

CHANGES IN BELIEF SYSTEMS, QUALITY OF LIFE ISSUES
AND SOCIAL CONDITIONS OVER 25 YEARS
IN POST-WAR JAPAN*

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Summary

The data, which are analyzed in the paper, are based on the continuing nation wide random sample surveys which have been conducted every five years over 25 years since 1953 in Japan by the Research Committee on the Study of Japanese National Character of the Institute of Statistical Mathematics. The importance of the changes in belief systems and ways of thinking is insisted. It is remarked that only the simple tabulations by various breakdowns and simple cross-tabulations among the 2 or 3 questions do not always reveal the changes of belief systems and ways of thinking. The statistical method of principal component analysis of categorical data, which is called theory of quantification of response pattern (quantification method III) and equivalent to Benzécri's correspondence analysis, is effectively adopted to reveal them. The consistency and the features of change of them over 25 years in post-war Japan emerge. This paper also gives useful examples how to use the quantification method III.

1. Introduction

Since the Meiji era, the main objective of Japanese Society was multifaceted modernization. In this case, modernization meant westernization. The highly educated intelligentsia admired the western culture without recognizing what it was, and had an idealized image of it. They had the intention of attaining that image without knowing that the image was only illusion, and the desire to deny tradition

* Data in this paper were obtained in the various surveys conducted by the Research Committee on the Study of the Japanese National Character.

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thoroughly even though such denial was in all actuality impossible. None of the intelligentsia and the public could escape the influence of modernization, however they might have laughed at the excesses. This tendency has continued until quite recently.

As a consequence of this movement, the conflict between the traditional and the modern way of thinking has been firmly rooted in the Japanese mind. This can easily be confirmed in the analysis of survey data. Generally speaking, before the fifth survey (1973), the change, if any, was found in the direction of traditional-to-modern (or rational). There were many responses patterns, including those in human relations, in which the change was not substantial. Large changes occurred in the direction of traditional to modern in items such as those having to do with life of enjoyment, a kind of individualism, self-confidence, abstract thought, politics and institutions. These changes may have been brought about by education or mass-media and some of them conform to current world trends. On the other hand, the data analysis verified that some Japanese traditional opinions remain unchanged, especially in the questions concerning Japanese human relations which would appear to show no substantial change in basic ways of thinking.

Thus, modernization in Japan does not always mean over-all assimilation to western culture. It illustrates a characteristic feature of full assimilation in parts, and partial assimilation in other parts, in today's Japanese culture. Here, we can find the mixture of both the modernization of Japanese culture in some aspects, and the Japanization of the western culture in other aspects, due to a deep rooted consistency in the nature of the Japanese mind, with its unchangeable Japanese feelings. Just recently, the Japanese have learned that the idealized images which they have held toward western culture are only illusions, and have felt the necessity of having another look at the Japanese culture. The analysis of the 1978 data shows some signs of the birth of a new belief system, with an apparent reversal in direction of some opinions; that is, a change in direction from modern to traditional. This does not mean a simple regression to the traditional. The change toward westernization, the consistent nature of the Japanese mind, and the reversal phenomenon in some opinions suggest somewhat different patterns of change in Japanese belief systems from the tendency which has continued up to this time.

In the present paper, we shall discuss change, the consistent nature of the Japanese mind, and signs of formation of a new Japanese belief system through the statistical analysis of time series data. 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 nation-wide surveys has consisted of face-to-face interviews with 3000 to 4000 persons aged 20 years and over, selected by a stratified three-stage random sampling method. The survey covers the years 1953-1978, and was conducted every five years [8], [10], [11], [12], [13]. Our questionnaires have included three types of items:

- (1) those dealing directly with Japanese national character, e.g. actions and/or attitudes which specialists describe as being uniquely Japanese.
- (2) items drawn from counterpart foreign survey research.
- (3) items designed to yield data that can be compared with foreign studies.

Before we discuss the problem, the outline of change and consistency of Japanese values will be described in the general trends section [7].

2. Outline of trend and stability of opinion in Japan

2.1 *General trends*

One must always be cautious about drawing conclusions from mass survey data because 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. We may classify the opinion into following types according to relative amounts of change.

- (a) large change (one-direction change)
- (b) small change
- (c) unchanged
- (d) U type and Ω type change*

Large change is defined here as a change of more than about 20% in twenty-five years.

One noticeable example is the question of adoptions (see, Table 9, below). To the question whether one should "adopt a child in order to continue the family line", the percentage saying "would adopt" de-

* This interesting type of change is found on questionnaires such as the one below. The existence of this type of change has been made clear in the 6th survey (1978) and was found in the responses to many questions. One example is shown in Fig. 1. The answer (a) shows clearly U type change 27, 20, 19, 19, 31, 33 in percents of six surveys (1953-1978).
Question: (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.

This swing-back tendency is found in the fact that the last gradient has decreased or flattened out. This change in the last five years is noteworthy [5].

