders. The intent of this question is to tap the extent of individuation in political processes. If the major post-war development, including the institutionalization of universal suffrage, result in greater individuation in Japan (see Ike, 1973), we can expect an increasing trend toward a rejection of this view. Table 4 presents relevant results for years 1953 and 1973.

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Insert Table 4 about here

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In assessing the overall change during the twenty-year period, 1953-73, we find that model (1.3j) fits the data best. During this period, when the post-war economic recovery and growth took place, there has been an increase in the opinion that things should not be left entirely to political leaders. In other words, there is a significant period effect, and it is toward the direction we expected. There are also significant main effects of sex, age and education, with a more "individuated" view prevailing among males, the young and the better educated.

The best-fitting model, (1.3j), also suggests the existence of a cohort effect, as indexed by the BDE interaction term. The impact of age on this attitudinal item has not remained constant during these twenty years. We will have an additional comment to make on this point later in our discussion.

Model (1.3j) also contains an ADE interaction term. It suggests a change in the impact of sex on this attitude over time. With analysis of data not reported herein, we find there has been an increase among women in rejecting the notion that things should

Table 4

Chi-Square Values Obtained by
Fitting Several Models to Item #8.1 Responses,
1953 and 1973

Models[a]	Chi-Square[b]	Degrees of Freedom	P	Margins Fit
(1.3a)	333.72	15	<.001	[ABCD] [E]
(1.3b)	287.56	14	<.001	[ABCD] [AE]
(1.3c)	237.98	14	<.001	[ABCD] [BE]
(1.3d)	194.95	14	<.001	[ABCD] [CE]
(1.3e)	241.03	14	<.001	[ABCD] [DE]
(1.3f)	131.26	13	<.001	[ABCD] [BE] [CE]
(1.3g)	85.60	12	<.001	[ABCD] [AE] [BE] [CE]
(1.3h)	23.66	11	.014	[ABCD] [AE] [BE] [CE] [DE]
(1.3i)	9.54	10	.482	[ABCD] [ADE] [AE] [DE] [BE] [CE]
(1.3j)*	5.34	9	>.500	[ABCD] [ADE] [BDE] [AE] [DE] [BE] [CE]
(1.3k)	5.28	8	>.500	[ABCD] [ADE] [BDE] [CDE] [AE] [DE] [BE] [CE]

a. Variables are:
A = Sex
B = Age
C = Education
D = Period, where category 1 = 1953
2 = 1973
E = Item #8.1, where category 1 = disagree
2 = all others

b. Likelihood-ratio chi-square values

*The best-fitting model

be left to political leaders.

Unlike in our analysis of #4.5, we find in the responses to #8.1 no significant CDE interaction effect. Adding this term to the best-fitting model--thereby generating model (1.3k)--results in no appreciable increase in the fit. While there continues to be a significant main effect of education, its impact has neither diminished nor increased in these twenty years.

In the foregoing analysis of item #8.1, we compared the data gathered in 1953 and 1973. The models used in the analysis, therefore, assess the extent of changes recorded in this period in a gross fashion.

While the conclusions one draws from such an exercise are by no means erroneous, they are less than informative if the trend being investigated is not linear. For example, if the trend during a given period of time shows an U-shape pattern, by taking observations only at the beginning and the end one would miss detecting the most important part of this pattern. Too, by selecting observations separated by a twenty-year span, we are implicitly assuming that the important processes operate with the same degree of salience throughout the period. This assumption may or may not hold true; whether or not it does always remains an empirical question. In the case of item #8.1, this assumption would not serve us well.

Taking a full advantage of our time-series, we rearranged the responses to #8.1 into two stages. Stage I covers the observations taken in 1953, 1958 and 1963. In other words, these are observations taken during the years of the post-war economic recovery and an early phase of the subsequent rapid growth in the economy.

Stage II, covering years 1963, 1968 and 1973, consists of observations made during a time of an unprecedented prosperity. The Japanese economy during this period was growing at a two-digit rate. In short, conditions prevailing in these two stages differed significantly. With this rearrangement of data, we obtained a five-fold table for each stage.

Following the same procedure as applied earlier, we fitted a battery of models to the raw data contained in these five-fold tables. With this step, the best-fitting model for each stage was obtained. Using these models, we then estimated the relative impact of the variables contained in each model. In Table 5 we present the estimated effect parameters for the best-fitting models.

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Insert Table 5 about here

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For Stage I, the best-fitting model suggests that sex, age, education, and period all exert significant main effects. During these years, sex was clearly an important determinant in shaping people's attitudes toward item #8.1. With an estimated effect parameter of .168, the males during this stage were forty percent more likely than the females to reject the notion that things should be left to political leaders. Similarly, the model estimates that the effect of being better educated is to increase the likelihood of disagreeing in #8.1 by some twenty-nine percent.

The estimated effect parameters for the period variable show that increasingly the respondents were unwilling to leave everything to political leaders. As estimated by the model, this trend is quite marked during this first stage.

The best-fitting model for Stage I also contains two inter-

Table 5

Effect Parameters[a] Estimated by

Best-Fitting Models to Item #8.1, Stages I and II

	General Mean	Sex (M/F)	Age (Yo/Old)	Ed. (Hi/Lo)	Sex x Age	Period	Period x Age	Period x Sex
Stage I								
1953						-.151	.088	
1958	4.775	.168	.107	.127	-.037	.053	-.028	
1963						.098	-.059	
Stage II								
1963						-.032	-.016	.042
1968	4.599	.105	.066	.118	-.034	.028	-.043	.007
1973						.005	.059	-.049

a. Estimated effects are in natural log. The dependent variable is the ratio, also in log, of those "disagree" to all others in Item #8.1.

Item #8.1:
"Some people say that if we get good political leaders, the best way to improve the country is to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?"

action terms: Sex x Age and Period x Age. Sex x Age interaction term presumably reflect life-cycle differences between males and females. In any event, its impact is not particularly large. In contrast, the estimated effect parameters for the Period x Age interaction term show a large variation. Taken together with the main effect of age, these results suggest that the trend during this stage was toward a lessening of the age-differential in attitude. Whereas in 1953, the young were forty-eight percent more likely than their elders to reject the notion that things should be left to political leaders, their preference for this position in 1963 was only ten percent greater. In other words, during this period there was a proportionately greater increase among older people in support for "Disagree" to item #8.1.

An inspection of the lower panel in Table 5, displaying the results for Stage II, reveals that the processes described here are different from Stage I. In the first place, the period effect in Stage II is minimal. There is no longer a rapid shift in attitude in the population, a trend that was clearly evident during Stage I.

Second, unlike in Stage I, the gap in attitude between age groups is expanding, instead of contracting. During Stage II, there is an increase over time in the estimated effect parameters for the Period x Age interaction term, exacerbating the impact of the age effect.

Finally, the best-fitting model for Stage II includes a Period x Sex interaction term. It suggests a process not observed during Stage I: namely, there is a rapid decline in the attitudinal variation by sex. During this stage, the women showed a more dramatic shift toward "Disagree" than men.

Taken together, the results from Stages I and II suggest we

cannot assume a priori that common processes operate with a same degree of salience over a period of time. This is particularly the case if the period being investigated is one marked by major changes in a wide spectrum of social processes. Our results for the twenty-year span, 1953-73, suggest that this was indeed a time when a variety of developments was operating to shape Japanese attitudes.

Summary and Conclusions

This paper presented the results from our analysis of three items in the National Character Survey. These questions inquired into the Japanese perception on the desirability of following through with one's convictions, of money, and of the individual's role in the political processes. Since we were in possession of time-series data covering a twenty-five year period, we sought both to highlight the changes in attitudes which have taken place in post-war Japan, and to offer some insight into the processes producing these shifts. Since our analysis is based only on these three items, our conclusions are rather tentative. For a more comprehensive review of the attitudinal changes recorded through 1953, the reader is referred to the 1975 publication by the Research Committee on the Study of the Japanese National Character, Nipponjin no Kokuminsei, sono san (A Study of Japanese National Character, vol. 3).

1) Major shifts in attitudes have taken place among Japanese adults. Our analysis suggests that these shifts are not due solely to the process of population replacement. Even past their formative years, individuals change their views, and often quite rapidly.

2) Shifts in attitudes in different areas are not always synchronous. Not surprisingly, the impact of social, economic, and poli-

tical developments is not uniform across different attitudinal areas. For example, we find that the most rapid shift in response to #8.1 occurred in the early years, 1953-1963. In contrast, the biggest shifts in #4.5 occurred during the most recent years, between 1968 and 1978.

3) There are important attitudinal cleavages among Japanese. The most notable among these cleavages is one based on sex. In all three items, we find significant sex-variations in response. In the face of all the post-war developments, including greater economic opportunities and higher levels of educational attainment obtained by women, the persistence of this cleavage is remarkable. However, the wind of change may be in the air, as we find in at least one item, #8.1, an attenuation of the sex-differential.

Age and education, on the other hand, exert significant impact in two areas, #4.5 and #8.1, but not in #2.1. This last result is surprising, since we expected to find a greater support for the notion that one should follow one's conviction among the young and the better educated. In any case, neither age nor education provides a basis for an attitudinal cleavage in all three areas.

4) We find a significant Period x Age interaction effect in both #4.5, "Money is important", and #8.1, "Leave to political leaders". According to the Inglehart thesis (1977), this is what we should expect to find after a society has enjoyed a period of peace and prosperity. However, upon a closer inspection of the #8.1 responses, we find that the interaction term indexes trends in opposite directions. Lacking other evidence, we are unable to determine whether this shift in the trend is merely a short-term fluctuation, or a result of a cohort effect. At any rate, these results clearly call for a further investigation into the processes shaping adult

call for a further investigation into the processes shaping adult attitudes. Our analysis in the preceding pages suggests that such an undertaking must be based on time-series data covering a wide time-span.

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V.

CONCERN FOR MATERIAL SECURITY AND OCCUPATIONAL STATUS IN POSTWAR JAPAN

Abstract

The growing affluence and the fundamental shift in the industrial/occupational structure in Japan since World War II have led to a significant shift in attitudes toward material security. However, despite an overall de-emphasis of materialism, there remains a substantial difference in outlook among individuals found in different positions in the occupational structure. Even in the face of a dramatic rise in their personal incomes, manual workers in comparison to their white-collar counterparts show a greater concern for their material security. Hence, although the Japanese are said to operate in a social environment characterized by a "communitarian" sentiment in which status differences play an insignificant role, the individual's occupational status remains a central factor shaping his attitudes. Put simply, our thesis is as follows: expansion in economic opportunities and rise in standards of living reduce people's concern for their material security; however, to the extent their "life chances" remain different, their attitudes toward material security also continue to differ.

Introduction

Certainly since Karl Marx, it has been almost axiomatic that an individual's occupation plays a central role in shaping his views and conduct (Feuer, 1959:26). In the decades following World War II, however, with the remarkable rise in the standards of living in the industrialized nations, many of the more obvious signs of class distinction--such as patterns of consumption--have become blurred. Has this historical development diminished the importance of occupational status in determining the individual's outlook? This question has prompted several studies in the West which attempt to assess the impact of post-war affluence on the working class. Our focus here will be on Japan, where the dramatic transformation of the economy since the early 1950's has brought about an unprecedented prosperity. In this paper we examine the role occupational staus plays in shaping the Japanese individual's attitudes toward material goals; and we consider to what extent a period of increasing affluence and political stability may have moderated that role. As we will elaborate below, Japan presents an interesting case, both because the high standards of living the Japanese currently enjoy came about fairly recently, and because vertical ties formed within corporate groups are said to be paramount (e.g., Nakane, 1970).

In their study of the British working class, Goldthorpe and his colleagues argue that general affluence and increasing income do not bring about an adoption of middle class values and conduct by the working class (Goldthorpe, et al., 1967). These researchers suggest that the persistence of this gap derives from both the nature of work being performed and the differing

opportunities for future advancement. Blue-collar work tends to be less interesting, and the prospects for advancement for a manual worker are likely to be limited. In short, these authors find no compelling evidence to support the thesis of the "embour-geoisement" of the working class: even if manual workers earn incomes comparable to those of some white-collar workers, there remains a substantial gap in the behavior and outlook between these two groups.

Berger (1960) reaches a similar conclusion in his study of attitudes and conduct in an American working class suburb. Despite the growing affluence in the society which enables manual workers to move to the suburbs, a very symbol of the middle class, Berger finds a large gap separating the attitudes and values of manual workers from their white-collar counterparts.

For both social and historical reasons, however, one might anticipate that these conclusions would not apply to Japan. England's social history reveals a pervasive impact of class (e.g., Thompson, 1963); class has provided the basis not only for patterns of political participation but also for social interactions (e.g., Lipset, 1963; Turner, 1969; de Tocqueville, 1945). By contrast, in Japan class has not been as important as a basis for political action and social conduct.

To a very great extent, the relative absence of class based on broad economic interests reflects the primacy the Japanese have placed on vertically organized corporate groups (cf. Nakane, 1970). Advancing this view, Vogel (1967:108) argues that the "basic cleavages in Japanese society have not been between different social classes but between one corporate group (composed of people at different social positions) and other corporate groups." Much more than Americans, or Westerners in general, the Japanese emphasize the

group (Reischauer, 1977:127-37), and in the contemporary context the most important of these groups has been the "semi-closed corporate group" represented by the company (Cole, 1971:12-15; Rohlen, 1974). A social setting in which corporate groups assume primacy does not serve as a fertile ground for the growth of consciousness about individual or class interests. This was true in the late Tokugawa Period (1600-1868) (Smith, 1966) and it continues to be so today (e.g., Vogel, 1963; Bennett, 1968:30-31). One institutional expression of this primacy placed on the corporate group may be found in the way the Japanese have organized their labor unions. Instead of organizing unions on the basis of craft or industry as in England or America, the organizational form taken by most Japanese unions is the so-called enterprise union, composed of the members of a given company or plant (Levine, 1958:89-107; Cook, 1966:28-83). Many of these enterprise unions are often combined unions including both blue- and white-collar employees. As Dore (1973) argues in his study of industrial relations in Japan and England, enterprise unions in Japan have served to minimize differences based on statuses, and have helped to promote greater integration of all workers.

Because so much emphasis is placed in the literature on the importance of corporate groups in Japanese social life, one is led to assume, almost unwittingly, that occupational status plays an insignificant role in shaping the individual's attitudes (e.g.,Vogel, 1963:264). The British sociologist, T.H. Marshall, argues that the institution of class "teaches the members of a society to notice some differences and to ignore others" in the social placement of persons (1964:181). Following this line of logic, one might suspect that the strong identification with the company would lead the individual participant not to notice objective differences in the life chances among members in the corporate group. One might expect, moreover, that these differences exert minimal impact on attitudes, unlike the situations among British workers.

We submit that such an expectation glosses over some fundamental differences in the life chances of Japanese manual workers in comparison to their white-collar counterparts. To be sure, the postwar prosperity in the Japanese economy has brought about a substantial increase in manual workers' incomes. In the twenty-year period between 1955 and 1975, monthly earnings among male production workers in manufacturing showed an eight-fold increase, outstripping the seven-fold increase obtained by white-collar employees (Ministry of Labour, 1977:Appendix Table 23). Nevertheless, a substantial gap remains between these two classes of workers. For example, the average monthly earnings in 1976 among male production workers in manufacturing were less than eighty percent of the earnings obtained by white-collar employees, despite the fact that the blue-collar workers put in longer hours (Ministry of Labour, 1976:139). Moreover, this gap becomes even larger when bonus payments, an integral part of Japanese remuneration schemes, are considered: in 1976, the average bonus among manual workers was roughly sixty percent of that obtained by their white-collar counterparts in manufacturing (Ministry of Labour, 1976:139).

More important, opportunities for future advancement remain limited for manual workers. The gap between blue- and white-collar ranks, so prominent in the West (cf. Blau and Duncan, 1967), is quite evident in Japan, serving to limit occupational achievement. For manual workers the possibility of promotion to managerial positions is objectively extremely remote (Dore, 1973:102), and they generally discount chances of being promoted to white-collar positions (Cole, 1971:107). The possibilities for crossing this barrier are substantially no better than for those who opt to leave the company, to look for an opportunity elsewhere. In 1976, some 335,000 male craftsmen and production workers changed their employment. Of these, about

34,000--10.2 percent of changers--found employment in white-collar occupations. However, a great majority of these, roughly 25,000, effected this change by becoming sales workers; only about 9,000 of these 335,000 movers--a mere 2.8 percent--found their occupational niches in the clerical, professional, technical and managerial ranks (Ministry of Labour, 1976:42-43). In short, despite the ideology depicting the firm as a semi-closed corporate group, a fundamental gap exists between the life chances of blue- and white-collar Japanese workers.

Finally, we may point to the role primary groups play in shaping workers' attitudes. In his recent publication, Cole (1979) suggests that Japanese companies rely on workers' heavy involvement in primary group relationships to achieve larger organizational goals. By mobilizing such subgroups, the company is able to promote among its employees a strong sense of participation in the company as a "community of fate." However, these are not the only consequences flowing from employees' involvement in primary group relationships.

Typically, primary groups are formed along work duties: for blue-collar workers, identification is with their work teams, and for white-collar workers, it is with their sections, or offices. In both cases, interdependence is nurtured not only by the requirements of work but also by active social involvements (e.g., Dore, 1973:222-63; Rohlen, 1974:93-120). For both reasons, i.e., work duties and social involvement, these primary groups are unlikely to contain both manual and white-collar workers. Heavy involvement in primary group relations, in other words, also has the consequence of insulating manual workers from their white-collar counterparts in the company, and at the same time providing a setting in which distinct outlooks among each class of workers may be affirmed and legitimated. Moreover, insofar as these primary groups typically consist of workers of a broad age

spectrum, they may serve as powerful vehicles for socialization, where distinct outlooks may be transmitted from one generation of workers to the next (cf. Vogel, 1965:144; Dore, 1973:234-38).

Data and Method

Our study draws on the time-series data since 1953 by the Institute of Statistical Mathematics, Japan Ministry of Education, through its ongoing project, the National Character Survey. For each survey, national samples of adult population, twenty years of age and older, are drawn using a multi-stage probability sampling. The data have been gathered at five-year intervals, with the sixth survey taking place in 1978. The following analysis will utilize the male segment of these data.

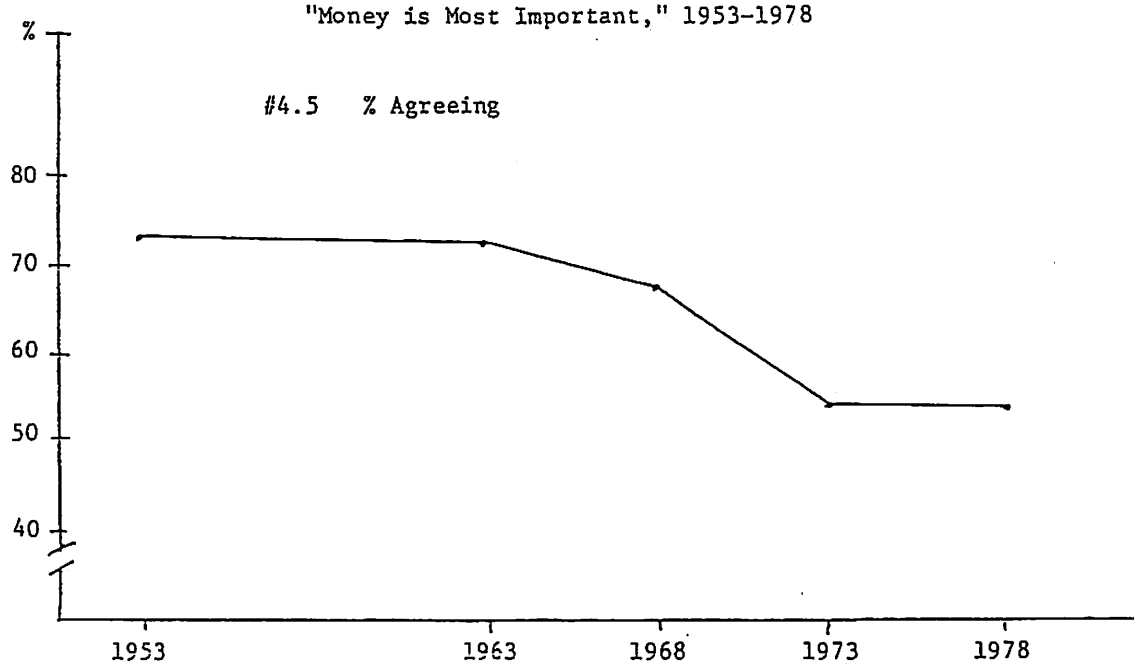
Specifically, our analysis will utilize one particular question item, referred in the surveys as item #4.5. This item asks the respondent how important money is to him:

> "In bringing up children of primary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?"