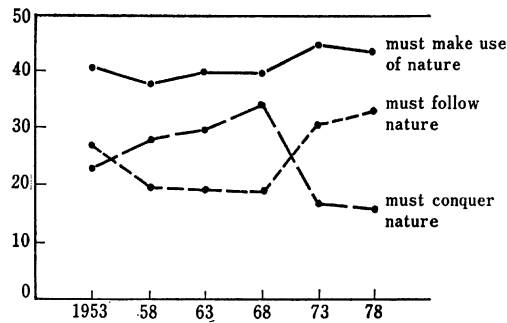


Fig. 1. Man and nature

creased (from 73% in 1953 to 33% in 1978).

With reference to the question whether we "should leave every thing to good political leader to improve the country", the percentage giving a negative reply has also substantially increased (38% in 1953 and 58% in 1978).

On the idea of teaching children that money is the most important thing, those who agreed with it decreased 20% from 65% in 1953 (see also Table 9, below).

Public attitude toward the way of life has also substantially changed. More and more people have given preference to a life that "suits one's own taste" (21% in 1953, and 39% in 1978), while the liking for "a pure and just life" has decreased (29% in 1953, 11% in 1978). However it is found that these opinions show only a small change or no change in the last five years.

It is to be noticed that these examples showing considerable change involve shifts from the traditional toward the non-traditional, the direction that would be expected with increasing modernization.

Questions in which either no change or only slight change occurred over the twenty-five year period are seen in the attitude toward human relations. There has been no substantial change in the typical Japanese way of thinking (see Table 7, below).

2.2 *Predominant opinions*

In considering the consistency of Japanese opinions, we must mention predominant opinions. Here we define 'predominant opinion' as that supported not only by more than 2/3 of the total sample, but also by more than 2/3 of all the breakdowns in sex, age and education. Though opinions supported by more than 2/3 of the total are frequent, only a few predominant opinions, as defined here, are found. Through six surveys, only the opinions designated in Table 1 by the ○ mark, have been found to fit this definition.

Table 1. Predominant opinions

Question 1. (#5.1c-1):	Suppose that you were 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?'
	○ (a) One with highest grade. ○ (b) Your relative.
Question 2. (#5.6) :	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.
Question 3. (#9.3) :	(Picture of Japanese and Western garden shown) Which of these do you like?
	○ (a) Japanese garden. ○ (b) Western garden.
Question 4.* (#3.1) :	I'd like to ask you a question about religion. Do you, for example, have any personal religious faith?
	○ (a) Have. ○ (b) Have not.
Question 5.* (#3.2) :	(To those who answered 'Have not' to Question 4) Without reference to any of the established religions, do you think that a 'religious attitude' is important, or not?
	○ (a) Important. ○ (b) Not important.
* ○ mark in Question 4 (#3.1) and Question 5 (#3.2) means 'have' in Question 4 (#3.1) or 'religious attitude is important' in Question 5 (#3.2).	
Question 6. (#5.6b) :	(Card shown) Supposing there were two firms which differed in the way I am going to describe. Which would you prefer to work for?
	○ (a) A firm which paid good wages, but where they did nothing like organizing outings and sports days for the employees' recreation. ○ (b) A firm with a family-like atmosphere which organized outings and sports days, even if the wages were a little bit less.

As indicated by these responses, some unique Japanese concepts and preferences continue to draw predominant support (see Table 2). From the predominant opinions in a question (#5.6b) used only in the

Table 2. Predominant opinion in total (in percent)

Question number	1 (#5.1c-1) (a)	2 (#5.6) (b)	3 (#9.3) (a)	4+5 (#3.1) (#3.2) (a)+(a)	6 (#5.6b) (b)
1978	72	87	—	83	78
1973	73	81	90	79	74
1968	78	84	91	83	—
1963	75	82	85	84	—
1958	—	79	78	82	—
1953	—	85	79	—	—

note) — means that these questions have not been surveyed.

1973 and 1978 surveys that they prefer to work for a firm with a family-like atmosphere and from Question 2 (#5.6) in the Table 1, we find that the Japanese are inclined to prefer a warm, family-like relationship at work.

The concept of predominant opinion here applies only to the adult population, as represented by the samples as a whole. This does not mean that those individuals in the majority, responding in a certain way to a particular attitudinal question, will respond also with the majority on any other attitude. Indeed, the percentage of those individuals who responded with the majority to all four questions shown in Table 1 amounted to only 44 percent in 1973.

2.3 Age and time

Next, we examine change of opinions by age and time, using cohort analysis. Views also change, in some ways, as a person grows older. Additionally, these life-course trends interact with secular historical trends in diverse ways. 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 in claims of adherence to a religion.

On other topics, age brings little change, but there are remarkable historical trends. Consider the questions, '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 over the last 25 years (from 20 percent in 1953 to 39-47 percent in the '70's).

Neither age nor history seem to change some views. Japanese

preferences for the 'paternalistic supervisor' (ninjo kacho) mentioned in the predominant opinion section, hold at about 85 percent, 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 a historical trend in the overall intensity of the opinion. A new type which will be explained later is clearly found in the 20-24 years age group, for the first time in the 1978 survey.

Here, we may classify the changing patterns, by age and time, into six typical types, although there are some compound types:

- (1) Change both by age and time
- (2) Change only by age but not time
- (3) Change only with time but not by age
- (4) Change neither with age nor time
- (5) Another type showing no change with age or time
- (6) A new type

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

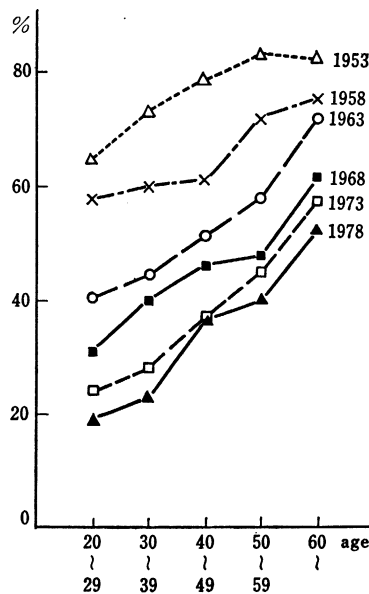


Fig. 2. Opinion favoring adoption of a child to continue the family line "Would adopt"

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.

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 first survey (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, fifth survey in 1973 found only 35% of the same age-group (i.e. those now age 40~49) answering affirmatively.

(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).

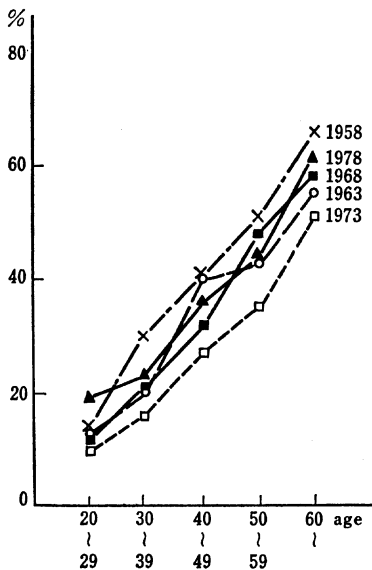


Fig. 3. Religious faith "have"

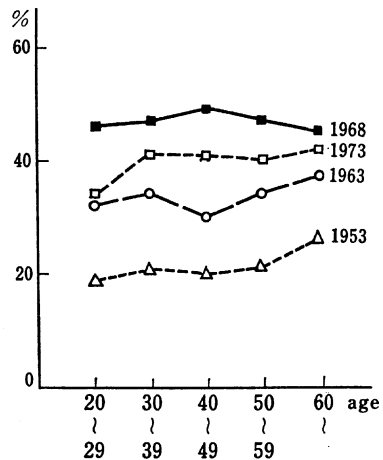


Fig. 4. Superiority or inferiority of Japanese vs. Westerners "Japanese superior"

Question (#9.6):

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

(4) Change neither with age nor time

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

Question (#5.6):

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.

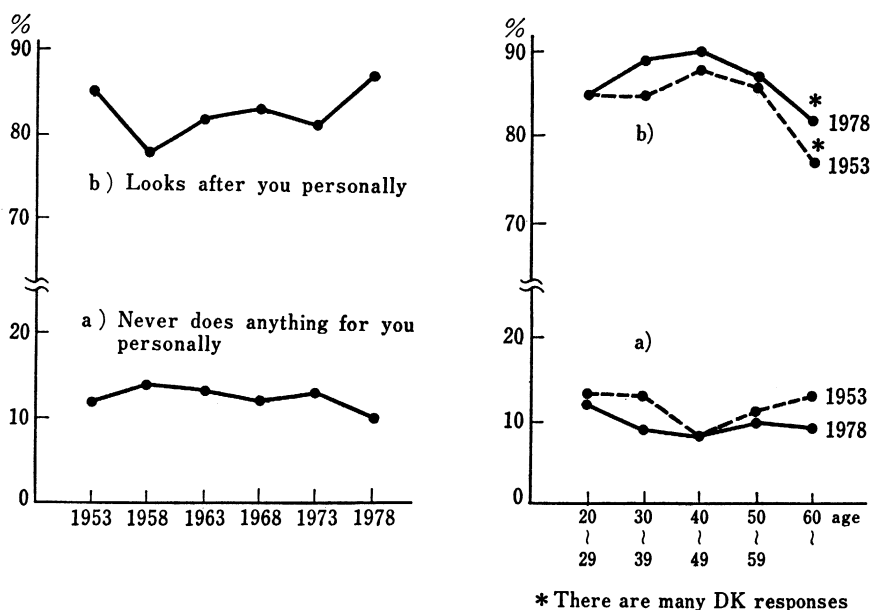


Fig. 5. Type of superior preferred paternalistic

(5) Another type showing no change with age of 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.

Question (#2.4):

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.