This item allows us to examine rather directly the notion that the growing affluence in Japanese society results in a de-emphasis of material concerns. Although the original responses were in three categories, "agree," "disagree," and "undecided," we choose to carry out our analysis using just the first two of these. Hence, the individuals responding "undecided" are not included in the analysis to follow.

Save for the second national survey, carried out in 1958, item #4.5 was included in each of the survey questionnaire. Tabulation of the responses to this question shows an unmistakable secular decline in the concern for

Figure 1: Percent Agreeing
"Money is Most Important," 1953-1978



material security. In Figure 1, we present the percentage distribution by survey years of those who agree that one should teach children that money is the most important thing.

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Figure 1 about here

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Figure 1 reveals clearly that the postwar era has witnessed a large decline in the concern people have about their material security. Whereas nearly thre out of every four responding in 1953 agreed that one should teach children money is the most important thing, by 1973 this opinion was supported by only about one out of every two. This precipitous decline in the materialist position may be understood as the effect of the accelerated growth of the economy since the late 1950's. The apparent leveling of this trend is visible after 1973, reflecting presumably both the impact of the Arab oil embargo and the economic climate featuring only a moderate rate of growth (cf. Ministry of Labour, 1977:Appendix Table 2). We might note that in the aftermath of the Arab oil embargo there was no reversal in the secular trend; there was no increase in the level of support for the idea money is most important. The high rate of decline was arrested, but we cannot be certain at this point whether or not it is a momentary slow-down what is otherwise an inexorable downward trend.

Since our dependent variable is categorical, we have made use of the testing procedure advanced by Goodman (1972), and later amplified by Davis (1972; 1974), which entails an extension of the idea of odds and odds ratios. Specifically, the dependent variable in this approach is the odds ratio of those responding "agree" to item #4.5 to those responding "disagree." The variation in the odds ratio will be attributed to four variables: the

respondent's age, the level of his educational attainment, his occupational status, and the year of the survey. These four variables, individually as well as in combinations, will comprise the independent variables in the general model. Formally expressed, the model takes the following form:

$$R = a + W + A + E + K + WA + WE + WK + AE + AK + EK + WAE + WAK + WEK + AEK + WAEK \quad (1)$$

where R = odds ratio of levels of support given to the two response categories in item #4.5, expressed in natural log, for a given year; a = the main effect, in natural log, of the general mean on R; W = the main effect of occupational status on R, in log; A = the main effect of age, in log; E = the main effect of education, in log; and K = the main effect of period, also in natural log; the remaining eleven terms represent interaction effects of varying order. All five variables, including the dependent variable, R, are dichotomized.

Variable W dichotomizes the respondent's occupational status into two categories: white-collar and all others. Variable A similarly dichotomizes the age of the respondent at the time of each survey: the first category contains those twenty to thirty-four years of age, and the other, thirty-five to fifty-four. Variable E dichotomizes educational attainment: one category contains those with only compulsory level education--nine years or less--and the other, ten or more years. Variable K represents two points of observation, 1963 and 1978.

Model (1) summarizes all the hypotheses we wish to examine. For example, if occupational status is an important determinant of attitude toward material security, the main effect of W must be significant. Similarly, if age or education exerts impact on attitudes, A or E, respectively, must be significant.

If, in addition, an occupational status-variation in attitude toward money is attenuating over time, we can expect a significant WK interaction effect. In particular, if the prosperity in the recent era has brought about the "embour-geoisement" of the Japanese working class, we would expect to find this WK interaction effect to be prominent.

In a very rough fashion, the interaction term AK estimates a cohort effect. To the extent that earlier experiences continue to play a significant role in shaping the individual's attitudes, we can expect to find a significant AK effect in Japan.

In as much as model (1) contains all possible effects which can be estimated, it is a "saturated" model (Goodman, 1972:eq. 35), and it fits the observed data perfectly. Our aim is to determine which of the effects posited in model (1) can be set to zero and still describe the data adequately. To phrase the matter differently, we would like to determine which of the possible effects indeed has a significant impact on the attitude toward material security. The model we obtain by eliminating from (1) those effects that are insignificant will describe the process shaping this attitude.

In the following analysis, observations from two survey years, 1963 and 1978, will be utilized. Cross-classified by the variables used in the analysis to follow, our data are presented in Table 1.

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Table 1 about here

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To this five-way contingency table we applied a wide range of models. The relative efficiency of each model was evaluated by means of the likelhood-ratio Chi-square statistic. The reader is referred to our earlier study (Leghorn and Suzuki, 1980) for a more detailed discussion of the procerdures entailed in these steps.

Table 1

Responses to #4.5[a], by Work Status, Age[b], Education[c], Males, 1963 and 1978

		Low Ed.		High Ed.		Total
	#4.5	Young	Old	Young	Old	
1963						
White-Collar	(1)	5	10	43	28	86
	(2)	4	6	50	31	91
Others	(1)	96	169	62	44	371
	(2)	50	53	45	28	176
1978						
White-Collar	(1)	4	6	15	40	65
	(2)	2	2	66	52	122
Others	(1)	21	84	20	38	163
	(2)	18	45	59	44	166

Notes:

a. "In bringing up children of primary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?

(1) = "Agree"
(2) = "Disagree"

b. Young = 20 - 34
Old = 35 - 54

c. Low Education = 9 years or less
High " = More than 9 years

Results

In Table 2 we present the results obtained by fitting models to the responses given to item #4.5 by males in 1963 and 1978.

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Table 2 about here

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With the first model, (a), we test the hypothesis that the odds ratios do not vary among the cells defined by the four-way table WAEK: i.e., variable R is independent of the joint variable WAEK. Put another way, the hypothesis represented by (a) states that there is no significant difference among the odds ratios--or, R = a. Since the likelihood ratio Chi-square statistic we obtain for model (a) is 144.69 with fifteen degrees of freedom, the likelihood is less than .001 that R would equal a (the overall average) on a random basis.

Model (e) fits two marginals, WAEK and RK. The function of the latter term, RK, is to control for the main effect of period--i.e., the hypothesis represented by the model states that R does not equal a and, in addition, that R varies with K. As evidenced by the Chi-square statistics we obtain, 100.90 with fourteen degrees of freedom, model (e) improves the fit of the data markedly in comparison to the baseline model (a). This result confirms the pattern we witnessed earlier in Figure 1: over the fifteen-year period, there is a significant decline in the emphasis Japanese men place on material security.

With models (b), (c), and (d) we test hypotheses about the main effects, respectively, of occupational status, age, and education. Each of these three models produces a significantly improved fit of the data in comparison to the fit obtained with model (a). In relation to the questions raised

Table 2

Chi-Square Values Obtained by
Fitting Several Models to Item #4.5 Responses,
Males, 1963 and 1978

	Margins Fit[a]	Chi-Square[b]	Degrees of Freedom	P
(a)	[WAEK] [R]	144.69	15	<.001
(b)	[WAEK] [RW]	105.31	14	<.001
(c)	[WAEK] [RA]	119.90	14	<.001
(d)	[WAEK] [RE]	65.07	14	<.001
(e)	[WAEK] [RK]	100.90	14	<.001
(f)	[WAEK] [RW] [RE]	58.79	13	<.001
(g)	[WAEK] [RE] [RK]	38.31	13	<.001
(h)	[WAEK] [RW] [RE] [RK]	33.08	12	.001
(i)	[WAEK] [RA] [RE] [RK]	20.62	12	.056
(j)	[WAEK] [RW] [RA] [RE] [RK]	15.42	11	.164
(k)	[WAEK] [RW] [RA] [RE] [RK] [RWK]	15.13	10	.127
(m)	[WAEK] [RW] [RA] [RE] [RK] [RAK]*	9.25	10	>.5
(n)	[WAEK] [RW] [RA] [RE] [RK] [REK]	12.49	10	.254
(o)	[WAEK] [RW] [RA] [RE] [RK] [RWK] [RAK]	8.77	9	.459
(p)	[WAEK] [RW] [RA] [RE] [RK] [RAK] [REK]	7.51	9	>.5

a. Variables are:
W = Work Status
A = Age
E = Education
K = Survey Year
R = Item #4.5, where category 1 = agree
2 = disagree

b. Likelihood-ratio chi-square values

*The best-fitting model

about the role of occupational status, the result we obtain with model (b) suggests that, at least during the fifteen-year span between 1963 and 1978, there is a significant variation by occupational status in the attitude toward material security.

One may argue, however, that the main effect of occupational status we detect with model (b) merely reflects the strong impact of educational attainment. Credential requirements in an industrial economy are such that those in white-collar positions tend also to be better educated than those in manual positions. Hence, what we find with model (b) may be the effects educational experiences have in shaping the individual's attitudes. If assessed simultaneously with the educational attainment variable, we may not find a significant main effect of occupational status. In fact, even when we control for the main effect of education, we find that occupational status continues to exert a significant main effect. The improvement in the fit we obtain with model (f) over model (b) suggests that each of these variables, occupational status and educational attainment, independently plays a significant role in shaping the attitude toward material security.

It could be argued that model (b) reflects, instead, the main effect of age. Since the young as a group tend to be better educated, they are more likely to be found in white-collar positions. In addition, the structure of occupational opportunities for the young has favored their entry into white-collar occupations. We may point to two trends favoring this outcome. First, in a relatively short time span, the Japanese economy underwent a massive shift in its industrial structure, resulting in a large-scale redeployment of its work force from the primary to the tertiary sector. In 1960, 32.6 percent of the work force was employed in the primary sector of the economy.

Fifteen years later, by 1975, the proportion of the Japanese labor force in the primary sector had declined to 13.9 percent. In the meantime, during this fifteen-year span, the proportion in the secondary sector showed only a modest increase, from 29.2 to 34.1 percent. The large decline in the primary sector, which expanded by more than ten million workers (Ministry of Labour, 1977:Appendix Table 4).

A second major trend involves a shift in occupational tasks being performed in the economy. Between 1960 and 1975, nonagricultural employment in Japan increased by 14.4 million, from 31.2 to 45.6 million. Of this increase, slightly more than a half was accounted for by the expansion in white-collar employment (Bureau of Statistics, Office of the Prime Minister, 1978:Table 33). Evidence suggests that the younger members of the Japanese work force were able in a greater number to take advantage of these new opportunities. For example, in 1971, only 7.2 percent of some 19.8 million workers twenty to thirty-four years of age were in Agriculture and Forestry; in contrast, 19.9 percent of those thirty-five to fifty-four years old, who numbered about 20.5 million, were in these primary industries (Bureau of Statistics, Office of the Prime Minister, 1971:44). To return to Table 2, then, a significant main effect of occupational status demonstrated by model (b) may vanish when the effect of age is assessed simultaneously. Here again, our findings suggest that both variables independently exert a significant main effect.

It is model (m) that fits the data most efficiently. The fit is indeed quite impressive, resulting in a likelihood ratio Chi-square statistic of 9.25 with ten degrees of freedom. Model (m) suggests that in addition to the main independent effects of period, age, and education, there is also a

separate, significant main effect of occupation. Even in Japan, we find that the gap separating manual workers and white-collar is significant.

Has the variation by occupational status in the attitude toward material security diminished in this period of prosperity? One might speculate that this gap might narrow with growing affluence, since the lives of manual workers are now less precarious economically and their patterns of consumption are becoming similar to those of the middle class. Evidence belies these expectations.

In comparison to model (m), model (o) contains one additional term, RWK. Model (o) hypothesizes a variation in the impact of occupational status over time or, more specifically, that the differences between two classes of workers in their concern toward material security would diminish over time. When compared with the fit obtained with the best-fitting model, (m), the reduction in the Chi-square value obtained by the model with an Occupation x Period interaction term, model (o) is not significant. Despite the overall rise in the standards of living, then, the gap in their attitudes has not narrowed. Manual workers continue to subscribe to a more materialist position.

Finally, model (m) also suggests a significant Age x Period interaction effect. In a very rough way, a significant RAK term suggests a cohort effect. Evidently the young respondents are rejecting this materialist point of view more rapidly than their older counterparts.

The Japanese entered the postwar decades in a state of extreme poverty, suffering from wide-spread hunger and malnutrition. By contrast, they began their fourth postwar decade in an environment of widely shared prosperity, borne out of a highly successful economy. Our finding underscores the

rapidity with which the vast improvement took place in the material well-being of the population.

Even as late as 1963, some eighteen years after the war, many in the younger age category, 20 to 34 years, had personally witnessed war-time destructions and dislocation. For many in this group, a significant part of memories from their formative years is likely to be of fear, hunger and deprivation.

By 1978, however, those in the younger age category would have experienced very little, if any, of the physical insecurity and material shortage associated with both wartime and postwar years. These younger Japanese most of whom were born after the war, have come of age in a period of economic growth and affluence. In important regards, their personal memories are different from those of their elders, and their outlook toward material security evidences this important cohort variation.

What is the relative magnitude of each of these effects? Table 3 presents the estimated effect parameters for the best-fitting model.

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Table 3 about here

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Let us first look at the estimated effect parameter for occupational status. According to this estimate, white-collar workers are less materialistic than the "Other" workers by an eighteen percent margin. Vogel (1963:33) suggests in his study of the Japanese white-collar employees, the "salary men," that these workers "tend to live an orderly life." For the "salary man," such orderliness derives from his access to regular income, to a structure of reward allocation in which age and firm seniority play central

Table 3

Effect Parameters[a] Estimated by Best-Fitting Model to Item #4.5

	General Mean	Occ.Status (WC/Other)	Age (Yo/Old)	Ed. (Lo/Hi)	Period	Age x Period
1963					.185	.078
	.039	-.083	-.144	.178		
1978					-.185	-.078

a. Estimated effects are in natural log. The dependent variable is the ratio, also in natural log, of those responding "Agree" to the others responding "Disagree" in item #4.5.

roles, and to a wide range of welfare benefits provided by the employer. We surmise that it is the sense of security derived from this orderly life, coupled with their advantaged positions in the orgaizational reward structure, which account for the lower empphasis white-collar workers place on material security than their manual or self-employed counterparts.

Not only do we find a significant effect for occupational status, but we find that this gap between two occupational groups has not attenuated, despite the vast improvement in the standards of living overall. Thus our findings for Japan parallel those of Goldthorpe and his collaborators (1967) for Great Britain, as well as Berger (1960) for the United States: regardless of a growing similarity in patterns in consumption, there remains a persistent gap separating white-collar workers from others in their attitudes toward material security.

Independent of all other effects, the best-fitting model--model (m)--estimates a large period effect. Between 1963 and 1978, the effect of time has been to bring about a forty-five percent reduction in the likelihood of support for "Money is most important." Affluence has left a clear mark on the way the Japanese order their priorities.

Education also exerts a large influence on how the Japanese view their needs. Whatever other roles it may play--e.g., in allocating occupational statuses--in Japanese social life, our results suggest that education serves to shape individual's value priorities. The effect of being better educated is to reduce the likelihood of agreeing "Money is most important" by some forty-three percent. One way to assess the potential import of this latter finding is to consider the large increase Japan has witnessed in the rate of enrollment in post-compulsory institutions. In 1955, 51.5 percent of

those finishing their compulsory education--nine years--went on to receive further education; by 1977, this rate was 93.1 percent (Ministry of Education, 1973:142-43). We may therefore conclude that the rapid rise in the overall level of educational attainment has played a prominent part in bringing about a secular decline in the "materialistic" outlook in Japan.

Our model (m) also estimates a significant age effect. The estimated main effect of age, A, suggests that during these fifteen years the young were about a third less likely to support the materialist position than their older counterparts. This age difference may be interpreted as a life-cycle effect, reflecting the tendency among the young to be more idealistic and to be less concerned with their material security. As they grow older, their idealism may be tempered by experience, and their concern over the economic well-being of their family will lead their outlooks to become more materialistic. While our results give some support for this life-cycle interpretation, the significant Age x Period interaction effect also lends support to a cohort interpretation. Those who have come of age recently are profoundly affected by the conditions of peace and prosperity prevailing during their formative years (cf. Inglehart, 1977). Hence, over the fifteen-year period, the trend has been to increase the age-differential in attitude toward money. In 1963, the older individuals were fourteen percent more likely than their younger counterparts to agree with the notion "Money is more important." By 1978, a fifty-six percent gap separated these two age groups in their preference for this materialist position. In line with Inglehart's findings for industrial societies in the West (1977), we find that the young in Japan are rejecting the materialist view more rapidly than their elders.

Summary and Conclusions

In his seminal study of sociopolitical attitudes among Western publics, Inglehart (1977) argues that an improvement in physical and material security has an uneven impact on different individuals. Specifically, he asserts that the long period of peace and prosperity in the West following World War II had its greatest impact upon those whose formative years were spent under these favorable conditions. According to this thesis, a clear shift in value priorities is to be expected, with the young showing a greater preference for "Post-materialist" positions than their elders (Inglehart, 1977).

Using time-series data gathered in Japan, this paper assessed the extent of support given to a "materialist" position by the Japanese during a period of unprecedented prosperity. Our results reveal a substantial decline in the level of support given a materialist position during the fifteen year period between 1963 and 1978. We have argued that this secular decline is, to a substantial degree, attributable to the increasing peace and affluence characterizing Japanese society in postwar years: these favorable conditions appear to have left a clear imprint upon all segments of the population. In fact, a significant shift in attitudes is discernible even among those cohorts who have presumably experienced in their formative years the hardship associated with the war and its immediate aftermath.

By the same token, our results also indicate that the overall decline in the support given to the materialist position is facilitated by a more rapid rejection of this view by the young cohorts. The young Japanese of the late 1970's are indeed less concerned with material goals than their predecessors. At least in this limited context, our results from Japan

lend support to Inglehart's assertion that affluence and peace in industrial societies are bringing about important shifts in values (Inglehart, 1977). In fact, our time-series provides direct evidence of a significant cohort variation in attitudes toward material security.

The well-known student of Japan, Edwin Reischauer, suggests that both foreign observers of Japan and Japanese themselves share the feeling that "Japan is somehow unique," and this has encouraged a search for "some one simple explanation for this uniqueness" (1977:124). Perhaps it is because of this bias that studies of Japanese society have typically emphasized those elements which bind individuals together, rather than those which divide or produce conflict and competition. The widely shared assumption that occupations are not important in Japan may be a product of this general tendency.

Taking a departure from the standard emphasis on what is different about Japan, we have endeavored to demonstrate some significant parallels between Japan and other industrial societies. Our results suggest that in Japan, an individual's occupational status is indeed a central factor shaping his attitude toward material security. Moreover, the vast improvement in the standards of living in the recent decades has not significantly changed this fact. The rapid growth in the number of white-collar positions, as well as the great expansion in educational attainment, have served to reduce people's concern for material security overall. However, these important developments of recent decades do not affect the structural bases given rise to variation by occupational status in people's concern for material security.

In comparison to their white-collar counterparts, the life chances of Japanese manual workers are unfavorable in several fundamental respects. Despite the widely reported success Japanese firms have achieved in eliciting commitment and participation from their manual workers (e.g., Cole, 1979), it is undeniably the case that manual workers' jobs tend to be more repetitive and boring; their incomes are lower; and their chances for promotion to higher status positions are fewer than their white-collar counterparts. Notwithstanding the prevalence of ideology which depicts the firm as a semi-closed corporate group comprising a "community of fate," as well as the use of age and firm seniority in determining salary (wage) and status, an essential inequality characterizes these two groups in Japanese firms. Put another way, each additional year of experience fetches a smaller income increment for manual workers than for white-collar workers (Shimada, 1974:Table 8). This organized inequality in rewards and opportunities provides a central structural basis for the persistent variation in attitudes toward material security. The large differences in outlooks among different socioeconomi groups which Inglehart reports for Western societies (1977:72-89), are, in our view, products of analogous processes.

In conclusion, we may expect the variation by occupational status in individuals' attitudes toward material goals to be a persistent feature in Japan. In this respect, the Japanese experience parallels those which have been reported for the West. The similarity is a product of structural arrangements which provide unequal access to rewards and opportunities, and which limit the range of interactions and interdependence in which an individual finds himself. In this fashion, distinct outlooks are maintained, despite a growing similarity in patterns of consumption among a wide range of individuals.

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VI.

ATTITUDES TOWARD WORK IN JAPAN AND THE U.S.

Attitudes Toward Work in Japan and U.S.