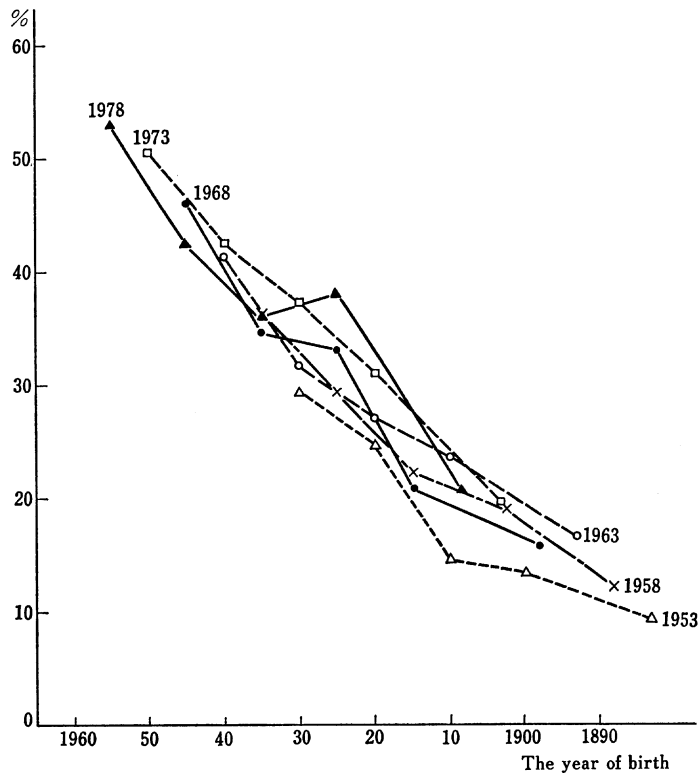


Fig. 6. The way of life "Live a life that suits one's own tastes" Those born in a particular birth group have not changed their views significantly, but each succeeding group comes out more strongly in favor of living as one likes.

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.

(6) A new type

Hitherto, the younger group has shown more modern response than the older group. But in 1978, the younger group (20-24 years old) gives apparently more traditional responses than the group 25-29 years old in a number of questions. This finding is the first one of this type in our survey history. One example of this type response is listed below (see Table 3).

Question (#2.1):

If you think a thing is right, do you think you should go ahead and do 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 3. Response distribution in total and young groups (in percent)

Survey period	Go ahead	Follow custom	Depends on circumstances	Others	Total
1953	41 (48, 44)*	35 (29, 29)	19 (18, 23)	5	100%
1958	41 (44, 41)	35 (34, 36)	19 (17, 21)	5	100%
1963	40 (43, 40)	32 (22, 29)	25 (31, 30)	3	100%
1968	42 (48, 42)	34 (26, 30)	20 (24, 24)	4	100%
1973	36 (42, 40)	32 (21, 28)	29 (34, 32)	3	100%
1978	30 (28, 31)	42 (41, 33)	24 (27, 33)	4	100%

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

The data featured in this section may be interpreted from various viewpoints, either as peculiar to the Japanese situation, or as universal in tendency. The viewpoints have been previously explored [10], [11], [12], [13].

3. The importance of the ways of thinking in a comparative study

In comparative studies which treat both time series and cross-societal data, it is insufficient and sometimes misleading merely to compare the marginal distributions of responses by such a form as percentages. This cannot clarify the ways of thinking (the belief systems) which explicitly characterize the view of life of various groups. We shall first explain this with the example of a cross-societal study. Differences in the belief systems form a barrier to mutual understanding of a fact, and consequently result in a lack of communication. In the case of difference of a scale value's distribution on the same attitude scale, we can still understand each other as long as values are measurable on the same scale. While we can understand why others have different opinions as far as the same scale exists, 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 belief systems are different, even when the marginal distributions are the same. Suppose we have two questions. The belief systems may be clarified by the cross-tabulation of these two questions. Let the questions be I and II, and the responses be dichotomous (α_1, α_2) and (β_1, β_2). *A* and *B* are two different groups, and consist of 1000 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 4). If we take two cross-tabulations, however, very different patterns are obtained, as in Table 5. In group *A*, α_1 with β_1 , and α_2 with β_2 are closely related, whereas in group *B*, α_1 with β_2 , and α_2 with β_1 are

Table 4. Example of marginal distribution

Group	I			II		
	α_1	α_2	Total	β_1	β_2	Total
<i>A</i>	500	500	1000	500	500	1000
<i>B</i>	500	500	1000	500	500	1000

Table 5. Example of cross-tabulation

I \ II	Group <i>A</i>			Group <i>B</i>		
	β_1	β_2	Total	β_1	β_2	Total
α_1	500	0	500	0	500	500
α_2	0	500	500	500	0	500
Total	500	500	1000	500	500	1000

closely related. That is to say, 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 belief systems, which are revealed by the cross-tabulation of two questions, are different.

Belief systems are recognized through the analysis of response patterns from many question items. It may be said that we represent the group structure, which is revealed through the analysis of response patterns, as the belief systems of the population.

The discussion mentioned above is a simple example of the difference of belief systems between groups *A* and *B*. In order to see the relations among many questions, a factor analytic method should be applied which is what we call quantification on response pattern [3] and has been developed by Guttman-Hayashi-Benzécri. This method is a variation of principal component analysis, based on the qualitative data expressed by categorical response, and is called the third method of quantification in Japan. The aim of this method is to represent and visualize response categories of questions as the points in a Euclidean space of smaller dimensions (two dimensional space is more convenient for understanding), 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 can be simplified through the configuration of points obtained.