What I would like to do today is to explore with you the commonly held notion that the attitudes toward work are different in Japan and the United States. Although the notion itself has been around a long time, it has been given a new slant recently, in view of the ailing economy in the United States and the robust state of the Japanese economy. Many observers concluded, very simply, that the relative health of the two economies reflect a fundamental difference in their workers' willingness to work hard. According to this view, Japan achieved its current prosperity because its people are more dedicated and hard working, where as America slid from its economic preeminence because its people are not willing to toil. Because America has enjoyed a long period of prosperity, its people take affluence and its amenities for granted, and no longer view hard work as a virtue or a necessity. In short, this view suggests that the ethic of hard work is alive and well in Japan, while it has largely disappered in the United States.

To support their contention, these observers point to some of the well-publicized statistics: American workers change their jobs much more frequently than their Japanese counterparts, and the goods they produce tend to have more defects than those produced in Japan. The high rates of mobility among Americans are seen as prima facie evidence of their lack of commitment to their work and their employer organizations; similarly, the often low quality of their products are thought to reflect their lack of interest in their work and their general unwillingness to work hard.

As many Japanese firms are either currently operating in the United States or planning to do so in a near future, this characterization of

the work force in America is alarming. The vision of having to rely on and to manage a work force not committed to its work is, understandably, haunting.

Too, if the suggested decline in the American ethic of hard work is due largely to its past affluence, one must also become wary of its implications for Japan. Having successfully transformed itself from a war-ravaged, improverished society into an economic giant, Japan now enjoys the fruits of unprecedented prosperity. The millions of tourists who annually travel to overseas destinations, the wide range of consumer goods, the glittering high-rise buildings are but a few signs of a highly affluent society. Whether such a prolonged period of peace and affluence would bring about, with inexorable logic, a decline in the Japanese workers' willingness to work hard is a question of more than a passing interest.

In a discussion of the attitudes toward work, the major temptation that we must try to avoid is that of oversimplification. The temptation is particularly great when we attempt to make statements about another society, since our footing tends to be much more tenuous. We must, however, resist this temptation to oversimplify, since the issues are complex, and overly simple conclusions become misleading rather than informative.

In particular, we need to bear in mind that there is certainly more than one attitude that is important. Moreover, those attitudes are not now identical in all segments of a working population, nor can we assume that they will follow prallel paths in the future.

Our approach, therefore, in exploring different facets of the attitudes toward work will be deliberately eclectic. We will first review some of the results of attitudinal data collected over time in the United States. Our aim here is to examine the notion that there

has been a fundamental shift in the attitudes toward work in America.

Second, we will take look at some cross-national comparative data on attitudes toward work. We will delineate the areas of similarity, as well as differences, in the attitudes recorded in Japan and the United States.

In the final section, we will discuss the attitides toward work in a larger socioeconomic context. Specifically, we will attempt to assess the cultural meaning of the expansion in the female labor force participation and its prospects for the future.

Work Satisfaction and Commitment

Based on the mass media reports circulating in Japan, the impression one gets of the American workers is that they are contentious, discontented, and generally not committed to their work. At first sight, the impression does not seem too entirely farfetched. In 1978, some 39 million man-days were lost of industrial strifes in the United States; during the same year, in contrast, only 1.4 million man-days were lost due to labor conflict in Japan. Elsewhere, the American pollster, George Gallup, Jr., whose organization has been gathering data on work satisfaction reports that the recent results indicated "a greater degree of discontent now than has been found for a number of years--particularly among youths", and that this poses a threat to future industrial output in the United States.

Has there been a significant increase in the level of discontent among American workers? Not particularly, as evidenced in the compilation of relevant data collected between 1958 and 1977 (See Table 1). The data came from national surveys conducted by four different organizations, all of which contained a question corresponding to "On the whole, how satisfied are you with the work you do?" As can be seen

in Table 1, the percentage of American respondents who could be classified as "satisfied" runs at or slightly above the 80 percent figure. There was a slight increase in the level of satisfaction between 1958 and 1964, after which the level remained at a reasonably stable high plateau throughout the following years. If there is a lack of commitment to work among American workers, it is not because they are much less satisfied than before.

Of course, it is quite possible that the level of satisfaction voiced by American workers has very little to do with their interest in, and commitment to, work. If a worker's sole goal is to obtain pecuniary rewards on a regular basis, his "satisfaction" may only reflect the level of his pay, rather than the nature of his work.

Available evidence belies the often espoused assertion that work is no longer important to American workers. In 1958 and again in 1971, the sociologists at the University of Michigan gathered data on value orientations regarding work. In these surveys, the respondents were requested to place five work values in order of their preference ranking (the items are reproduced in Figure 1). The researchers then computed the average rank assigned to each value. The averages are shown in Figure 1.

Figure 1 shows unmistakable shifts in the relative popularity among these values. High income and short hours ranked appreciably higher in 1971 than in 1958, the greatest gain being recorded by the latter. Correlatively, importance of the work, chance for advancement, and job security declined in popularity relative to income and short hours, although they retained the same positions with respect to each other. Despite these shifts, however, the most impressive fact about the trends during this thirteen-year span is the continued preference given for a work that allows the worker a feeling of accomplishment.

Clearly, this is not a pattern of response one would expect from workers who are not interested in their work.

A similar conclusion was reached by a comprehensive study of the attitudes people have regarding what they are looking for in their jobs and careers. This was the Survey of Working Conditions, taken in 1969-1970 by the University of Michigan for the U.S. Department of Labor. In this survey, the researchers found that their sample of American workers rated various comfort factors (such as working hours and work load) as relatively less important than job challenge, financial rewards, relations with co-workers, and resources to get the work done. The single factor receiving the highest rating was "The work is interesting", the lowest was "I am not asked to do excessive amounts of work". The authors concluded that, in addition to conventional economic factors, American workers are more concerned with obtaining jobs that are interesting and challenging than avoiding such jobs.

A 1976 survey by the National Opinion Research Center confirms that general picutre: a factor that emerged as particularly salient is the belief that the job is important and gives the worker a feeling of accomplishment. In sum, the picture of the American worker suggested by these findings is not one who is uninterested or uncommitted to his work; on the contrary, he appears to place a very high priority on interesting and challenging work.

Attitudes toward Work: Some Comparative Data

In the preceding section, we have established that the characterization of American workers as discontented and uniterested in work is not particularly accurate. Rather, American workers seem very much interested in finding challenging work. How do their attitudes toward work compare against those held by their Japanese counterparts? In

comparison with the Japanese, who have been widely acclaimed as loyal and dedicated to work, where do American workers stand?

In order to answer this and similar questions, we carried out surveys in Detroit and Yokohama in 1970, using comparable interview instruments. Our samples consisted of males, 16 to 60 years of age, who were (in 1970) in the labor force. With regard to work commitment, our results were not what we had expected. On the whole, our sample of Detroit respondents appears to be no less committed to work than its counterpart in Yokohama (see Tables 2A, 2B, 2C).

We asked our respondents how often they worked harder than they were required. More than six out of every ten workers in Detroit responded "very often" or "fairly often", while somewhat less support for these responses was given by our Yokahama respondents. Somewhat to our surprise, the workers in Yokohama responded "never" with a greater frequency than did those in Detroit (see Table 2A). Here again, we find no empirical basis for the assertion that the attitudes toward work among Americans are substantially different.

In these surveys, we also asked our respondents in Detroit and Yokohama how often they got so involved in their work that they lost track of time (Table 2B). For the most part, the patterns of response we obtained from these samples were similar. The largest difference was in the levels of response, "never", with the Detroit workers giving this response at a rate twice that of the respondents in Yokohama. These results suggest that despite their interest in challenging work, the American workers are often not assigned the tasks which would elicit their active involvement. What these data suggest is not a lack of interest in, or commitment to, work. Rather, they seem to point to a problem of job task allocation in America, where insufficient care has been given to providing the workers with adequate arenas

for their participation.

This conclusion is given an additional support from a third item in this battery of questions. In this question, we asked our respondents how often they spent time thinking of ways they can do their jobs better. It has become almost axiomatic among Western observers of Japanese scenes that a major reason for Japanese firms' success lies in their abilities to obtain a high degree of participation from their employees. Small group activities in Japan, such as the QC Circles, are avidly studied and emulated by Americans because they are believed to increase employee participation. We could, therefore, expect that the Japanese more frequently spent time thinking about their jobs. Our results did not support this expectation (see Table 2C).

Contrary to our expectation, more Detroit workers said they very very often spent time thinking of ways they could do their job better than those in Yokohama. In contrast to the responses given in Japan --roughly one out of three said they very often spent time thinking about their jobs--a significantly greater proportion of Detroit workers --nearly one out of two--voices a high level of interest in work. Indeed, nearly three out of four in Detroit thought about how they could do their job better "very often" or "fairly often".

Taken together, these results suggest an image of American workers quite at variance with the one commonly drawn. It is apparent that work is quite important for the American worker, and he seeks challenge and a sense of accomplishment from his work.

The dedication to work among American workers has been underscored in many other survey studies. For example, a survey was carried out about twenty-five years ago in the United States, drawing on a sample of white male workers. When asked whether they would continue working

if they were to inherit enough money to live without it, four out of five answered in the affirmative. Essentially the same question was later repeated in several national surveys and the results were similar: the percentage of those opting to work remains high.

In 1978, a similar question was asked in national surveys carried out in Japan and the United States by the Institute of Statistical Mathematics. In both Japan and the United States, a great majority of the respondents said they would "continue working". Figure 2 displays the proportion at each age of male respondents wishing to continue working in Japan and the United States.

The message contained in Figure 2 seems relatively unambiguous. In both Japan and the United States, work is not merely a means for securing a financial end. Rather, the importance people place on work reflects its symbolic function. For better or worse, we continue to derive from our work an important part of our social status as well as our sense of accomplishment. Holding a paid job continues to be important because it serves as a highly significant, almost indispensable, symbol of self-worth for the individual. In short, we find no essential difference between Japanese and Americans in this critical area of the attitudes toward work.

Commitment to work Americans may be assessed from yet another angle. It has to do with the belief that hard work pays off.

Ingrained deeply in the traditional belief system in America is the notion that one achieves success through hard work. In large part, this notion stems from America's unique history, a nation without a tradition of a rigid social hierarchy, where economic success seemed to be within easy reach of many. Espoused as a public ideology and accepted without much reservation, this notion has been buttressed by stories of hard work resulting in success, by men like

Abraham Lincoln, Andrew Carnegie, Thomas Edison, and Henry Ford. Given this cultural background, it would be of some interest for us to see how the Americans today view the efficacy of hard work. Having long enjoyed very high standards of living, how much importance do Americans place on the virtues of hard work?

In the same 1978 national surveys carried out by the Institute of Statistical Mathematics, the following question was posed to the respondents in Japan and the United States: "Some people say that people get ahead by their own hard work; others say that lucky breaks are more important. Which do you think is more important?" Figure 3 presents the results obtained for the male respondents, 20 to 49 years of age. Each entry in Figure 3 represents the proportion of respondents in each age group replying "hard work is more important".

The most impressive feature of Figure 3 is the large gap separating the levels of support given to "hard work more important" by our two samples. Reflecting the still strong impact of the traditional ideology, a large majority of Americans believe in the efficacy of diligence. In contrast, the Japanese were much more cynical. Although "hard work" still received the largest support, a substantial number replied that lucky breaks are more important.

Because holding an interesting and challenging work is important, and because he believes in the efficacy of hard work, the American worker tries actively to find a work which would give him the opportunities to become involved, to put to use his knowledge and experience. As we saw earlier, many American workers find themselves in jobs which fail to provide them with any meaningful challenge. It is this discrepancy, between the high occupational aspirations American workers hold and the limited opportunities to satisfy them, which fuels the high rates of mobility in America.

As widely known, American workers in a great number change their jobs each year. Lebergott, for example, estimates that the American man, in his work life, fills twelve different jobs (with different employers), each for about four years. Indeed, a review of international data from advanced industrial societies reveals that as a group Americans are unique in this regard.

Is the high rate of mobility characterizing the American work force a reflection of their low commitment to work? On the basis of data we have reviewed, we are not inclined to agree. We are more inclined to see the high rate of mobility as an evidence of American workers' strong commitment to work, and their strong desire fo find challenging work. This interpretation finds empirical support in the patterns of inter-firm mobility evinced by American workers.

Figure 4 presents the rates of inter-firm mobility by age and firm size, for Detroit and Yokohama. Several observations can be made on this figure. In the first place, Detroit workers in comparison to their Yokohama counterparts are more mobile. In fact, at each age, they are 2.6 times more likely to change their jobs. Second, the likelihood of job change declines steadily with age, at the rate of 6.5 percent per annum. In other words, American workers do not keep on changing their jobs at the same rate throughtout their life; rather, they appear to "settle down" after a period of trial-and-error. The same pattern characterizes the mobility behavior of workers in Yokohama.

Third, there is a substantial difference in mobility rates recorded by workers employed in firms of different size. In both Detroit and Yokohama, those employed by smaller firms are three times as likely to change their jobs during the year as those employed by larger firms. This is not at all a surprising outcome.

Failing to find within the firm diverse opportunities or job lad-

ders with many upward rungs, the workers in smaller firms must seek external opportunities with a greater frequency. Conversely, those employed in larger firms are more likely to find a variety of opportunities internally; they are more likely to enjoy a sense of career progression. Hence, employees in larger firms are much less likely to change their place of work.

The point is that the essential basis for American workers' employment behavior does not appear to be different from that of Japanese workers. Both spend their early years in the labor market searching for a relatively satisfactory work; both demonstrate greater attachment to jobs providing them with diverse opportunities and amenities. Let me rephrase the matter. I am suggesting on the basis of the data we have reviewed that the popular characterization of American workers as being uninterested, uncommitted, not dedicated to their work requires a major overhaul. Nor can we attribute the sluggish performance of the U.S. economy to its workers. I am more inclined to argue that the problem to be ironed out is not the quality of labor, but management priorities and organization of work tasks. But discussions of these topics must await another opportunity.

Attitudes toward Work: Prospects

In speculating about the possible shifts in attitudes toward work in the 1980's, we will focus our attention on a topic of major interest in the United States: namely, the expansion in women's labor force participation and the concomitant changes in the sex-role attitudes.

Traditionally, labor force participation rates of women have been inversely related to their husband's earnings: the lower the earnings of the chief breadwinner, the greater the likelihood that his wife would be working. In other words, women tended to work out of

economic necessity. Most of the jobs available to them were unattractive, ill paid, and socially demeaning.

If low incomes drove women to work, how, then, do we explain the upward trend in female labor force participation in a period of rapidly rising real incomes? For example, between 1947 and 1976:

1) Percentage of women 16 and over in labor force increased from 32 to 47 percent;

2) Percentage of married women in labor force expanded from 20 to 45 percent;

3) Women as a proportion of labor force increased from 28 to 41 percent.

The answer lies, in part, in the growing availability of jobs that, at least in contrast to those of the past, are more attractive, better paid, and involve shorter standard hours of work, or can be held on a part-time basis.

Between 1950 and 1977, white-collar jobs in the United States doubled in number, from 22.4 million to 44.8 million (refer to Table 3). The expansion in white-collar occupations affected the American women strongly, as the number of female white-collar workers jumped from 8.8 million in 1950 to 23.1 million in 1977. In fact, by 1977, females outnumbered males in white-collar occupations.

Although more than half of the female workers in white-collar occupations are still employed in their traditional reserve, Clerical and Kindred, they are increasingly making impressinve inroads into the ranks of Professional, Technical and Kindred (from 1.8 million in 1950 to 5.8 million in 1977), and Managers, Officials and Proprietors (from 1.0 million in 1950 to 2.1 million in 1977). [Refer to Table 4].

Another undeniably important reason for the increased level of female labor force participation in America is the impact of a

cultural movement, popularly (and rather loosely) referred to as the Women's Movement. Spearheaded by young, well-educated women, the movement found a successful model in the Civil Rights Movement of the 1960's. The movement gained its legitimacy by successfully portraying American women as the discriminated and the disadvantaged, just as the Civil Rights Movement of the 1960's had portrayed the American blacks as being deprived of their civil rights.

As a cultural development, the Women's Movement has had wide ramifications, and they will continue to affect American society in most profound ways. Two major consequences are already visible:

1) The enactment of laws forbidding discrimination of the basis of sex, as well as forcing government agencies and private enterprises to hire a quota of women.

2) A wholesale change in the sex-role attitudes, where the traditional allocation of tasks based on sex is becoming less prominent.

Both these developments had the consequence of drawing more women into the labor market. In the process, obtaining a paid job has become as crucial for American women as it has been for men, as their assessment of self-worth has become increasingly bound up with the paid jobs they hold. For American women today being "just a housewife" is a poor means of maintaining self-esteem.

Thus, by 1977, less than one quarter of the American labor force consisted of the traditional "breadwinner", wage earners who are sole source of support for dependents. In contrast, 64 percent of the American work force are wage earners in multi-wage-earner households.

To the extent that the ideological thrust of the Women's Movement is to eliminate some of the traditional assumptions regarding role allocation based on sex, and to the extent that its grievances have been

received as legitimate, the importance of a paid job as a measure of one's self-worth is likely to increase among American women. In other words, I do not foresee any decline in the level of female labor force participation in the 1980's. The demand for clerical workers is not likely to diminish, and women will continue filling a preponderance of these jobs. More importantly, as the highly educated women of the "baby boom" cohorts enter the labor market, we are likely to witness a greater clamoring for employment of women in high status jobs. Given our recent experiences, we will find many more women in the ranks of Professionals, Managers and Officials in America in the 1980's.

Table 1. Percentage of "Satisfied" Workers, 1958–1977.

Year	Source	Percent "Satisfied"
1958	Survey Research Center*	81
1963	Gallup Poll*	89
1962	National Opinion Research Center	83
1964	Survey Research Center, University of California	91
1964	National Opinion Research Center*	92
1965	Gallup Poll*	87
1966	Gallup Poll*	92
1966	Gallup Poll*	89
1969	Survey Research Center	85
1969	Gallup Poll*	92
1971	Survey Research Center	91
1971	Gallup Poll*	88
1971	Gallup Poll*	86
1973	Gallup Poll*	88
1973	Survey Research Center	90
1974	National Opinion Research Center	85
1975	National Opinion Research Center	87
1976	National Opinion Research Center	86
1977	Survey Research Center	88

*Males only; all others comprise both sexes.

Source: Raymond A. Katzell, "Changing Attitudes toward Work", in Clark Kerr and Jerome M. Rosow, eds., Work in America: The Decade Ahead. New York: Van Nostrand. 1979.

Table 2. Percentage Distribution of Responses to Work Commitment Questions, Detroit and Yokohama, 1970*

A. "How often do you work harder than your employer or supervisor requires?"

	Detroit	Yokohama
Very often	36.3%	26.9%
Fairly often	26.5	31.5
Once in a while	27.7	28.2
Never	9.5	13.4
N	(570)	(464)

B. "How often do you get so wrapped up in your work that you lose track of time?"

	Detroit	Yokohama
Very often	33.0%	34.7%
Fairly often	16.6	21.6
Once in a while	31.7	34.5
Never	18.8	9.3
N	(634)	(580)

C. "How often do you spend some time thinking of ways you can do your job better?"

	Detroit	Yokohama
Very often	48.4%	34.4%
Fairly often	24.0	23.8
Once in a while	22.0	32.5
Never	5.7	9.3
N	(637)	(581)

*In calculating the percentage distribution, DK and NA responses were not included.

Table 3. Employed Persons by Sex and Occupation, 1950-1977, U.S.

(excluding farm workers)

	White-Collar	Blue-Collar	Service
Male			
1950	13,549	19,727	2,685
1955	14,305	20,925	2,657
1960	16,596	20,573	2,918
1965	17,964	22,314	3,287
1970	20,054	23,020	3,285
1975	21,134	23,220	4,400
1977	21,692	24,286	4,717
Female			
1950	8,824	3,608	3,850
1955	10,280	3,847	4,449
1960	12,129	3,637	5,431
1965	14,137	4,153	6,057
1970	17,943	4,771	6,427
1975	21,092	4,742	7,253
1977	23,098	5,235	7,535

Source: U.S. Bureau of the Census, Statistical Abstract of the United States, 1966 and 1977

Table 4. Occupational Distribution of White-Collar Workers, 1950-1977, by Sex, U.S.