It is possible to extend this idea to a comparative study of time

Table 6. Example of time series data

		Time 1			Time 2			Time 3			Time 4		
I	II	β_1	β_2	Total	β_1	β_2	Total	β_1	β_2	Total	β_1	β_2	Total
		α_1	500	0	500	400	100	500	300	200	500	250	250	500
	α_2	0	500	500	100	400	500	200	300	500	250	250	500
	Total	500	500	1000	500	500	1000	500	500	1000	500	500	1000

		Time 5			Time 6			Time 7		
I	II	β_1	β_2	Total	β_1	β_2	Total	β_1	β_2	Total
		α_1	200	300	500	100	400	500	0	500	500
	α_2	300	200	500	400	100	500	500	0	500
	Total	500	500	1000	500	500	1000	500	500	1000

series data. We show the heuristic example of time series data in Table 6, which shows the dramatic change of belief systems, even though the marginal distributions of two items remain always constant. The notations in the table are as in Table 4.

The belief systems found in time 1 and time 7 concerning questions I and II are quite different even though the marginal distributions remain constant. The changing pattern of belief systems have also been revealed by cross-tabulation. If such a change in belief systems is ignored in a time comparative study, the data analysis is misleading. In this case, the factor analytic method of qualitative data is effectively applied. Following this idea, our data has been reanalyzed.

4. The stability of belief systems

4.1 *Giri-ninjo attitude*

'Giri-ninjo' questions are used as the first example, since 'giri-ninjo' is said to be one of the major characteristics of the Japanese. 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.

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 keeping only 'giri-ninjo' in 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. 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 questions of the Japanese 'giri-ninjo', it should be a complex and multifaceted 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, regardless of actual behavior, and that it forms a deeply rooted and

Table 7. Set of seven questions (Giri-ninjo)

Question 1. (#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?	
	(a) Better to deny (○)	..... 32/29/31/27
	(b) Better to affirm (×)	..... 50/52/54/54
Question 2. (#5.1)	: (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. (○)	..... 46/46/51/51
	(b) However worried he might be about Mr. A, he should go to the meeting. (×)	..... 46/47/40/42
Question 3. (#5.1b)	: 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. (○)	..... 45/44/51/49
	(b) However worried he might be about his father, he should go to the meeting. (×)	..... 47/49/41/44
Question 4. (#5.1c-1):	Suppose that you were 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 of them would you employ? (Card shown)	
	(a) One with the highest grade. (×)	..... 75/78/73/72
	(b) Your relative. (○)	..... 19/17/19/23
Question 5. (#5.1c-2):	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 who had been your benefactor. (Card shown)	
	(a) One with the highest grade. (×)	..... 48/54/52/47
	(b) Son of your benefactor. (○)	..... 44/39/38/46
Question 6. (#5.6)	: 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. (×) 13/12/13/10
- (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. (○) 82/84/81/87

Question 7. (#5.1d) : (Card shown) If you are asked to choose two out of this list that are important, which two would you point out?

- (a) *Oya-koko* (filial piety, to be dutiful to one's parents) (○) 61/61/63/70
- (b) *On-gaeshi* (repaying moral indebtedness) (○) 43/45/43/47
- (c) Respecting individual right (×) 48/44/45/38
- (d) Respecting freedom (×) 40/46/43/39

note) The figures mean the % in 1963/1968/1973/1978.

stable pillar in Japanese personal relations.

For the purpose of analysis we used seven questions (see Table 7) which contain the items directly concerning the giri-ninjo idea, and also those which do not directly concern giri-ninjo, but have an important meaning as a factor influential on giri-ninjo behaviors. We applied the method of data analysis mentioned above to these giri-ninjo questions. Remarkable stability was found over 15 years (1963-1978) as shown in Figure 7. In this figure, the mark ○ indicates a giri-ninjo response and the mark × a non-giri-ninjo response. The configuration of opinions remains quite similar (the figure in 1978 may show a slight rotation of the axes) and the inveterate attitude structure of giri-ninjo versus non-giri-ninjo has been revealed with high

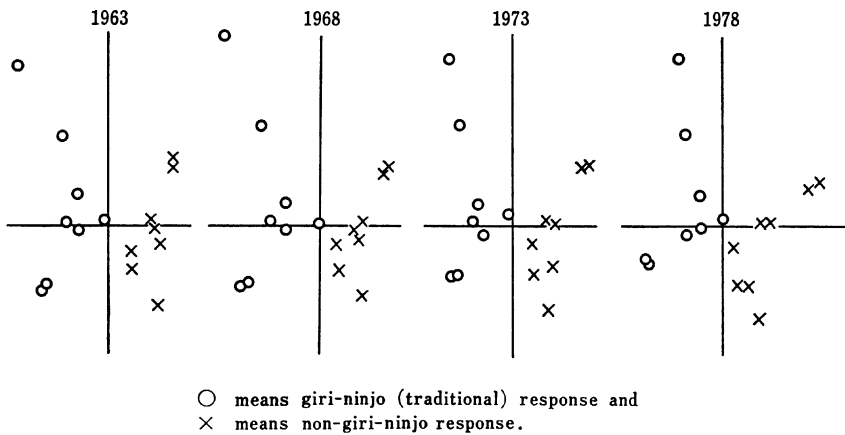


Fig. 7. Stability of configuration of giri-ninjo attitude

Table 8. Distribution of giri-ninjo scale value (in percent)

Scale value	1963	1968	1973	1978
0	7.1	6.1	8.4	5.8
1	34.6	37.8	37.0	33.5
2	35.7	34.8	33.7	36.4
3	18.2	17.1	17.4	19.0
4	4.0	3.8	3.2	4.9
5	0.4	0.4	0.3	0.4
Total	100.0	100.0	100.0	100.0

stability.

The distribution on the giri-ninjo scale is also stable as shown in Table 8. The scale is based on the first component (horizontal axis) in Figure 7 of that data analysis.

4.2 *Traditional-modern attitude*

Here, we have taken up those questions concerning traditional (Japanese) and modern (non-Japanese, non-traditional) ideas other than 'giri-ninjo', which permit intermediate responses, instead of the 'yes'/'no' dichotomy. Such intermediate responses would be 'depends on circumstances and occasions' or 'undetermined', without clear traditional or nontraditional responses. This 'traditional versus modern' idea can be regarded as a main belief system of the Japanese people since the Meiji era. The main objective of Japan was, as mentioned previously, modernization, which specifically implied westernization. This idea permeated deeply into the Japanese culture and has been retained. Thus a way of thinking in the 'traditional versus modern' vein has been formed in the Japanese mind. This feature is found in the data. The six questions (Table 9) are used to substantiate this discussion. The same factor analytic method reveals clear-cut configurations as shown in Figure 8.

Responses are divided into three: '○' indicates traditional, '×' modern and '△' intermediate. The '○', '△' and '×' in Question 4 (#7.4) cannot be defined so easily, but an effort is made to follow the pattern. In Question 6 (#4.5), '×' has a more Japanese feature in the traditional sense, but we treat '○' as the more Japanese since there are far more responding this way in present day Japan.

In order to simplify the matter, the expressions 'traditional' and 'modern' will be used in the following discussion. These terms are operationally defined as follows. Traditional opinions are defined as opinions which are supported more by the older people than by the

Table 9. Traditional vs. Modern items

Question 1. (#4.10):	If you have no children, do you think it necessary 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?
	(a) Would adopt (○) 73/63/51/43/36/33
	(b) Would not adopt (×) 16/21/32/41/41/48
	(c) Depends on circumstances (Δ) 7/ 8/12/ 9/17/12
Question 2. (#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?
	(a) Go ahead (×) 41/41/40/42/36/30
	(b) Follow custom (○) 35/35/32/34/32/42
	(c) Depends on circumstances (Δ) 19/19/25/20/29/24
Question 3. (#2.5) :	(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 (○) 27/20/19/19/31/33
	(b) In order to be happy, man must make use of nature (Δ) 41/38/40/40/45/44
	(c) In order to be happy, man must conquer nature (×) 23/28/30/34/17/16
Question 4. (#7.4) :	(Card shown) Which one of the following opinions do you agree with?
	(a) If individuals are made happy, then and only then will Japan as a whole improve (×) 25/—/30/27/30/27
	(b) If Japan as a whole improves, then and only then can individuals be made happy (○) 37/—/30/32/26/27
	(c) Improving Japan and making individuals happy are the same thing (Δ) 31/—/34/36/37/41
Question 5. (#8.1) :	Some people say that if we get good political leaders, the best way to be 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?
	(a) Agree (○) 43/35/29/30/23/(32)
	(b) Depends on circumstances and persons (Δ) 9/10/12/10/15/(—)
	(c) Disagree (×) 38/44/47/51/51/(58)
	(d) Can't imagine there being such an outstanding politician 3/ 2/ 4/ 3/ 5/(—)
Remark: In 1978, the response categories are (a) and (c) only.	
Question 6. (#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?
	(a) Agree (○) 65/—/60/57/44/45
	(b) Disagree (×) 24/—/23/28/38/40
	(c) Undecided (Δ) 9/—/15/12/17/13

note) The figures means percent in 1953/1958/1963/1968/1973/1978.

'—' means no datum.