	Professional, Technical, Kindred	Managers, Officials and Proprietors	Clerical of Kindred	Sales
Males				
1950	2,696	5,439	3,035	2,379
1955	3,608	5,454	2,792	2,451
1960	4,768	5,967	3,154	2,707
1965	5,602	6,229	3,293	2,840
1970	6,842	6,968	3,481	2,763
1975	7,481	7,162	3,355	3,137
1977	7,820	7,216	3,297	3,359
Females				
1950	1,794	990	4,597	1,443
1955	2,183	997	5,575	1,525
1960	2,706	1,099	6,629	1,695
1965	3,280	1,110	7,873	1,874
1970	4,298	1,321	10,233	2,091
1975	5,267	1,729	11,772	2,324
1977	5,839	2,076	12,748	2,436

Source: U.S. Bureau of the Census, Statistical Abstract of the United States, 1966 and 1977

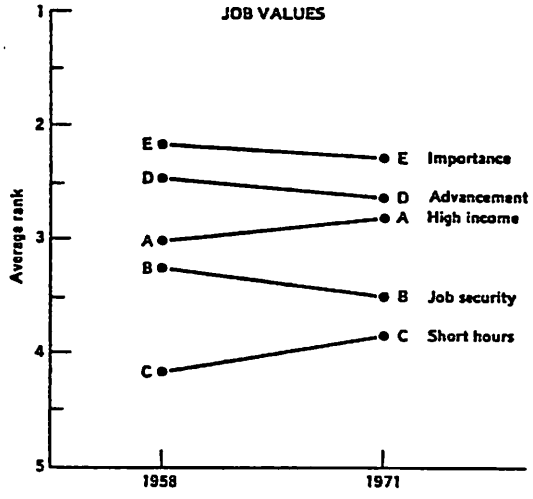
Table 5. Worker Class Among All Nonagricultural Employees, 1955-1977, by Sex, Japan

	1955	1960	1965	1970	1975	1977
Male						
White Collar	7,330	8,550	9,840	10,850	12,640	13,060
Professional, Technical	1,210	1,380	1,420	1,780	2,070	2,190
Administrative	840	860	1,250	1,290	1,950	2,010
Clerical	2,330	3,030	3,720	3,880	4,050	4,030
Sales	2,920	3,280	3,450	3,900	4,570	4,830
Blue Collar	7,990	9,830	11,750	14,100	14,650	14,720
Service	940	1,360	1,600	1,600	2,070	2,060

Female	1955	1960	1965	1970	1975	1977
White Collar	4,630	5,510	6,360	7,610	8,640	9,240
Professional, Technical	690	820	960	1,170	1,560	1,700
Administrative	60	50	60	50	110	110
Clerical	1,370	1,960	2,640	3,670	4,150	4,480
Sales	2,510	2,680	2,700	2,720	2,820	2,950
Blue Collar	3,760	4,280	4,860	5,620	5,060	5,390
Service	1,250	1,620	1,940	2,280	2,500	2,590

Source: Bureau of Statistics, Office of the Prime Minister, Japan Statistical Yearbook, 1978, Table 33

Figure 1. Average Ranks of Five Values in a Job



Question:

"Would you please look at this card and tell me which thing on this list you would most prefer in a job [married women were asked: which thing you would want most for your husband's job]?"

[A] High income
[B] No danger of being fired
[C] Working hours are short, lots of free time
[D] Chances for advancement
[E] The work is important and gives a feeling of accomplishment.

"Which comes next? Which is third most important? Which is fourth most important?"

Source: Otis Dudley Duncan, et al., Social Change in a Metropolitan Community. New York: Russell Sage Foundation, 1973.

FIGURE 2

"CONTINUE TO WORK", BY AGE, MALES, JAPAN AND U.S., 1978

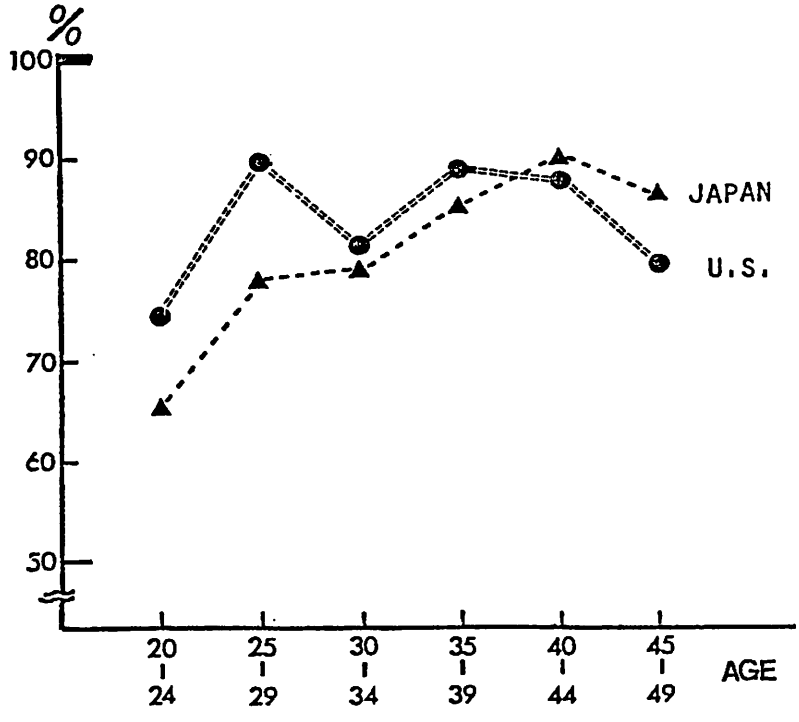


FIGURE 3

"HARD WORK", BY AGE, MALES, JAPAN AND U.S., 1978

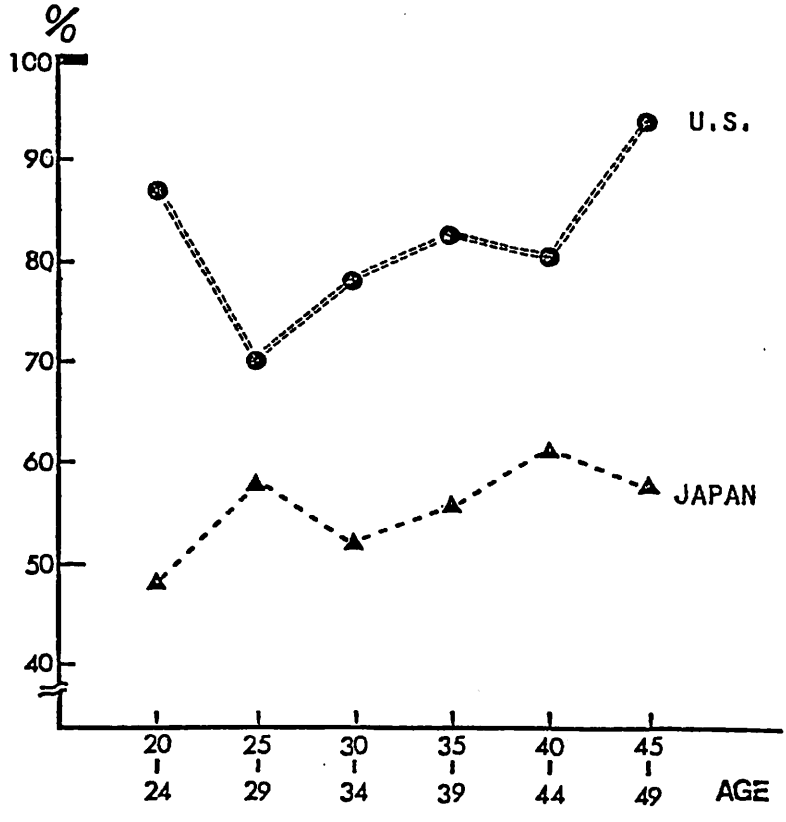
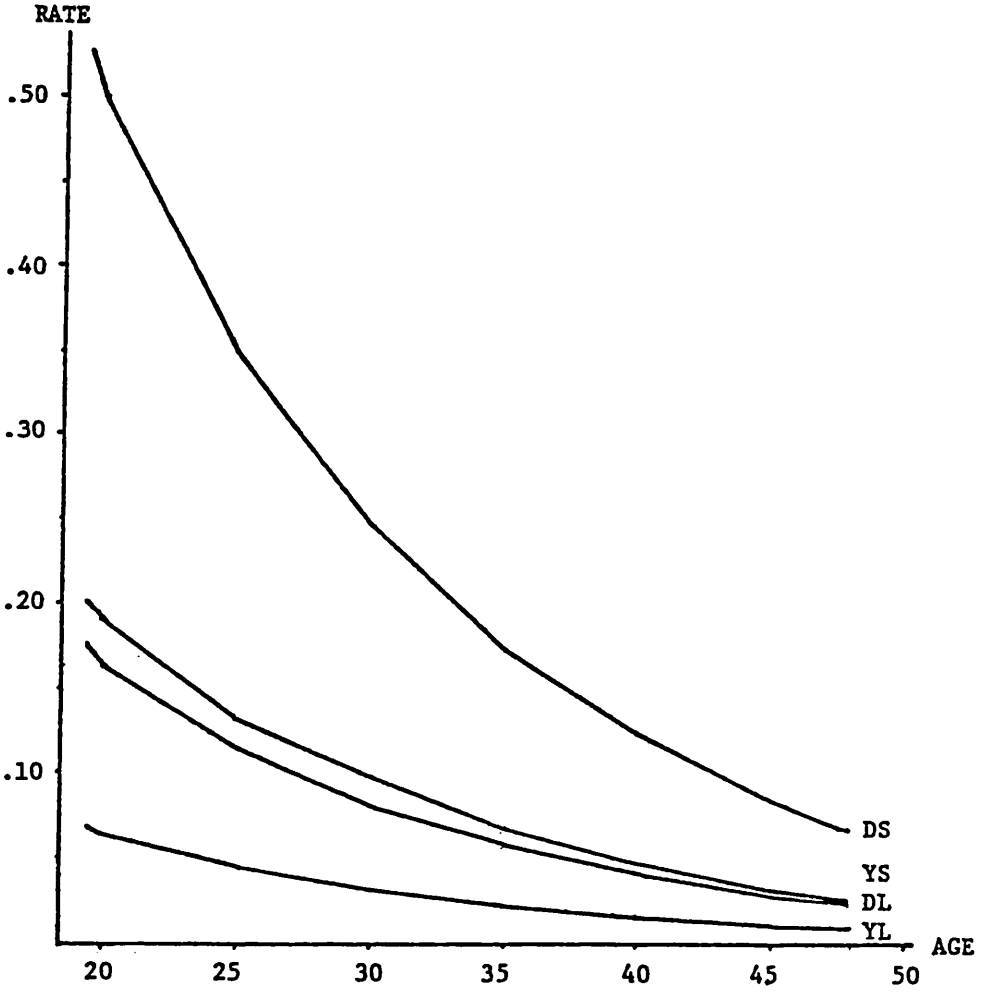


Figure 4

Rates of Job Change Among Male Workers,

Detroit and Yokohama, by Firm Size



D: Detroit
Y: Yokohama
S: Firms with less than 500 employees
L: Firms with more than 500 employees

VII.

THE JAPANESE AND THE AMERICANS :

Symposium on Research Funded by
the Toyota Foundation

Symposium on Research Funded by the Toyota Foundation

TITLE: The Japanese and the Americans:
Significance, Methodology, and Possibilities
of International Comparative Studies

SPONSOR: The Toyota Foundation

DATE: Thursday, February 14, 1980; 1:10-6:00 PM

PLACE: The International House of Japan
5-11-16 Roppongi, Minatoku, Tokyo
Tel: (03)470-4611

PROGRAM:

1:10 Welcoming Address
ISAO AMAGI, Director General, Japan Society for the Promotion of Science

1:30 Research Report

1. An Ecological Comparative Study of National Health in Japan and the United States
MIKIO YAMAMOTO, Professor, Teikyo University
2. Pitfalls in Cross-Cultural Survey Research
Comparative Study of Value Systems in Japan and the United States
TATSUZO SUZUKI, Institute of Statistical Mathematics

3:00 Presentation
Logic and Methodology for Comparative Study by Statistical Survey
CHIKIO HAYASHI, Director General, Institute of Statistical Mathematics

3:30 Coffee Break

3:50 Panel Discussion
Chairman: AKIRA TEZUKA, Professor, Saitama University
Panelists: FUJIO IKADO, Professor, Tsukuba University
KEIJI IWATA, Professor, Tokyo Institute of Technology
SHIGERU NAKAYAMA, University of Tokyo
SHUICHI HATANO, Tokyo Metropolitan Institute of Gerontology

6:00 Reception

Summaries in English

The Main Purpose of the Symposium

The Toyota Foundation has been sponsoring a series of symposiums on research funded by the Foundation in order to bring the results of such research to the attention of interested people. The reports of two international comparative studies on the Japanese and the Americans will be heard at the present symposium. The first study focuses on physical properties – health; and the second focuses on mental properties – values. Both studies are characterized by the attempt to quantitatively clarify the differences and common features of the Japanese and the Americans using statistical methods.

After the presentation of the reports, a panel discussion on comparative study will be conducted. Invited specialists from various academic disciplines will discuss what is meant by quantitatively describing the attributes of a people and what is the significance of conducting international comparative studies by means of such a statistical approach.

There are many international comparative researches among the research proposals submitted to the Toyota Foundation every year. Most of these researches are focused on comparisons of Japan and other countries. It seems very important to elucidate the characteristics of Japan from a wide range of viewpoints through international comparative studies. However, in order to conduct such international comparative studies scientifically, we need to solve various basic problems concerning the selection of areas to be compared, the framework of comparison, viewpoints of comparison, criteria of comparison, and so forth.

The Foundation hopes this symposium will provide an opportunity to further encourage discussion on such vital problems.

Further information can be obtained from:
The Toyota Foundation
Shinjuku Mitsui Building, 37th Floor
2-1-1 Nishi Shinjuku, Shinjuku-ku, Tokyo 160
Tel: (03)344-1701

Logic and Methodology for Comparative Study by Statistical Survey

CHIKIO HAYASHI
The Institute of
Statistical Mathematics

The logic and methodology have a very important meaning in a comparative study by statistical survey. Only the comparison based on the accumulation of data is oftin misleading and self-complacent without any fundamental consideration of the logic and methodology. Here, some fundamental considerations will be presented concerning this point.

Since there are many unsolved problems in comparative study which we mean cross-societal and -cultural study by statistical survey methods, the approach based on a rigid setting of hypothesis is not fruitful as the methodology of research. Both test of hypothesis and setting for problem findings are effective in design of data and analysis of data. The following items are discussed.

1. Fundamental concept for comparative study
2. Statistical design for comparative study

In the present section, chain system is insisted on as a research strategy with respect to both the selection of universes for comparison and the setting of questionnaires.

3. Design of data
   i) What are the data?
   ii) Sampling.
   iii) Questionnaire construction.
   iv) Practice of data collection.
   v) What is the data analysis?
4. Analysis of data 1st part
   Analysis by breakdowns
5. Analysis of data 2nd part

In the present section, the logic, methodology and method for the analysis of data are discussed. The importance of revealing the ways of thinking is pointed out. Some concrete methods are shown with the example of the comparison between the ways of thinking of the Japanese and those of the Americans.

6. Further discussions through the reports

The necessity of mutual investigation of the reports separately written by the co-researchers of the different societies in question is stressed since it will result further fritful development.

Pitfalls in Cross-Cultural Survey Research: Comparative Study of Value Systems in Japan and the United States

TATSUZO SUZUKI
The Institute of
Statistical Mathematics

Forward

A comparative research design drawing on cross-national data represents an attractive path in social science research. Yet it also poses to the researcher undertaking such an endeavor a set of difficult problems. Drawing on our experience in administering surveys in Japan, Hawaii and the United states, this discussion will consider several of these problems and suggest their possible solutions. The surveys we conducted in Japan were under the rubric of the Naitonal Character Survey, a project in which we have gathered at five-year intervals since 1953 data on attitudes among Japanese [7]. Similar surveys were conducted among the Japanese-Americans in Hawaii in 1971, among a sample of all residents in Honolulu, Hawaii, in 1977-78, and among a nationwide sample of respondents in the mainland United States in 1978([2], [3], [4]).

Research Objectives

We will consider three categories of problems which must be met in cross-cultural comparative studies where survey methods are used to gather data. Our goal is to offer some potential solutions to these problems which are often left untouched in comparative research.

1) Representativeness of the results obtained: How representative are the results? Between (among) which groups should we be making our comparisons? Too often we fail to assess the adequacy of the populations selected to answer the sorts of questions we are posing in our studies. As our abilities to draw inferences from data ultimately depends on the adequacy of the samples selected, we need carefully to evaluate the nature of the samples to be drawn and compared.

2) The problems of reliability, validity, and comparability: What sorts of questions should we employ in order to obtain the necessary information? Are the indicators reliable? Do the indicators satisfactorily tap the information we need to draw valid inferences? Are the indicators comparable across different populations? Clearly, these questions suggest that our research instruments be constructed with great care. In particular, each item in the survey questionnaire must achieve a high degree of comparability across different cultural settings.

3) The problem of data analysis: The arrangement of the data and their subsequent analysis should reflect the nature of the research problems being addressed in each study. For some studies, simple comparisons of marginal distributions may suffice, while others may call for multivariate analysis of the comparative data. The researcher must select the methods of data arrangement and analysis most appropriate for his research needs.

Approaches to Cross-Cultural Research Using Survey Data

1) As a first step in securing representative data in survey research, the researcher needs to define the composition of the populations across whom he would make his comparisons. As noted earlier, some care must be given to delineating a population which is most appropriate for the questions being addressed in the particular comparative research. Representativeness of the data may be further assured by a careful selection of the sampling method to be used in data collection.

At the time of data collection, the researcher should insure that similar conditions exist across different locations and that, furthermore, similar instruments are being employed. In our own case, as we will elaborate shortly, attempts were made to insure that our instruments -- interview schedules to be administered to individual respondents -- are comparable.

At this juncture, information which have been gathered must be transferred and stored in a form most accessible for future analysis. For us, this meant that we code and transfer

the information contained in the interview schedules written in two languages. In order to insure a high degree of representativeness in the data collected in different societal contexts, we employed essentially the same standards in coding the raw information, as well as in storing and cleaning the data at each location. In particular, we made every effort to obtain uniformity in the data in their final form.

2) To insure a high degree of reliability in his data, the researcher may use a set of questions with a demonstrated reliability. Typically, these are questions which have been employed in the past with success, repeatedly eliciting consistent responses across several surveys. We followed this strategy in our own study. More generally, one necessary condition for securing reliable data is to construct questionnaire items with a great care.

3) The problem of validity is one to which survey research is particularly susceptible. Nor is a totally satisfactory solution at hand. One approach was to utilize a set of questionnaire items which has elicited for each society consistent and meaningful responses in the past.

In constructing the survey questionnaires for cross-societal research, we considered two broad categories of items: those related to the stable, or more traditional aspects of each societal environment, and those pertaining to its more recent, dynamic features. The former elucidate each society's uniqueness, whereas the latter focus on commonality resulting from industrialization and the arrival of a post-industrial society. Concretely, since our comparisons involved the United States (and Hawaii), we referred at various points to [6] in constructing the first group -- the more traditional -- of items, and drew from [1], [5] and [8] in constructing the questions aimed at the impact of dynamic features in each society.

Language poses a difficult problem in constructing survey questionnaires for a cross-cultural study. Our surveys in Japan and the United States (and Hawaii) did not escape this difficulty. In our surveys, some of the questions in the interview schedules were originally used in the previous surveys in Japan, while others came from American survey studies. In addition, yet a third group of questions was newly created for this comparative study. Since our

survey research required interview schedules in both English and Japanese, some means had to be devised to insure that the translated version of a question was largely equivalent to its original. Our approach was:

a) to secure a degree of uniformity in the questionnaire items by having the translated version of each question re-translated into its original language; and

b) to administer both the English and the Japanese versions of the interview schedule to two randomly selected samples of bilingual respondents.

Since our research plan calls for making comparisons in the areas of similarities as well as differences, our strategy was to expand gradually the comparative frame used at each stage in the study. Specifically, this has meant that the first comparison we made was between the two groups where no great differences were expected, i.e. between the Japanese and the Japanese-Americans in Hawaii. In the next stege, the comparative frame was enlarged to include a comparison between the Japanese-Americans and Americans of non-Japanese ancestry, both living in Hawaii. In the final stage of comparison, we included a population which we expected to exhibit a large difference in comparison with the Japanese, i.e., the Americans in the mainland. At each stage, the questionnaire items originally developed in the United States were added to a body of items which had been constructed in Japan.

Summary of Results

1) We were able to obtain data which show a high degree of representativeness, reliability and comparability (refer to the Appendix).