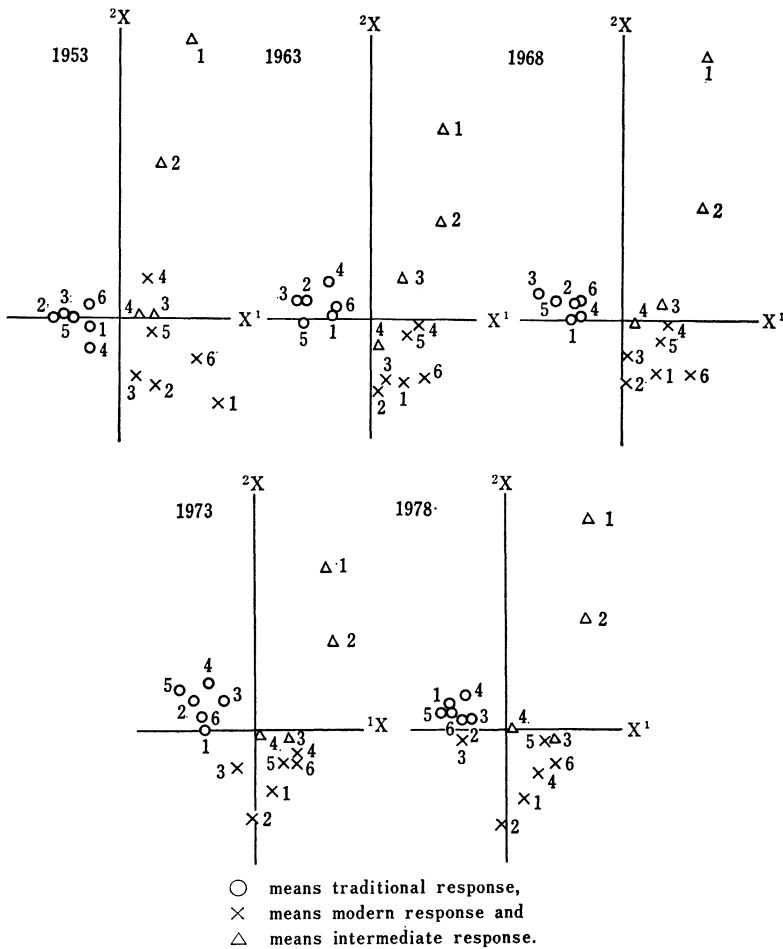


Fig. 8. Stability of configuration of traditional-modern attitude

younger people in the data. Modern opinions are defined as opinions which are supported more by the younger people than the older people in the data. This is verified in almost all relevant items from 1953 to 1973, though the 1978 data show a different feature. Although another interpretation may also be possible, we reserve it for later discussion.

Generally speaking, traditional, modern, and intermediate responses are separated in groups. The X axis represents the traditional versus modern and the vertical axis Y separates between the modern and intermediate responses; i.e. Y is an axis which distinguishes between the straight-forward and decisive thinking, and the qualified or reserved thought patterns.

It was mentioned that traditional responses and modern responses are separated along the X axis. But, when the content of those responses is closely examined, it is also appropriate to say that, in Japan,

the response categories on the left side of Figure 8 are rural opinions, and those on the right side are urban opinions. In our survey result, the responses that dominated in the rural areas of Japan are the following; 'will follow nature'; 'will adopt' to the question of adoption (as farming is based on stable assets 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 politician'; '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 'rural versus urban' or as 'traditional versus modern' rather than as 'Japanese versus non-Japanese' for the X axis, in this case.

Stable configurations were obtained over these 25 years of surveys (see Figure 8). It is remarkable that this pattern of belief system has remained unchanged over these 25 years. The clusters of opinions, i.e. traditional, modern and intermediate, are almost the same, even if the axis is rotated a little except for 1953, and the location of × on Question 3 (#2.5), for 1978, moves closer to the cluster of ○'s. A slight rotation of the axes gives closer configurations.

This rotation can be interpreted to be relevant to the content of intermediate responses. Metaphorically speaking, we may regard this as a constellation and its rotation.

It is noteworthy that, in the comparative surveys for Americans (including Japanese Americans), such a clear configuration, i.e. belief system, was not found at all for any sub-group [2], [3], [9].

5. Change of belief systems

5.1 *Attitude toward science and civilization*

Attitudes toward science and civilization are quite different between 1953 and 1973 in relation to such Japanese traditional-modern ideas as explained in the previous section. Findings in 1978 are between those of 1968 and 1973, i.e. the characteristics of configuration swing back. It is remarkable that the change in the ways of thinking toward science and civilization mentioned above has not occurred abruptly but has gradually occurred. The questions toward science and civilization are shown in Table 10.

The attitude toward 'traditional versus modern' is measured by the questions about Japanese human relations (including *giri-ninjo*), and by those questions of the type mentioned in the previous section.

Here again, the factor analytic method is applied to the questions. In Figure 9 we graphically present the results obtained.