2) In translating questionnaire items to another language, it became evident that a merely literal translation would not suffice; the translated version must convey the same meaning in another, and different social context. The pattern of response obtained from the samples of bilingual individuals indicates that the problem is not merely one of the language used in the questionnaire -- be it English or

Japanese -- but, rather, one of differing interpretations made by individuals who had been raised in different cultural settings (refer to the Appendix).

3) In comparing marginal distributions, we find that the Americans show more frequently a high degree of consensus -- i.e. more than two-thirds of all American respondents chose a particular category in the given question -- than their Japanese counterparts. In contrast, the Japanese respondents showed a greater preference for categories that are situational, preferring not to choose one of the polar categories in each question.

When we control for personal characteristics, we find that our Japanese respondents show more frequently differences in attitudes by sex. There is no significant difference between Japan and the United States in the patterns of response when we control for age or education; however, some variations are detected when we control for age and education simultaneously.

When we introduce socioeconomic variables, we find that in the United States there is a strong relationship between education and economic status, paralleling the pattern we find in Japan between age and education. Among several variables, e.g., "to honor your ancestor", the patterns of response were similar in Japan and the United States; on the whole, however, the patterns in two societies seem to show a substantial difference.

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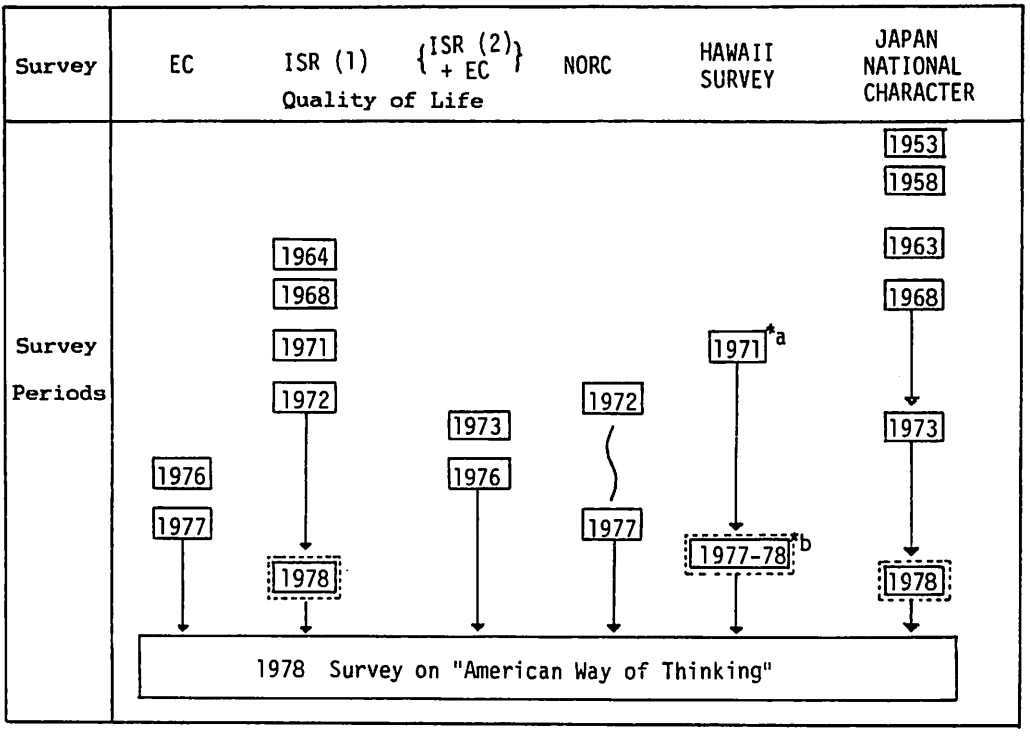
Table 1 Sources of Questionnaire Items for the 1978 American Survey



*a Japanese-American Survey

*b Honolulu survey

Table 2 Questionnaire Items Used in Previous Surveys

	Q	#	American Way of Thinking Question Items	Japan National Character Survey						Hawaii Survey		Other Surveys
				53	58	63	68	73	78	71	78	
	01		Country								H 1	
1	02	2.8	Continue to work					o	K 1		H 2	ISR
	03	7.19	Hard work or luck						M 2*		H 3	NORC
2	04	4.10	Adoption to continue family line	o	o	o	o	o	K 3	o	H 4	
3	05	4.4	Rumor about teacher	o	o	o	o	o	K 4	o	H 5	
4	06	4.5	Teaching children money is the most important thing	o		o	o	o	K 5	o	H 6	
5	07	7.1	Loss of human feeling with modernization	o	o	o	o	o	K 2	o		
6	08	2.1	Custom vs. conscience	o	o	o	o	o	K 6	o	H 7	
7	09	8.1*	Leave things to political leaders	Δ	Δ	Δ	Δ	o	K 8	Δ	H 8	
	10	5.16	IOU for $150				o*		M10*	o*	H 9*	
8	11	7.2	No loss of richness of human feeling	o	o	o	o	o	K12	o		
9	12	7.13d	Crime and punishment						K 9		H13	
	13	5.6*	To meet socially with your superior					o				
10	14	4.11*	To honor your ancestors	o				o	K10		H73*	
11	15	5.1	Benefactor vs. business	o	o	o	o	o	K15a	o	H20	
12	16	5.1b	Father vs. business	o	o	o	o	o	K15b	o	H21	
13	17	2.5	Man and nature	o	o	o	o	o	K16	o	H22	
14	18	7.4	Improve the country or make individual happy	o	o	o	o	o	K17	o	H23	
15	19	5.1d	Important virtues			o	o	o	K18	o	H24	
	20	2.2*	Ignore the opposition and go ahead or give up		Δ	Δ	Δ	Δ		Δ	H25*	
19	21	2.2b	Two personality types (rational vs. harmony)						K13		H28	
20	22	5.1c-1	Employment examination (relative)			o	o	o	K21a	o	H29	
21	23	5.1c-2	Employment examination (son of benefactor)			o	o	o	K21b	o	H30	
22	24	5.6	Type of supervisor preferred	o	o	o	o	o	K22	o	H31	
	25	7.13c	Opinions about law			o	o	o			H19	
23	26	2.4	Way of life	o	o	o	o	o	K19	o	Δ	
24	27	5.6h	Friendly vs. efficient						K14		H27	
	28	4.13	Parent might say to his child					o	M12a			
	29A		Do not break any law. I may do as I please.								H41	
	29B	7.22	Money can solve most problems						M11b		H42	
	29C	7.20	What happens to me is my own doing						M11a		H58	
25	30	8.8	Views toward one's society						K26		H35	EC
	31	2.3c	How satisfied with your family life						M5a*		H38	ISR*
	32		How satisfied with your life as a whole								H40	ISR*
26	33	8.10	One's job goals (first & second)						K24			EC
	35		Four item values index "Materialist vs. Post-Materialist"						G			ISR EC
	37		Working class vs. capitalist class								Δ	
27	38	2.12	Try to be helpful						K27		H60	ISR
28	39	7.20c	Take advantage						K28		H61	ISR
29	40	7.20b	Can be trusted						K29		H62	ISR
	41		Happy								H64	ISR
30	42	3.2	Religious attitude is important, or not		o	o	o	o	K11b		HF5	
	43	3.3	Religions all alike		o						HF7	
	44		Socio-economic class						G		HF1	ISR

K**:1978 Japan National Character Survey (K-type)

M**:1978 JNCS (M-type)

G:1978 JNCS-(Gifu-survey)

ISR: Institute for Social Research

NORC: National Opinion Research Center

H**:1978 Hawaii Survey

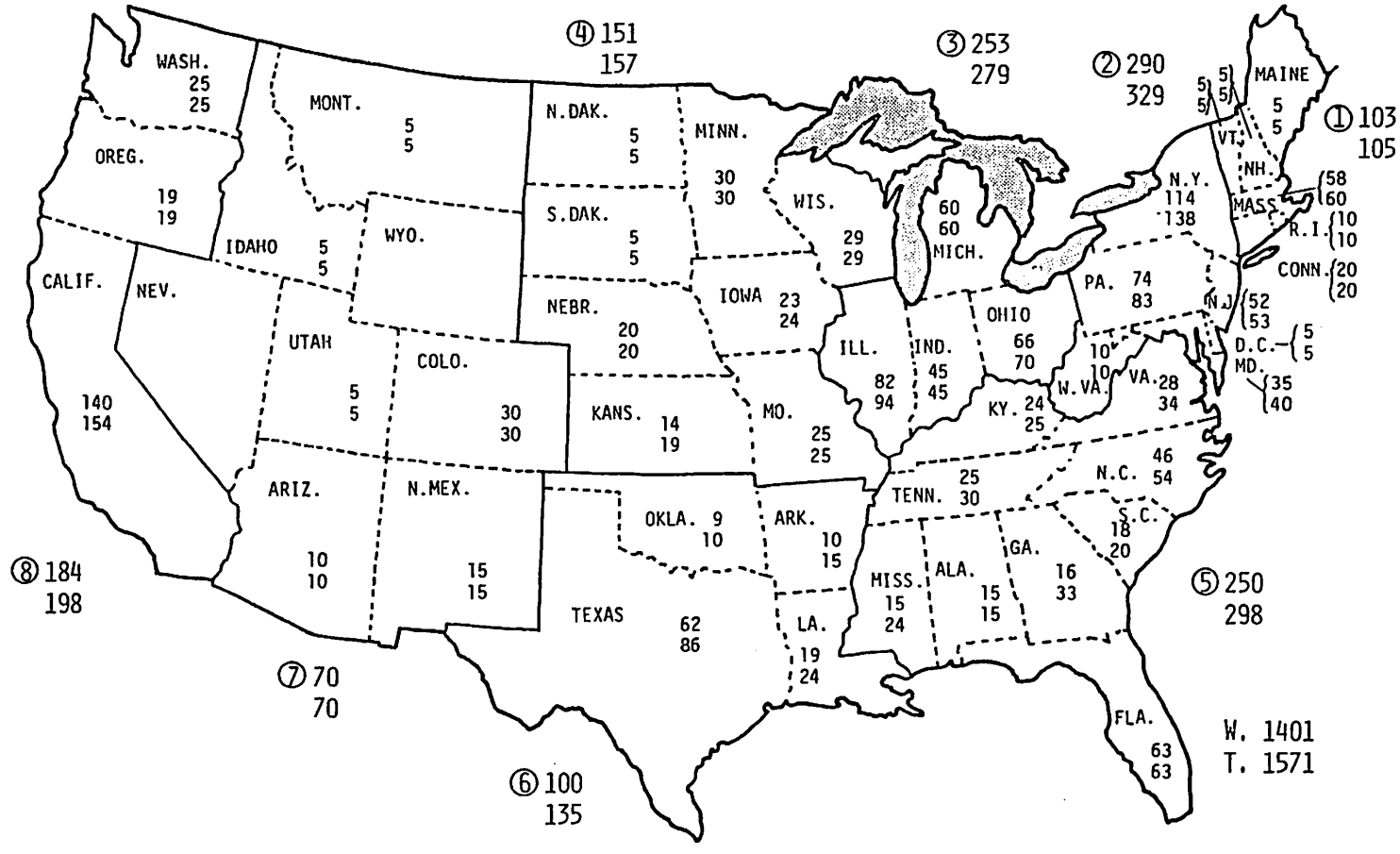
EC: Eurobarometer

Table 3 Distribution of Population by Region, 1970 Census of Population and the Sample for the 1978 American Survey

1970 APRIL CENSUS

SECTION	S M S A (%)		NON-SMSA (%)		TOTAL (%)	
	CENSUS	SURVEY	CENSUS	SURVEY	CENSUS	SURVEY
1 New England	6.6	7.2	3.7	5.6	5.8	6.7
2 Middle Atlantic	25.2	23.6	12.0	15.8	21.7	20.9
3 East Central	19.0	19.0	13.9	15.3	17.6	17.8
4 West Central	7.3	8.2	18.3	13.6	10.2	10.0
5 South East	14.4	12.9	28.0	30.9	18.0	19.0
6 South West	8.7	8.3	11.7	9.2	9.5	8.6
7 Rocky Mt.	3.3	4.3	6.2	4.7	4.1	4.5
8 Pacific	15.5	16.5	6.3	4.9	13.1	12.6

Figure 1 Distribution of Sample Population by State and Color
1978 American Survey



#	Question Items		Subject Groups: Differences between English and Japanese questionnaires A‡		Analysis classified by birthplace: group(a)‡‡vs. group(b)		group(b)vs. group(c)‡‡	
			X^2	P++	X^2	P	X^2	P
2.8	Continue to Work	5	0.025	−	0.01	−	0.02	−
4.10	Adopting of a Child	3	0.501	−	3.26	−	5.83	*
4.4	Rumor about Teacher	7	30.61	***	10.99	***	9.37	***
4.5	Teaching Children Money is the Most Important Thing	2	21.14	***	6.92	**	8.68	**
7.1	Loss of Human Feelings with Modernization	4	9.27	***	2.16	−	8.38	**
2.1	Custom vs. Conscience	6	9.77	***	3.37	−	7.83	**
8.1	Leave Things to Political Leaders	8	0.408	−	0.015	−	0.035	−
7.2	No Loss of Richness of Human Feeling with Advance	9	10.96	***	3.11	−	4.39	−
2.5	Man and Nature	10	4.819	*	1.035	−	3.49	−
5.1 D	Important Virtues	17a	0.172	−	0.00	−	0.10	−
	Filial piety	b	9.77	***	3.06	*	5.18	**
	Repaying moral indebtedness	c	0.627	−	0.03	−	0.66	−
	Respecting rights							
	Respecting freedom	d	0.297	−	0.00	−	0.62	
5.1C-1	Employment Examination (Relative)	11	4.061	**	2.98	*	0.08	−
5.1C-2	Employment Examination (Son of Benefactor)	12	1.57	−	0.396	−	0.67	−
5.6	Type of Supervisor Preferred	13	14.82	***	2.02	−	8.17	***
7.13 C	The Meaning of law	16	2.63	−	0.201	−	1.83	−
2.4	Way of Life	14	21.78	***	17.05	***	2.44	−
6.2	Sex preference if re-born	1	0.03	−	0.04	−	0.09	−

A‡ a group using the English questionnaire vs. a group using the Japanese questionnaire
‡‡ See Table below
P++ indicates the sign of the x^2 test: *10% level of
** 5% signifi-
*** 1% cance
− indicates no statistical significance. −

Subject Groups	Questionnaire	Number of Respondents
group(a) Island Born(Hawaii)	English	87
group(b) Island Born(Hawaii)	Japanese	59
group(c) Japanese	Japanese	50

Table 5 Items Obtaining Consensus in the U.S. and Japan

Q. No.	#	Items	Response categories	U.S. 1978	Japan 1973	Japan 1978	
6	4.5	Teach children that money is the most important	1. disagree	94	38	40	Δ
28	4.13	Parent might say to his child	1. Always come to speak to us	90	58	67	o
9	8.1	Leave things to political leaders	2. disagree	89	60	58	
42	3.2	Religious attitude is important,or not	1. Important	85	77▽	83▽	o
5	4.4	Rumor about teachers	1. tell the trouth	85	54	57	
8	2.1	Custom vs. conscience	1. go ahead	76	36	30	Δ
19	5.1d	Important virtue	3. respecting individual right	75	45	38	Δ
22	5.1c-1	Employment examination (relative)	1. highest grade	72	73	72	o
7	7.1	Loss of human feeling with modernization	1. agree	72	50	43	
11	7.2	No loss of richness of human feeling	1. agree	71	42	53	
23	5.1c-2	Employment examination (Son of benefactor)	1. highest grade	70	52	47	
10	5-16	IOU for $150	2. only natural	69	82*	80	o
12	7.13d	Crime and punishment	1. actually did	68	-	30	Δ
16	5.1b	Father vs. business	1. go back home	67	51	49	
30	8.8	Views toward one's society	2. gradually improved	67	-	89	o
2	2.8	Continue to work	1. continue	67	70	69	o
24	5.6	Type of supervisor preferred	2. paternalistic	50	81	87	
38	2.12	Try ro be helpful	2. look out for themselves	46	-	74	
27	5.6h	Friendly vs. efficient	1. friendly	65	-	72	
14	4.11*	To honor your ancestors	1. more than the average	55	67	72	
19	5.1d	Important virtue	1. filial piety	51	63	70	
40	2.12c	Can be trusted	2. can't be too carefull	44	-	68	

*: 1968 JNCS Result

Figure 2-1 Percentage Distribution of Responses in Japan, 1973 and 1978

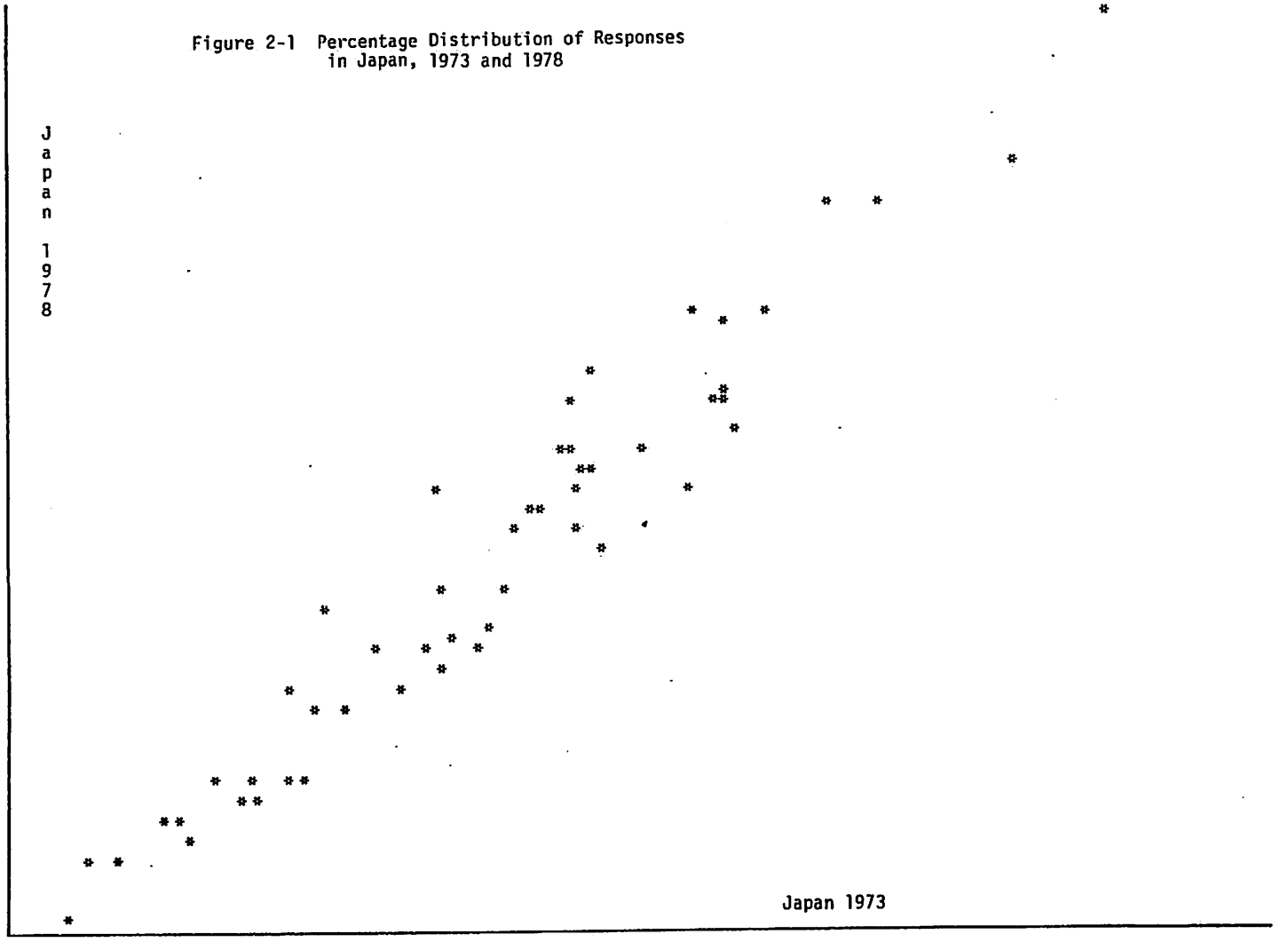


Figure 2-2 Percetage Distribution of Responses in 1978, Hawaii and U.S. Mainland

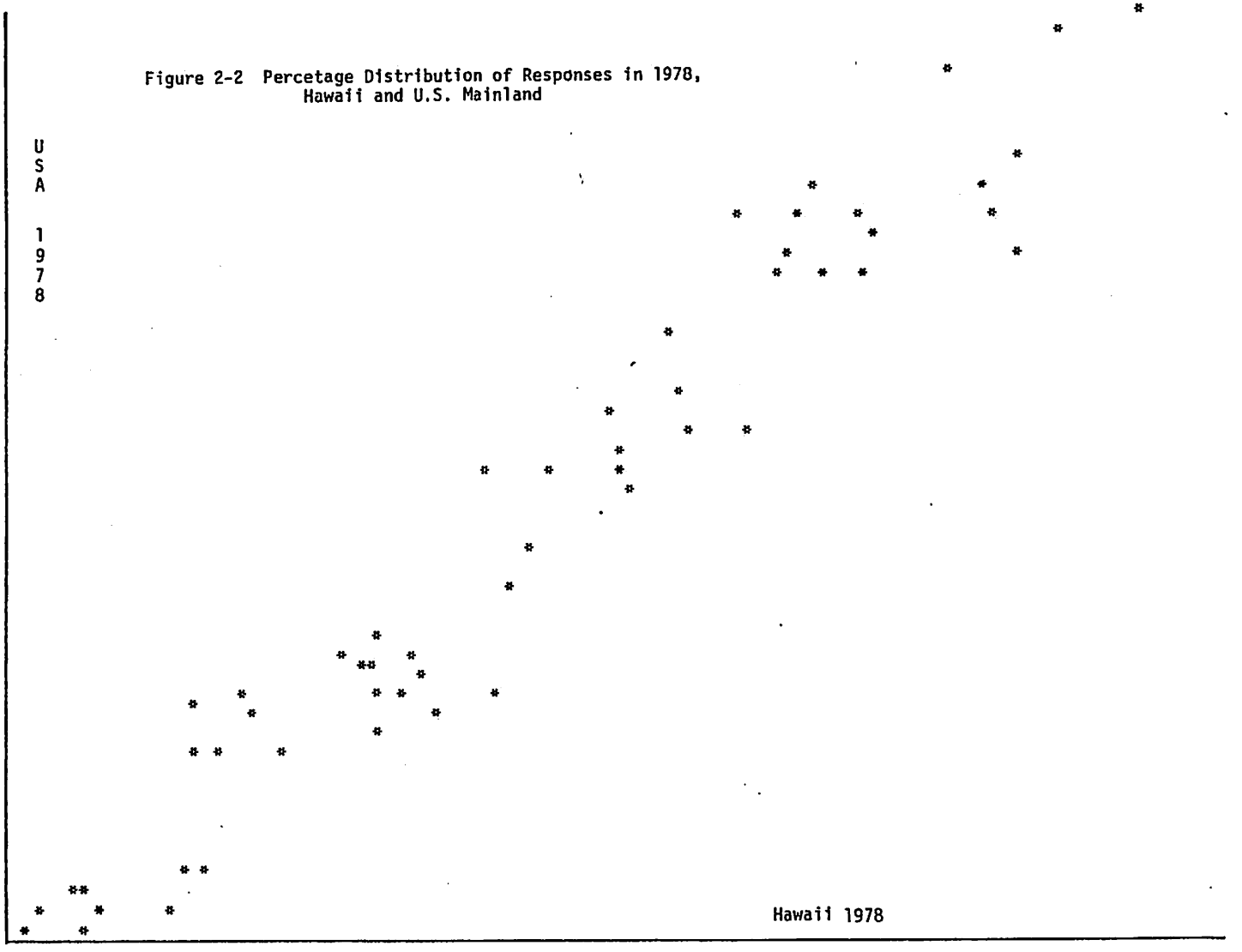


Table 6-1 Association Among Question Items, Japan, 1978

SIMILARITY MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1)	0	-83	4	0	1	-18	33	51	-51	6	-55	9	-6	47	43
2)	-83	0	31	78	79	-133	6	-71	-8	-45	109	15	19	-91	-27
3)	4	31	0	-9	-4	-6	-31	12	39	-100	59	22	-10	3	12
4)	0	78	-9	0	526	-53	41	-28	-6	61	76	-8	41	-1	42
5)	1	79	-4	526	0	-53	-19	-28	36	26	98	4	28	-32	13
6)	-18	-133	-6	-53	-53	0	24	60	12	-51	-109	0	-48	32	-11
7)	33	6	-31	41	-19	24	0	481	18	1	-55	11	8	-29	56
8)	51	-71	12	-28	-28	60	481	0	63	-17	-89	35	6	17	-22
9)	-51	-8	39	-6	36	12	18	63	0	-45	19	-13	-16	-5	12
10)	6	-45	-100	61	26	-51	1	-17	-45	0	-15	-2	27	22	10
11)	-55	109	59	76	98	-109	-55	-89	19	-15	0	-44	7	-140	-20
12)	9	15	22	-8	4	0	11	35	-13	-2	-44	0	62	141	37
13)	-6	19	-10	41	28	-48	8	6	-16	27	7	62	0	248	5
14)	47	-91	3	-1	-32	32	-29	17	-5	22	-140	141	248	0	37
15)	43	-27	12	42	13	-11	56	-22	12	10	-20	37	5	37	0

AFTER ROTATION

	1	2	3
1)	0.7868	0.7248	0.1706
2)	-1.1195	-0.1865	-0.1446
3)	-0.1775	-0.8932	-0.4348
4)	-0.6707	0.2644	0.3825
5)	-0.8095	0.0006	0.3181
6)	1.2654	-0.5247	-0.1882
7)	0.5657	-0.0721	0.7061
8)	0.8714	-0.2508	0.1822
9)	0.1625	-0.8913	0.3426
10)	-0.4174	1.0469	0.1172
11)	-1.0091	-0.5576	0.0093
12)	0.1853	0.0563	-0.8068
13)	-0.2557	0.4530	-0.7148
14)	0.4867	0.5000	-0.6208
15)	0.1354	0.3303	0.6814

No.	#
1)	2.8
2)	8.1
3)	7.13 d
4)	5.1
5)	5.1 b
6)	2.2 b
7)	5.1 c-1
8)	5.1 c-2
9)	5.6
10)	5.6 h
11)	7.2
12)	2.12
13)	2.12 b
14)	2.12 c
15)	3,2

Figure 3-1 Configurations Among Variables, Japan, 1978

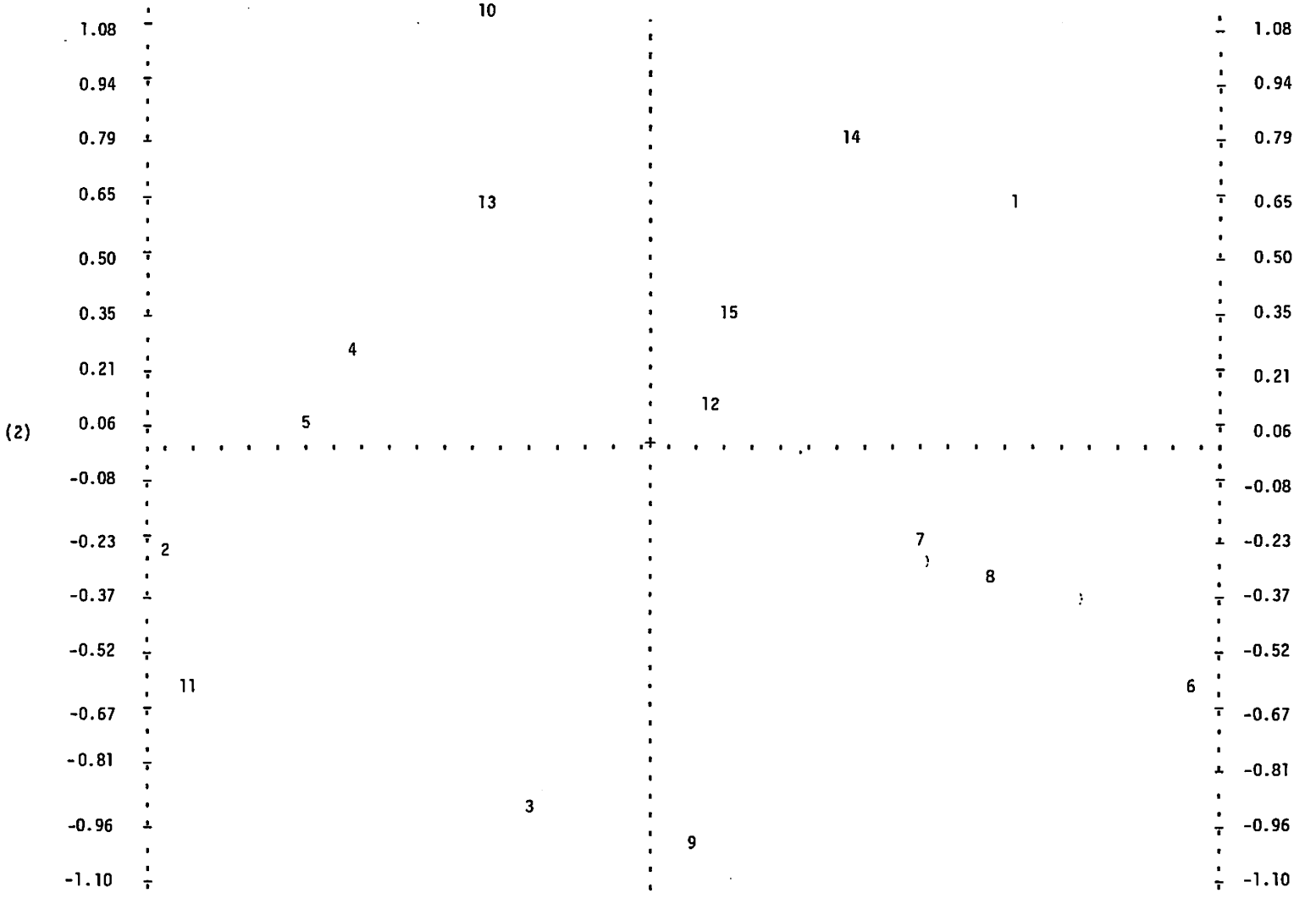


Table 6-2 Association Among Question Items, U.S., 1978

SIMILARITY MATRIX

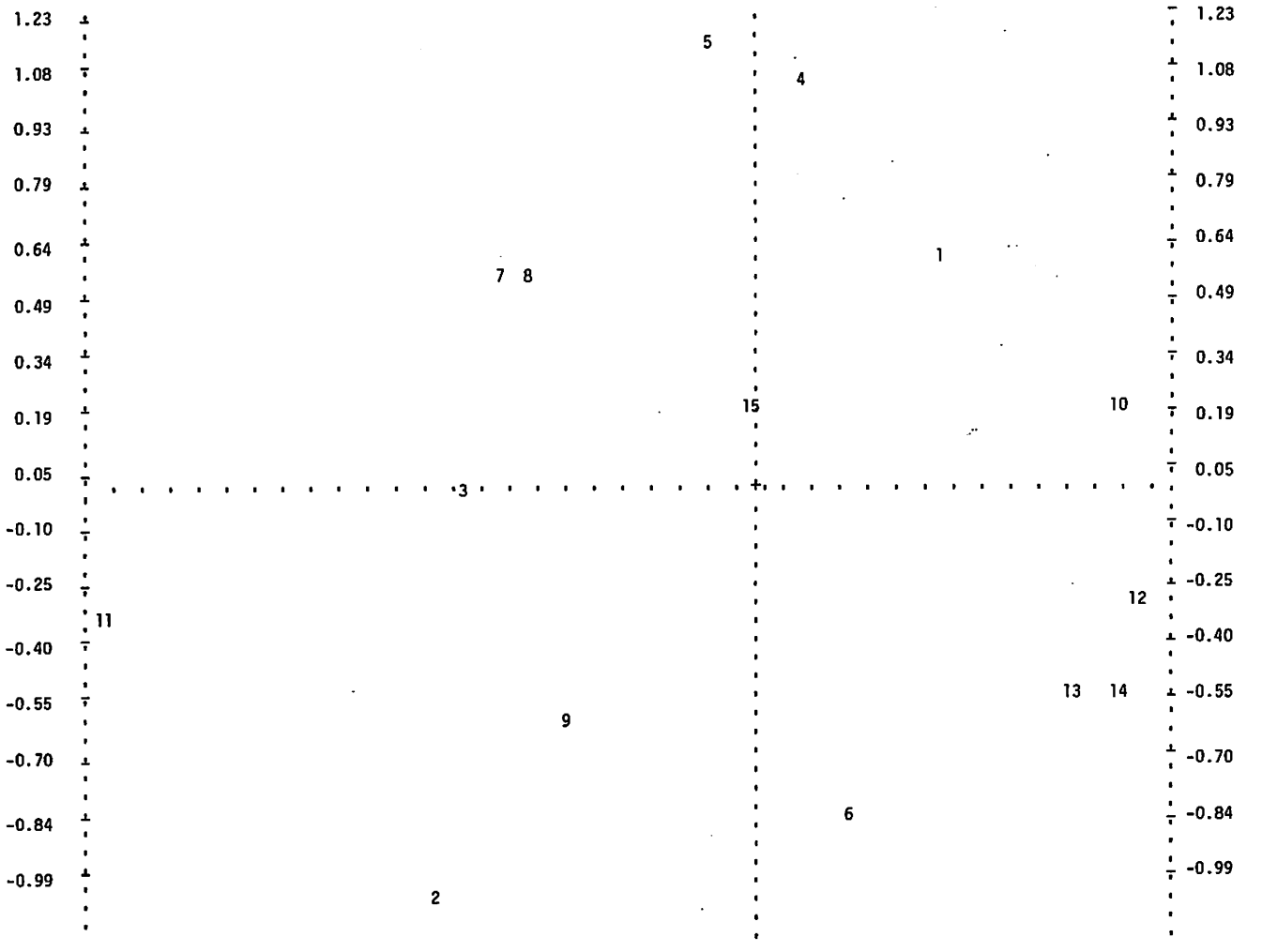
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1)	0	-39	-45	41	10	5	64	54	-27	27	-88	18	11	28	90
2)	-39	0	-1	-53	-28	24	-21	-20	3	-12	47	-81	-66	-90	26
3)	-45	-1	0	-12	48	-89	73	48	57	-25	19	-2	28	-17	72
4)	41	-53	-12	0	635	-40	-4	57	-98	59	-58	25	-27	-18	99
5)	10	-28	48	635	0	-42	-9	0	-32	32	-19	-33	-47	-15	85
6)	5	24	-89	-40	-42	0	15	31	29	38	-75	23	54	48	9
7)	64	-21	73	-4	-9	15	0	662	87	-37	-55	-29	-47	-42	51
8)	54	-20	48	57	0	31	662	0	112	-57	-64	-53	-48	-39	65
9)	-27	3	57	-98	-32	29	87	112	0	-62	-40	-13	23	40	42
10)	27	-12	-25	59	32	38	-37	-57	-62	0	-38	71	83	97	49
11)	-88	47	19	-58	-19	-75	-55	-64	-40	-38	0	-103	-147	-129	-66
12)	18	-81	-2	25	-33	23	-29	-53	-13	71	-103	0	493	407	42
13)	11	-66	28	-27	-47	54	-47	-48	23	83	-147	493	0	484	15
14)	28	-90	-17	-18	-15	48	-42	-39	40	97	-129	407	484	0	8
15)	90	26	72	99	85	9	51	65	42	49	-66	42	15	8	0

AFTER ROTATION

	1	2	3
1)	0.3177	0.7907	0.3893
2)	-0.5759	-1.0599	-0.0964
3)	-0.8041	0.0038	-0.0975
4)	-0.0167	0.7705	-0.6174
5)	-0.3479	0.6685	-0.7257
6)	0.4464	-0.6206	0.6838
7)	-0.6317	0.3316	0.6642
8)	-0.5721	0.4673	0.5455
9)	-0.4465	-0.2578	0.8283
10)	0.6765	-0.0549	-0.6230
11)	-0.8386	-0.8227	-0.8676
12)	1.0140	-0.0476	-0.0873
13)	0.9347	-0.2785	0.1074
14)	0.9401	-0.2885	-0.0502
15)	-0.0957	0.4070	-0.0534

No.	#
1)	2.8
2)	8.1
3)	7.13 d
4)	5.1
5)	5.1 b
6)	2.2 b
7)	5.1 c-1
8)	5.1 c-2
9)	5.6
10)	5.6 h
11)	7.2
12)	2.12
13)	2.12 b
14)	2.12 c
15)	3,2

Figure 3-2 Configurations Among Variables, U.S., 1978



APPENDIX

AMERICAN WAY OF THINKING

Questionnaire and Simpie Tabuiation

The Institute of Statistical Mathematics

— February 1 9 7 9 —

Supported by The Toyota Foundation
(77 - 3 - 032)

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Sample size Total N = 1571
White N = 1401

Q 01 If you could be born again, in which country would you like to be born?

	Total	White
1. U.S.	91	91
2. Elsewhere	9	8
0. Don't Know	1	0

Q 02 If you were to get enough money to live as comfortable as you would like for the rest of your life, would you continue to work or would you stop working?

1. Continue to work	67	67
2. Stop working	28	27
3. Other	1	1
0. Don't know	5	6

Q 03 Some people say that people get ahead by their own hard work; others say that lucky breaks are more important. Which do you think is more important?

1. Hard work more important	73	73
2. Luck more important	16	15
3. Other	2	2
4. Both	8	8
0. Don't know	2	2

Q 04 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	58	56
2. Would not adopt	31	32
3. Depends on	2	2
4. Other	1	1
5. Would adopt, but not for that reason	3	3
0. Don't know	7	7

Q 05 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?

1. Tell the truth	84	85
2. Deny it	4	3
3. Other	5	5
4. Depends on age	2	2
0. Don't know	5	5

Q 06 In raising children of elementary school age, some people think that one should teach them that money is the most important thing. Do you agree with this or not?

1. Agree	5	5
2. Disagree	93	94
3. Undecided	1	1
4. Other	0	0
0. Don't know	1	1

Q 07 Some people say that with the development of science and technology, life becomes more convenient, but at the same time a lot of human feeling is lost. Do you agree with this opinion or do you disagree?

	Total	White
1. Agree	71	72
2. Disagree	20	20
3. Cannot say	5	4
4. Other	0	0
0. Don't know	4	3

Q 08 If you think a thing is right, do you think you should go ahead and do it even if it is contrary to usual custom, or do you think you are less apt to make a mistake if you follow custom?

1. Go ahead even if contrary	74	76
2. Follow custom	16	15
3. Depends on	1	1
4. Other	1	1
5. Depends on circumstances / situation	4	4
0. Don't know	4	4

Q 09 Some people say that if we get outstanding political leaders, the best way to improve the country is for the people to leave everything to them, rather than for the people to discuss things among themselves. Do you agree with this, or disagree?

1. Agree	8	8
2. Disagree	89	89
3. Other	0	1
0. Don't know	3	3

Q 10 Suppose that you borrowed $150.00 from a close friend, and also suppose that, at the same time, this friend said, "Just to be sure, write me out an IOU." What would you think about this?

1. Think it unpleasant, though probably a natural request	22	22
2. Think it only natural	67	69
3. Other	2	2
4. Not a true friend	6	6
0. Don't know	3	2

Q 11 Some people say that however mechanized the world gets, nothing can reduce the richness of human feelings. Do you agree with this opinion, or do you disagree?

1. Agree	70	71
2. Disagree	22	21
3. Cannot say	5	5
4. Other	0	0
0. Don't know	3	2

Q 12 We would now like to ask you a question about crime and punishment. Do you think a punishment for a criminal offense should reflect what the individual actually did, or what an individual intended to do?

	Total	White
1. What individual actually did	68	68
2. What individual intended to do	24	24
3. Other	1	2
4. Both	2	2
0. Don't know	4	4

Q 13 Suppose you are working in a firm. Would you think it unnecessary to meet socially with your superior, or would you think it better to have such contact?

1. Unnecessary to meet socially	45	47
2. Better to have social contact	47	46
3. Other	2	2
4. Depends on person / superior	1	1
0. Don't know	4	4

Q 14 Would you say you are on the whole more inclined than the average to honor your ancestors or less?

1. More than the average	55	55
2. Less than the average	21	22
3. Average	21	20
4. Other	0	0
0. Don't know	3	3

Q 15 Imagine this situation. Mr. A was orphaned at an early age and was brought up by Mr. B, a kind neighbor. Mr. B gave him a good education, sent him to a university, and now Mr. A has become the president of a company. One day he gets a telegram saying that Mr. B who brought him up, is seriously ill and asking if he would come at once. This telegram arrives as he is leaving to attend an important meeting which will decide whether his firm is to go bankrupt or to survive. Which of the following things do you think he should do?

[HAND CARD AA]

1. Leave everything and go back home	65	65
2. However worried he might be about Mr.B, he should go to the meeting	29	29
3. Other	2	2
0. Don't know	5	5

Q 16 The last question supposed that Mr. B had taken him in as an orphan in his youth and brought him up. Suppose that was his real father who was on his death-bed. Which would have been your answer then?

[HAND CARD BB]

1. Leave everything and go back home	68	68
2. However worried he might be about his father, he should go to the meeting	26	26
3. Other	2	3
0. Don't know	5	4

Q 17 Here are three opinions about man and nature. Which one of these do you think is closest to the truth?

[HAND CARD CC]

	Total	White
1. In order to be happy, man must follow nature	25	26
2. In order to be happy, man must make use of nature	64	64
3. In order to be happy, man must conquer nature	6	5
4. Other	1	1
0. Don't know	4	4

Q 18 Please choose from among the following statements the one with which you agree most.

[HAND CARD DD]

1. If individuals are made happy, then and only then will the country as a whole improve	26	27
2. If the country as a whole improves, then and only then can individuals be made happy	29	29
3. Improving the country and making individuals happy are the same thing	37	36
4. Other	3	3
0. Don't know	5	5

Q 19 If you were asked to choose <u>two</u> most important items out of the following, which <u>two</u> would you choose?

[HAND CARD EE]

1. Filial piety, respect to your parents	52	51
2. Repaying obligations to benefactors	19	20
3. Respecting rights of the individual	74	75
4. Respecting freedom of the individual	45	46
5. Other	0	0
0. Don't know	0	1

Q 20 Suppose an individual wants to do something in his own way. He explains to others why he would do it in this way, but others do not think it is a good idea. Which of these two persons do you think is most desirable?

[HAND CARD FF]

1. Somebody who ignores the opposition and goes ahead with his idea	74	75
2. Somebody who gives up the idea if he is opposed?	17	16
3. Other	4	4
4. Compromise	2	2
0. Don't know	5	4

Q 21 Which one of the following personality types would you like best?

[HAND CARD GG]

1. A person who stresses a rational desicion according to a principle	47	47
2. A person who stresses the value of maintaining interpersonal harmony	47	46
3. Other	1	1
0. Don't know	6	6

Q 22 Suppose that you are the president of a company. The company decides to employ one person, and then carries out an employment examination. The supervisor in charge reports to you saying, "Your relative who took the examination got the second highest grade. But I believe that either your relative or the candidate who got the highest grade would be satisfactory. What shall we do?" In such a case, which person would you employ?

[HAND CARD HH]

	Total	White
1. One with the highest grade	72	72
2. Your relative	22	22
3. Other	2	2
0. Don't know	4	3

Q 23 In the last question we supposed that the one getting the second highest grade was your relative. Suppose that the one who got the second highest grade was the son of parents to whom you felt indebted. Which person would you employ?

[HAND CARD II]

1. One with the highest grade	70	70
2. Son of your benefactor	25	25
3. Other	2	2
0. Don't know	4	4

Q 24 Suppose you are working in a firm. Which of the following department chiefs would you prefer to work under?

[HAND CARD JJ]

1. A: A man who always sticks to the work rules and never demands any unreasonable work, but who, on the other hand, never does anything for you personally in matters not connected with the work	47	47
2. B: A man who sometimes demands extra work in spite of rules against it, but who, on the other hand, looks after you personally in matters not connected with the work	50	50
3. Other	1	1
0. Don't know	3	3

Q 25 Here are two opinions about law. Which one would you agree with?

[HAND CARD KK]

1. Laws should be established so as to provide people with a way to get along together easily	24	23
2. Laws should be established so as to bring about justice in society	73	74
3. Other	1	1
0. Don't know	2	2

Q 26 There are all sorts of attitudes toward life. Which one of the following statements would you say comes closest to your way of life?

[HAND CARD LL]

	Total	White
1. Work hard and get rich	7	7
2. Study earnestly and make a name for yourself	7	6
3. Don't think about money or fame; just live a life that suits your own taste	35	36
4. Live each day as it comes, cheerfully and without worrying	35	35
5. Resist all evils in the world and live a pure and just life	10	10
6. Never think of yourself, give everything in service of society	2	2
7. Other	2	1
0. Don't Know	2	2

Q 27 Whom do you consider more desirable as a man?

[HAND CARD MM]

1. Mr. S. who is friendly and can be counted on to help others but is not an efficient worker	65	65
2. Mr. T. who is an efficient worker but is indifferent to the worries and affairs of others	23	23
3. Other	1	1
4. Neither	1	1
5. Both	2	2
0. Don't know	7	8

Q 28 Here are two examples of the kind of thing a parent might say to his child who has left school and got a job and is just about to leave home. Which do you think is the better?

[HAND CARD NN]

1. You should always come to speak to us if you have any problems	90	91
2. From now on, even if things go wrong for you, you shouldn't depend on your parents	8	7
3. Other	1	1
4. Both	1	1
0. Don't know	1	1

I am going to read you a series of statements next. Listen to them carefully and indicate the extent to which you agree or disagree as indicated on the card. What we want is your first impression. Just tell me whatever answer comes to your mind first.

Q 29 A) As long as I do not break any law, I may do as I please.

[HAND CARD OO]

1. Agree strongly	21	20
2. Agree somewhat	33	33
3. Disagree somewhat	23	24
4. Disagree strongly	21	22
5. Other	0	0
0. Don't Know	1	1

Q 29 B) Money can solve most problems.

[HAND CARD OO]

	Total	White
1. Agree strongly	9	8
2. Agree somewhat	32	31
3. Disagree somewhat	29	30
4. Disagree strongly	29	29
5. Other	0	0
0. Don't Know	1	1

Q 29 C) What happens to me, success or failure, is my own doing.

[HAND CARD OO]

1. Agree strongly	41	42
2. Agree somewhat	40	41
3. Disagree somewhat	14	13
4. Disagree strongly	3	3
5. Other	0	0
0. Don't Know	2	1

Q 30 Which one of the three following views toward one's society comes closest to yours?

[HAND CARD PP]

1. The entire way our society is organized must be radically changed by revolutionary action	4	4
2. Our society must be gradually improved by reforms	66	67
3. Our present society must be valiantly defended against all subversive forces	23	24
4. Other	1	1
0. Don't know	5	5

Q 31 All things considered, how satisfied are you with your family life-- the time you spend and the things you do with members of your family? Which one number on this card is closest to your feelings?

[HAND CARD QQ]

1. Completely satisfied	47	48
2.	16	16
3. Neither completely satisfied nor completely dissatisfied (neutral)	33	33
4.	1	1
5. Completely dissatisfied	1	1
6. Other	1	1
0. Don't know	1	1

Q 32 Now I want to ask about your life as a whole. How satisfied are you with your life as a whole these days? Which one on this card comes closest to your feeling?

[HAND CARD QQ]

1. Completely satisfied	37	38
2.	18	18
3. Neither completely satisfied nor completely dissatisfied (neutral)	40	39
4.	2	2
5. Completely dissatisfied	3	3
6. Other	0	0
0. Don't know	0	0

Q 33 Here are some of the things people usually take into account in relation to their work. Which one would you personally place first?

[HAND CARD RR]

	Total	White
1. A good salary so that you do not have any worries about money	16	15
2. A safe job with no risk of closing down or unemployment	19	18
3. Working with people you like	14	14
4. Doing an important job which gives you a feeling of accomplishment	50	51
5. Other	1	1
0. Don't know	1	1

Q 34 Which would you place second?

[HAND CARD RR]

1. A good salary so that you do not have any worries about money	26	27
2. A safe job with no risk of closing down or unemployment	19	18
3. Working with people you like	35	35
4. Doing an important job which gives you a feeling of accomplishment	18	18
5. Other	0	0
0. Don't know	2	1

Q 35 If you had to choose, which one of the things on this card would you say is most desirable?

[HAND CARD SS]

1. Maintaining order in the nation	23	24
2. Giving people more say in important governmental decisions	25	25
3. Fighting rising prices	34	33
4. Protecting freedom of speech	16	16
5. Other	0	0
0. Don't know	2	2

Q 36 What would be your second choice?

[HAND CARD SS]

1. Maintaining order in the nation	25	25
2. Giving people more say in important governmental decisions	25	26
3. Fighting rising prices	25	25
4. Protecting freedom of speech	22	22
5. Other	1	1
0. Don't Know	2	2

Q 37 Here are two opinions about the working class and the capitalist class.
First : "Since interests of the workers and the capitalists are completely opposed, it is right and proper that they should always be in conflict one with the other."
Second : "Basically, the interests of capitalists and workers are not different, for if a firm makes more money it is able to pay more wages. So they should cooperate with each other."

Which do you agree with?

[HAND CARD TT]

	Total	White
1. Agree with "First Statement"	9	9
2. Agree with "Second Statement"	84	85
3. Other	1	1
0. Don't know	7	6

Q 38 Would you say that most of the time, people try to be helpful, or that they are mostly just looking out for themselves?

1. Try to be helpful	47	48
2. Look out for themselves	48	47
3. Other	1	1
4. Both / inbetween	1	1
0. Don't know	3	3

Q 39 Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?

1. Take advantage	33	31
2. Try to be fair	62	64
3. Other	0	0
4. Both / in middle	1	1
5. It depends	1	1
0. Don't know	3	3

Q 40 Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

1. Can be trusted	47	51
2. Can't be too careful	48	45
3. Other	1	1
4. It depends	1	1
5. Both	1	1
0. Don't know	2	2

Q 41 Taken all together, how would you say things are these days for you --- would you say that you are very happy, pretty happy, or not too happy?

1. Very happy	28	29
2. Pretty happy	62	62
3. Not too happy	8	7
4. Other	1	1
0. Don't know	1	1

Q 42 Without reference to any of the established religions, do you think a religions attitude is important, or not important?

1. Important	85	85
2. Not important	13	13
3. Other	1	1
0. Don't know	1	1

Q 43 There are some people who say about religion that there are many sects all with their own different positions, but that really their teachings all amount to the same thing. Would you agree with this or not?

	Total	White
1. Agree	61	63
2. Do not agree	33	32
3. Other	1	1
0. Don't Know	5	4

Q 44 What socio-economic class would you say you belong to?

1. Upper class	2	2
2. Middle class	52	54
3. Working class	36	34
4. Lower class	5	5
5. Other	1	1
6. Upper middle	1	1
7. Lower middle	1	1
0. Don't Know	2	2

Q 45 Where were you born?

U.S.A. - State	Freq. T.	Freq. Wh.	% T.	% Wh
1. MAIN. N.H. VT. MASS. R.I. CONN.	89	87	6	6
2. N.Y. N.J. PA. MD. DEL. W.VA. D.C.	319	299	20	21
3. OHIO IND. ILL. MICH.	268	252	17	18
4. WIS. MINN. IOWA MO. N.DAK. S.DAK. NEBR. KANS.	205	202	13	14
5. VA. N.C. S.C. GA. KY. TENN. ALA. MISS. FLA.	301	227	19	16
6. ARK. LA. OKLA. TEXAS	137	99	9	7
7. MONT. ARIZ. COLO. IDAHO WYO. UTAH NEV. N.MEX.	43	40	3	3
8. CALIF. OREG. WASH. ALA. HAWAII	98	95	6	7
0. Other	111	100	7	7

Outside U.S.A.

	Freq. T.	Freq. Wh.	% T.	% Wh.		Freq. T.	Freq. Wh.	% T.	% Wh
Reject	1467	1306	93	93	16) Japan	1	1	0	0
01) Africa	3	3	0	0	17) Mexico	11	11	1	1
02) Austria	1	1	0	0	18) Netherlands	2	2	0	0
03) Canada (French)	-	-	-	-	19) Norway	1	1	0	0
04) Canada (Other)	7	6	0	0	20) Phillippines	2	2	0	0
05) China	2	2	0	0	21) Poland	6	6	0	0
06) Czechoslovakia	-	-	-	-	22) Puerto Rico	14	12	1	1
07) Denmark	1	1	0	0	23) Russia (USSR)	6	6	0	0
08) England & Wales	2	2	0	0	24) Scotland	2	2	0	0
09) Finland	1	1	0	0	25) Spain	2	2	0	0
10) France	-	-	-	-	26) Sweden	-	-	-	-
11) Germany	5	5	0	0	27) Switzerland	-	-	-	-
12) Greece	-	-	-	-	28) West Indies	3	1	0	0
13) Hungary	2	2	0	0	29) Other	22	18	1	1
14) Ireland	1	1	0	0					
15) Italy	7	7	0	1					

Q 46 What ethnic group do you identify with. Please just give me the number.

[HAND CARD UU]

National codes	Freq. T.	Freq. Wh.	% T.	% Wh.	National codes	Freq. T.	Freq. Wh.	% T.	% Wh.
00) Refuse	31	26	2	2	19) Norway	21	21	1	2
01) Africa	95	4	6	0	20) Phillippines	-	-	-	-
02) Austria	8	8	1	1	21) Poland	39	39	3	3
03) Canada (French)	21	20	1	1	22) Puerto Rico	18	15	1	1
04) Canada (Other)	8	7	1	1	23) Russia (USSR)	15	15	1	1
05) China	1	1	0	0	24) Scotland	37	37	2	3
06) Czechoslovakia	20	20	1	1	25) Spain	9	9	1	1
07) Denmark	9	9	1	1	26) Sweden	22	22	1	2
08) England & Wales	190	190	12	14	27) Switzerland	6	6	0	0
09) Finland	6	6	0	0	28) West Indies	2	-	0	-
10) France	16	16	1	1	29) Other	41	38	3	3
11) Germany	189	189	12	14	30) American Indians	37	30	2	2
12) Greece	5	5	0	0	31) American	70	54	5	4
13) Hungary	10	10	1	1	32) Black	19	-	1	-
14) Ireland	130	130	8	9	88) More than one country can't decided on one	238	230	15	16
15) Italy	60	60	4	4					
16) Japan	-	-	-	-					
17) Mexico	49	48	3	3	98) Don't Know	126	114	8	8
18) Netherlands	23	22	2	2					

Q 47 [IF NUMBER 88 IS ENTERED] Which country do you feel closer to? Please just give me the number.

[HAND CARD UU]

National codes	Freq. T.	Freq. Wh.	% T.	% Wh.	National codes	Freq. T.	Freq. Wh.	% T.	% Wh.
00) Reject	1342	1178	85	84	19) Norway	-	-	-	-
01) Africa	3	1	0	0	20) Phillippines	2	2	0	0
02) Austria	1	1	0	0	21) Poland	3	3	0	0
03) Canada (French)	2	2	0	0	22) Puerto Rico	-	-	-	-
04) Canada (Other)	5	4	0	0	23) Russia (USSR)	2	2	0	0
05) China	-	-	-	-	24) Scotland	6	6	0	0
06) Czechoslovakia	2	2	0	0	25) Spain	-	-	-	-
07) Denmark	1	1	0	0	26) Sweden	3	3	0	0
08) England & Wales	24	24	2	2	27) Switzerland	2	2	0	0
09) Finland	-	-	-	-	28) West Indies	-	-	-	-
10) France	5	5	0	0	29) Other	4	4	0	0
11) Germany	15	15	1	1	30) American Indians	10	10	1	1
12) Greece	-	-	-	-	31) American	15	13	1	1
13) Hungary	-	-	-	-	32) Black	-	-	-	-
14) Ireland	12	11	1	1	88) More than one country can't decided on one	1	1	0	0
15) Italy	4	4	0	0					
16) Japan	1	1	0	0					
17) Mexico	2	2	0	0	98) Don't Know	101	101	6	7
18) Netherlands	3	3	0	0					

Some information about the background of each respondent.

F 01 Are you married or single?

	Total	White
1. Married	67	70
2. Single	17	15
3. Divorced	6	5
4. Separated	2	1
5. Widowed	8	8
0. Don't Know	0	0

F 02 In politics, as of today, do you consider yourself a Republican, Democrat, or Independent?

1. Republican	24	26
2. Democrat	47	44
3. Independent	26	27
4. Other party	1	1
0. Don't Know	2	2

F 03 How many persons 18 years and over are there living in this household, including yourself? Include lodgers, servants, or their employees living in this household.

10. one person	15	14
20. two persons	59	60
30. three persons	17	17
40. four persons	6	6
50. five persons	2	2
60. six persons	0	0
70. seven persons	0	0
80. eight persons	0	0
90. nine persons	0	0
01. more than ten people	0	0
00. Don't Know	0	0

F 04 Are there any children under 18 years of age now living in this household?

10. one person	17	18
20. two persons	18	17
30. three persons	8	7
40. four persons	3	3
50. five persons	1	1
60. six persons	0	0
70. seven persons	0	-
80. eight persons	0	0
90. nine persons	-	-
01. more than ten people	0	-
-0. None	52	53
0-. Don't Know	1	1

F 05 We are interested in finding out how often people are at home to watch TV or listen to the radio. Would you mind telling me whether or not you happened to be at home yesterday. (last night, last Saturday, last Sunday) at this particular time?

[INTERVIEWER : SEE INTERVIEWER BULLETIN FOR HANDLING THIS QUESTION]

	Total	:	White
1. At home one day	12		12
2. At home two days	21		22
3. At home three days	54		54
4. Don't Know	0		0
0. Not at home any days	12		12

F 06 Please tell me which of the categories on this card most nearly describes the kind or work the chief wage earner in your immediate family does. Just call off the letter.

[INTERVIEWER : IF CHIEF WAGE EARNER IN UNEMPLOYED - ASK WHAT TYPE OF WORK HE/SHE WOULD DO IF EMPLOYED.]

[HAND CARD W]

10. Professional	13	13
20. Skilled Worker	19	20
30. Semi Skilled Worker	12	11
40. Manager, Business	9	10
50. Has Own Business	3	3
60. Farmer	2	2
70. Clerical	5	5
80. Sales	2	2
90. Manufacturer Representative	3	3
00. Service Worker	7	5
1. Laborer	4	4
2. Farm Laborer	1	1
3. Retired	17	17
4. Student	1	1
5. Housewife	3	3
6. Don't Know	2	1
7. Other	0	0

b How would you describe the kind of work the chief wage earner does? For example, electrical engineer, chief executive, doctor, stock clerk, construction worker, farmer, etc.?

TYPE OF WORK _____

c What kind of business or industry is this? For example, TV and radio manufacturer, retail shoe store, hospital, stock brokerage firm, building company, farm, etc.?

KIND OF BUSINESS_____

d Are you the chief wage earner?

e Is the chief wage earner now employed full time, part time or not employed?

F 07 Please tell me which of the categories on this card most nearly describes the kind or work you do. Just call off the letter.

[HAND CARD W]

	Total	White
10. Professional	3	3
20. Skilled Worker	1	1
30. Semi Skilled Worker	2	2
40. Manager, Business	1	1
50. Has Own Business	0	0
60. Farmer	0	0
70. Clerical	5	5
80. Sales	1	1
90. Manufacturer Representative	0	0
00. Service Worker	2	2
1. Laborer	0	0
2. Farm Laborer	-	-
3. Retired	3	3
4. Student	3	3
5. Housewife	19	20
6. Don't Know	1	1
7. Other	-	-
Reject	58	58

[Summary columns for the respondents occupation]

Note: F 06 is the occupation of the chief wage earner who may or may not be the respondent. Similarly, F 07 is the occupation of the respondents who are not chief wage earners. Since the actual respondent occupation could be recorded in either F 06 or F 07, we create summarly columns for respondents occupation only.

10. Professional	11	11
20. Skilled Worker	10	10
30. Semi Skilled Worker	7	7
40. Manager, Business	5	6
50. Has Own Business	2	2
60. Farmer	1	1
70. Clerical	7	8
80. Sales	2	2
90. Manufacturer Representative	2	2
00. Service Worker	7	6
1. Laborer	3	3
2. Farm Laborer	1	1
3. Retired	15	15
4. Student	3	3
5. Housewife	22	22
6. Don't Know	2	2
7. Other	0	0

F 08a What was the last grade or less you completed in school?

b (If College, Univ., grad.) Are you currently doing or have you ever done any postgraduate work?

	Total	White
10. None, or grades 1 - 4	2	1
20. Grades 5 - 7	4	4
30. Grade 8	6	6
40. High school inc. Grades 9 - 11	15	14
50. High school grad., Grade 12	34	34
60. Technical, Trade, or Business	5	5
70. College, Univ., inc.	20	20
80. College, Univ., grad.	{1 6}	{1 7}
82. Post graduate work (no)		
81. Post graduate work (yes)	8	8
00. Don't Know	0	0

F 09 Age

Age	T.	Wh.	Age	T.	Wh.	Age	T.	Wh.
18	3	3	42	1	1	66	2	2
19	2	1	43	2	1	67	2	2
20	2	2	44	1	1	68	1	1
21	2	2	45	1	1	69	1	1
22	2	2	46	1	2	70	1	1
23	3	3	47	1	1	71	1	1
24	3	3	48	2	1	72	1	1
25	2	2	49	1	1	73	1	1
26	2	2	50	2	2	74	1	1
27	2	2	51	2	2	75	1	1
28	3	3	52	1	1	76	1	1
29	2	2	53	1	1	77	0	0
30	2	2	54	2	2	78	1	1
31	3	3	55	2	2	79	0	0
32	2	2	56	1	1	80	1	1
33	2	2	57	1	1	81	0	0
34	2	2	58	2	2	82	0	0
35	2	2	59	2	2	83	0	0
36	2	2	60	2	2	84	0	0
37	1	1	61	1	1	85	0	0
38	2	2	62	2	2	86	0	0
39	2	2	63	1	2	87	0	0
40	2	2	64	1	1	88	0	0
41	1	1	65	2	2	0	2	2

1. 18, 19	4	4
2. 20 - 29	23	23
3. 30 - 39	19	19
4. 40 - 49	13	13
5. 50 - 59	16	15
6. 60 - 69	13	14
7. 70 -	9	10
0.	2	2

F 10 Sex

	Total	White
1. White man	43	49
2. White woman	46	51
3, Black man	5	
4. black woman	5	
5. Other man	0	
6. Other woman	0	

F 11 Would you please give me the letter of the group which best represents the total annual income, before taxes, of all members of your immediate family living in your household?

[HAND CARD X]

100. under $ 2,000	2	2
200. $ 2,000 - $ 2,999	3	2
300. $ 3,000 - $ 3,999	4	3
400. $ 4,000 - $ 4,999	3	3
500. $ 5,000 - $ 5,999	4	4
600. $ 6,000 - $ 6,999	6	6
700. $ 7,000 - $ 9,999	9	9
800. $ 10,000 - $ 11,999	7	7
900. $ 12,000 - $ 14,999	11	11
000. $ 15,000 - $ 19,999	17	18
11. $ 20,000 - $ 24,999	10	11
12. $ 25,000 - $ 39,999	11	12
13. $ 40,000 - $ 49,999	3	3
14. $ 50,000 - $ 99,999	2	2
15. $100,000 or more	0	1
16. Refuse	4	4
10. Don't Know	0	0
20. Undesignated ($ 20,000 or more)	2	2

[Ask persons whose income is in group K ($20,000 or more)] : Now we are asking those whose income is in group K the letter of the group listed on this card (HAND CARD Y) that best represents the total annual income, before taxes, of all members of your immediate family living in your household?

F 12 What is your religious preference - Protestant, Roman Catholic, Jewish or Eastern Orthodox?

1. Protestant	60	58
2. Roman Catholic	29	32
3. Jewish	2	3
4. Eastern Orthodox	0	0
5. Other	2	1
6. None	7	7
0. Don't Know	0	0

[APPENDIX]

The remaining columns in the card contain information on the sample such as section, state, SMSA etc.. The documentation and explanation is given below.

R 01 Size of the City —— the respondent lives

	Total	White
10. Farm resident	-	-
20. Open country	22	23
30. Under 2,500	5	5
40. 2,500 - 4,999	0	0
50. 5,000 - 9,999	4	4
60. 10,000 - 24,999	7	7
70. 25,000 - 49,999	6	6
80. 50,000 - 99,999	7	7
90. 100,000 - 249,999	10	10
0. 250,000 - 499,999	8	8
1. 500,000 - 999,999	12	12
2. 1,000,000 and over	19	18

R 02 The region and the state in which the respondent lives. Columns contain the section of the country [1-8] and the state within each section.

Section/State Codes

		State	Total	White
Section 1	11	Maine	0	0
New England	12	New Hampshire	0	0
	13	Vermont	0	0
	14	Massachusetts	4	4
	15	Rhode Island	1	1
	16	Connecticut	1	1
Section 2	21	New York	9	8
Middle Atlantic	22	New Jersey	3	4
	23	Pennsylvania	5	5
	24	Maryland	3	3
	25	Delaware	-	-
	26	West Virginia	1	1
	27	District of Columbia	0	0
section 3	31	Ohio	5	5
East Central	32	Michigan	5	4
	33	Indiana	3	3
	34	Illinois	6	6
Section 4	41	Wisconsin	2	2
West Central	42	Minnesota	2	2
	43	Iowa	2	2
	44	Missouri	2	2
	45	North Dakota	0	0
	46	South Dakota	0	0
	47	Nebraska	1	1
	48	Kansas	1	1

		State	Total	: White
Section 5	51	Virginia	2	2
South East	52	North Carolina	3	3
	53	South Carolina	1	1
	54	Georgia	2	1
	55	Florida	4	5
	56	Kentucky	2	2
	57	Tennessee	2	2
	58	Alabama	1	1
	59	Mississippi	2	1
Section 6	61	Arkansas	1	1
South West	62	Louisiana	2	1
	63	Oklahoma	1	1
	64	Texas	6	4
Section 7	71	Montana	0	0
Rocky Mt.	72	Arizona	1	1
	73	Colorado	2	2
	74	Idaho	0	0
	75	Wyoming	-	-
	76	Utah	0	0
	77	Nevada	-	-
	78	New Mexico	1	1
Section 8	81	California	10	10
Pacific	82	Oregon	1	1
	83	Washington	2	2
	84	Hawaii	-	-
	85	Alaska	-	-

Region		
1. New England	7	7
2. Middle Atlantic	21	21
3. East Central	18	18
4. West Central	10	11
5. South East	19	18
6. South West	9	7
7. Rocky Mt.	4	5
8. Pacific	13	13

R 03 SMSA Designation [SMSA: STANDARD METROPOLITAN STATISTICAL AREA]

1. Central City with SMSA	29	26
2. Outside Central City with an SMSA	38	40
3. Non SMSA	34	35

R 04 Urban Designation

1. Urban Area	73	71
2. Non Urban Area	27	29

R 05 Weight

	Freq.		%	
	T.	Wh.	T.	Wh.
1.	910	813	58	58
2.	363	320	23	23
3.	122	109	8	8
4.	176	159	11	11

SAMPLE SPOT AND

POPULATION OF INTERVIEWING AREAS ON

AMERICAN WAY OF THINKING STUDY

SAMPLE SPOT AND
POPULATION OF INTERVIEWING AREAS ON
AMERICAN WAY OF THINKING STUDY

Spot Number	Place	State	Population
1	Hartford	Connecticut	158,017
2,3	Rural Hartford County	Connecticut	115,191
4	Rural Tolland County	Connecticut	59,525
5	Rural Lincoln County	Maine	17,029
6,7	Boston	Massachusetts	641,071
8	Brockton	Massachuestts	89,040
9	Chicopee	Massachusetts	66,676
10	Framingham Twp.(Middlesex Co.)	Massachusetts	64,048
11	Lawrence	Massachusetts	66,915
12	Newton	Massachusetts	91,066
13	Shrewsbury Twp.(Worcester Co.)	Massachusetts	63,339
14	Plymouth County Towns	Massachusetts	22,209
15	Rural Plymouth County	Massachusetts	113,335
16	Salem	Massachusetts	40,556
17	Rural Hampden County	Massachusetts	43,347
18	Rural Hillsborough County	New Hampshire	55,394
19	Newport	Rhode Island	34,562
20	Providence	Rhode Island	179,213
21	Burlington	Vermont	38,633
23	Baltimore	Maryland	905,759
24	Bethesda	Maryland	71,621
25	Cumberland	Maryland	29,724
26	Suitland-Morningside-Spaulding	Maryland	138,370
28	Rural Harford County	Maryland	53,974
29	Havre De Grace	Maryland	9,791
30	Towson	Maryland	77,809
31	Washington	D.C.	756,510

Spot Number	place	State	Population
32	Bayonne	New Jersey	72,743
33	Bridgewater Twp.(Somerset Co.)	New Jersey	30,235
34	Fairlawn	New Jersey	37,975
35	Hamilton Twp.(Mercer County)	New Jersey	79,609
36	Springfield Twp.(Union Co.)	New Jersey	15,740
37	Rural Monmouth County	New Jersey	79,695
38	Montclair	New Jersey	44,043
39	Neptune Twp.(Monmouth Co.)	New Jersey	27,863
40	Camden County Urban Fringe	New Jersey	437,692
41	Union City	New Jersey	58,537
42	Rural Warren County	New Jersey	29,211
44	Albany	New York	115,781
45	Amsterdam	New York	25,524
46	New Castle, Mt. Kisco UF (Westchester Co.)	New York	28,009
47	Central Islip	New York	36,391
48	Fairport and Perinton	New York	38,042
49	Geneva	New York	16,793
50	Olean and Salamanca	New York	27,046
52	Rye	New York	15,869
53	Kenmore	New York	20,980
54	Levittown	New York	65,440
55	Lindenhurst	New York	28,359
56	Port Jervis	New York	8,852
58,59	Bronx	New York	1,471,701
60,61,62,63	Brooklyn	New York	2,602,012
64,65	Manhattan	New York	1,539,233
67,68,70	Queens	New York	1,986,473
71	Staten Island	New York	295,443
72	Rural Oneida County	New York	78,196

Spot Number	Place	State	Population
73	Colonie-Colonie Twp.(Albany Co.)	New York	69,147
74	Syracuse	New York	197,208
75	Hudson Falls	New York	7,917
76	Rural Wayne County	New York	48,899
77	Baldwin	Pennsylvania	26,729
78	Rural Bradford County	Pennsylvania	37,433
79	Rural Crawford County	Pennsylvania	49,493
80	Erie	Pennsylvania	129,231
81	Rural Fayette County	Pennsylvania	79,687
82	Hazleton	Pennsylvania	30,426
83	Indiana County Towns	Pennsylvania	11,894
84	Rural Lawrence County	Pennsylvania	42,587
85	Lower Southampton Twp. (Bucks County)	Pennsylvania	17,578
86,88	Philadelphia	Pennsylvania	1,948,609
89	Pittsburgh	Pennsylvania	520,117
93	Williamsport	Pennsylvania	37,918
94	York County Towns	Pennsylvania	31,140
95	Easttown Twp.(Chester Co.)	Pennsylvania	9,565
96	Reading UF (Berks Co.)	Pennsylvania	87,643
97	Rural Washington County	Maryland	50,074
98	Rural Kanawha County	West Virginia	69,323
99	South Charleston	West Virginia	16,333
100	Arlington Heights	Illinois	64,884
101	Aurora	Illinois	74,182
102	Belleville	Illinois	41,699
103	Canton	Illinois	14,217
104-109	Chicago	Illinois	3,366,957
110	Moultrie County Towns	Illinois	4,104
111	Romeoville	Illinois	12,674

Spot Number	Place	State	Population
112	Streamwood	Illinois	18,176
114	Rural Macon County	Illinois	19,294
115	Berwyn	Illinois	52,502
116	Quincy	Illinois	45,288
117	Rockford	Illinois	147,370
119	Villa Park	Illinois	25,891
121	Elkhart	Indiana	43,152
122	Evansville	Indiana	138,764
123	Northern Chicago Urban Fringe	Indiana	40,900
124	Rural Miami County	Indiana	18,981
125	Kosciusko County Towns	Indiana	7,841
126	Rural Adams County	Indiana	14,338
127	Rural St. Joseph County	Indiana	31,798
128	South Bend	Indiana	125,580
129	Rural Vanderburgh County	Indiana	26,296
130	Benton Central and Benton South (Berrien County)	Michigan	12,563
131	Pontiac Twp.	Michigan	13,219
132	Dearborn Heights	Michigan	80,069
133,135	Detroit	Michigan	1,511,482
136	Burton Twp.(Genessee Co.)	Michigan	32,540
138	Rural Jackson County	Michigan	60,697
139	Rural Mecosta County	Michigan	15,997
140	Rural Tuscola County	Michigan	37,977
141	Rural Ottawa County	Michigan	61,935
142	Ypsilanti	Michigan	29,538
143	Warren	Michigan	179,260
144	Rural Waine County	Michigan	47,338
145	Wyoming	Michigan	56,560
147	Rural Ashtabula County	Ohio	42,248

Spot Number	Place	State	Population
148	Bellbrook	Ohio	9,544
149	Brook Park	Ohio	30,774
150	Cheviot, Cincinnati UF	Ohio	11,135
154	East Cleveland	Ohio	39,600
155	Rural Fairfield County	Ohio	36,550
156	Lakewood	Ohio	70,173
157	Lorain	Ohio	78,185
158	Newark	Ohio	41,836
159	Plain Twp.(Stark Co.)	Ohio	47,346
160	Rural Scioto County	Ohio	37,102
161,162	Toledo	Ohio	383,818
163,	Rural Tuscarawas County	Ohio	30,924
164	Bremer County Towns	Iowa	6,636
165	Clinton	Iowa	34,719
166	Pocahontas County Towns	Iowa	4,801
167	Des Moines UF (Polk Co.)	Iowa	100,058
168	Sioux City	Iowa	85,925
169	El Dorado	Kansas	12,308
170	Boone County	Indiana	7,849
171	Great Bend	Kansas	16,133
172	Topeka	Kansas	125,011
173	Wichita	Kansas	276,554
174	Brooklyn Park	Minnesota	26,230
175	Rural Crow Wing County	Minnesota	18,351
176	Rural Dakota County	Minnesota	20,086
177	Duluth	Minnesota	100,578
178	Rural Morrison County	Minnesota	19,482
179	St. Louis County Urban Fringe	Missouri	911,515
180	De Sota	Missouri	5,984
181	Rural Shannon County	Missouri	7,196

Spot Number	Place	State	Population
182	Rural Greene County	Missouri	28,160
184	Webb City	Missouri	6,811
185	York	Nebraska	6,778
186	Hastings	Nebraska	23,580
187,188	Omaha	Nebraska	347,328
189	Bismarck	North Dakota	34,703
190	Rural Ottertail County	Minnesota	29,886
191	Rural Butte, Perkins, (Harding County)	South Dakota	8,216
192	Brookfield	Wisconsin	32,140
193	Milwaukee	Wisconsin	717,099
195	New Berlin	Wisconsin	26,937
196	Racine	Wisconsin	95,162
197	Sheboygan	Wisconsin	48,484
198	Wausau	Wisconsin	32,806
200	Rural Boone County	Arkansas	11,834
201	Fayetteville	Arkansas	30,729
202	Rural Howard County	Arkansas	6,295
203	Rural Dixie-Gilchrist County	Florida	5,689
204	Coral Gables	Florida	42,494
205	Daytona Beach	Flofida	45,327
206	Royal Volusia County	Florida	46,037
207	Ensley Division	Florida	34,469
208	Lake Worth Division	Florida	68,635
209	Rural Monroe County	Florida	13,692
210,211	Miami	Florida	334,859
212	Miami Beach	Florida	87,072
213	St. Petersburg	Florida	216,232
214	Sweetwater Creek-Leto	Florida	27,911
215	Tampa	Florida	277,767

Spot Number	Place	State	Population
217	Buechel District	Kentucky	23,545
218	Elizabethtown	Kentucky	11,748
219	Louisville Urban Fringe	Kentucky	367,696
220	Henderson	Kentucky	22,976
222	Rural Pike County	Kentucky	55,402
224	Rural Alamance County	North Carolina	37,613
226	Barker Heights-Hendersonville	North Carolina	9,376
227	Rockingham & Stokes Co. Towns	North Carolina	5,468
228	High Point	North Carolina	63,204
229	Kannapolis	North Carolina	36,293
230	Hickory	North Carolina	20,569
231	Rural Pender County	North Carolina	16,405
232	Rural Pitt County	North Carolina	32,464
234	Rural McCurtain County	Oklahoma	18,648
235	Asheville	North Carolina	57,681
236	Rural Gibson County	Tennessee	21,635
237	Millington	Tennessee	21,106
238	Memphis	Tennessee	623,497
239	Hamilton County Urban Fringe	Tennessee	205,233
240	Nashville	Tennessee	436,170
241	Trousdale/Wilson/Cannon Co.Towns	Tennessee	5,242
243	Beaumont	Texas	115,919
244	Boone	North Carolina	8,754
245	Corpus Cristi	Texas	204,525
246,247	Dallas	Texas	844,401
248	Cameron County Towns	Texas	6,120
249	Rural Ellis County	Texas	16,354
250	Fort Worth	Texas	393,476
251	Rural Hill County	Texas	10,946

Spot Number	Place	State	Population
252,253	Houston	Texas	1,232,802
254	La Marque	Texas	16,131
255	Laredo	Texas	69,024
256	Tyler	Texas	57,770
257	Indianola	Mississippi	8,947
258	San Antonio	Texas	654,153
259	Seguin	Texas	15,934
260	Southwest Bexar Division	Texas	71,973
261	Childress	Texas	5,408
262	Alexandria(Independent City)	Virginia	110,938
263	Arlington	Virginia	174,284
265	Rural Mecklenburg County	Virginia	21,018
266,267	Norfolk(Independent City)	Virginia	307,951
268	Portsmouth(Independent City)	Virginia	110,963
270	Waynesboro(Independent City)	Virginia	16,707
271	Attalla	Alabama	7,510
272	Decatur	Alabama	38,044
273	Johnson County	North Carolina	5,738
274	Rural Lauderdale County	Alabama	34,080
275	Albany	Georgia	72,623
277	Atlanta	Georgia	496,973
278	Dalton	Georgia	18,872
279	Columbus	Georgia	154,168
280	Morgan,Jaspar,Oconee Co.Towns	Georgia	5,691
282	Rural Henry County	Georgia	17,937
285	Rural Troup County	Georgia	14,571
286	Rural West Baton Rouge Parish	Louisiana	9,024
287	La Fayette(La Fayette Parish)	Louisiana	68,908
288	Baton Rouge Urban Fringe (E. Baton Rouge Parish)	Louisiana	165,936

Spot Number	Place	State	Population
289	Rural La Fourche Parish	Louisiana	39,968
290	Columbia	Mississippi	7,587
291	Tangipahoa	Louisiana	5,666
292	Greenwood	Mississippi	22,400
293	Rural Madison County	Mississippi	17,584
294	Laurel	Mississippi	24,145
295	Lexington County Towns	South Carolina	7,025
296	Rural Jefferson County	Oklanoma	3,025
297	Spartanburg County Towns	South Carolina	11,701
298	Rural Lancaster County	South Carolina	25,977
299	Rural Sumter County	South Carolina	41,680
300,301	Phoenix	Arizona	581,562
302	Rural Yakima County	Washington	62,910
303	Boulder	Colorado	66,870
304	Rural Boulder County	Colorado	26,871
305	Colorado Springs	Colorado	135,060
306	Denver	Colorado	514,678
307	Greeley	Colorado	38,902
308	Littleton Southeast	Colorado	22,899
309	Caldwell	Idaho	14,219
310	Rural Golden Valley	Montana	5,778
311	Portales	New Mexico	10,554
312	Rural Valencia County	New Mexico	24,763
313	South Valley	New Mexico	29,389
314	Clearfield	Utah	13,316
315	Albany	California	14,674
316	Anaheim	California	166,701
317	Baldwin Park	California	47,285
318	Barstow	California	17,442

Spot Number	Place	State	Population
319	West Hollywood	California	29,448
321	El Cajon	California	52,273
322	Gardena	California	41,021
323	Inglewood	California	89,895
324	Hawaiian Gardens	California	8,811
326-330	Los Angeles	California	2,816,061
332	Rural Mendocino County	California	33,460
333	Mountain View	California	51,092
335	Pasedena	California	113,327
336	Petaluma	California	24,870
337	Palmdale-Palmdale East	California	12,071
338	Rural Riverside County	California	88,873
340	San Bernadino	California	104,251
341	San Diego	California	693,931
342	Rural San Diego County	California	85,549
343	San Francisco	California	715,674
344	Milpitas	California	27,149
345	Santa Barbara	California	70,215
346	Gridley	California	3,534
347	Torrance	California	134,584
348	Rural Tulare County	California	72,328
349	West Covina	California	68,034
350	Modesto Division	California	100,031
351	Ventura Co.	California	28,083
353	Medford	Oregon	28,454
354	Portland	Oregon	382,619
355	Beaverton	Oregon	18,577
356	Rural Washington County	Oregon	37,048
357	Seattle Urban Fringe	Washington	64,284
358	Rural King County	Washington	82,844

Spot Number	Place	State	Population
360	Parkland-Parkland Division	Washington	46,064
362	Tacoma	Washington	154,581