Refer first to the patterns for 1953 and 1978. We recognize the

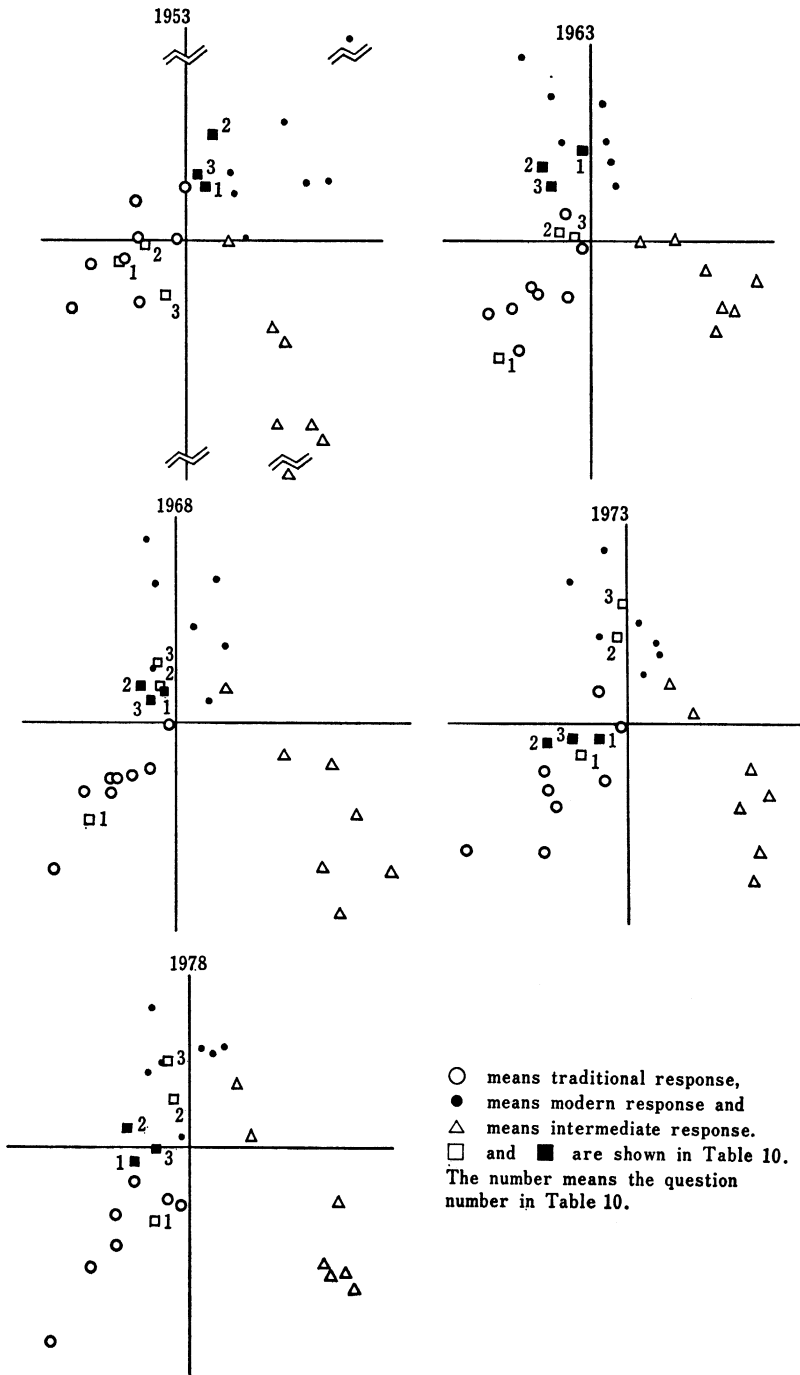


Fig. 9.

Table 10.

Question 1. (#2.5):	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 <input type="checkbox"/>
	(b) In order to be happy, man must make use of nature
	(c) In order to be happy, man must conquer nature <input checked="" type="checkbox"/>
Question 2. (#7.1):	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 <input type="checkbox"/> (b) Undecided (c) Disagree <input checked="" type="checkbox"/>
Question 3. (#7.2):	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 <input type="checkbox"/> (b) Undecided (c) Agree <input checked="" type="checkbox"/>

rigid structure of the belief system on traditional-modern items, as mentioned in the previous section, even though relevant but different questions are taken up. This point must be noted, for it is very interesting that the relative patterns of traditional, modern 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, as has also been mentioned in the previous section.

Some questions show quite different marginal distributions of responses. However the belief system, which is verified by the clustering of the questions in traditional, modern and intermediate response groupings, remains unchanged.

If the axes in 1953 are rotated about 45° , the clusters locate themselves in similar absolute positions to those in 1978, and reveal a similar configuration of response. In 1953, the horizontal axis shows that traditional responses are separated and contrasted with modern and intermediate responses, while the vertical axis shows that modern responses are in contrast with intermediate and traditional responses. In 1978, the horizontal axis shows that traditional and modern responses are in contrast with intermediate responses, while the vertical axis means that traditional responses contrast with modern responses. The interpretation is that the ideas which stick to the traditional or modern point of view are opposed to the undecided ideas. 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 toward science and civilization were also examined carefully. In 1953, the pessimistic (unfavorable) opinions in

Question 2 (#7.1) and 3 (#7.2) belonged to the cluster of traditional ideas, and optimistic (favorable) opinions belonged to the cluster of modern, nontraditional ideas, and these correspond well to the contrast between progressive and conservative. In 1973, however, the pessimistic opinions in Question 2 (#7.1) and 3 (#7.2) had moved to the cluster of nontraditional modern ideas, and the optimistic (favorable) opinions had moved to the cluster of traditional ideas. The relation between the opinions toward science and civilization and the traditional versus modern ideas had reversed. The dramatic change of belief system has thus been revealed. Examining the configurations of 1963 and 1968, we find that the change did not occur abruptly. The opinions toward science and civilization changed positions step by step, gradually moving to the traditional or modern cluster, from the modern or traditional cluster, since 1953.

Examine Question 1 (#2.5), 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 non-traditional, modern cluster in 1953. The distance between the two opinions gradually diminished. In 1973, the distance had become quite small, although the relation had not been reversed.

In summarizing the change of structure of ideas, Figure 10 is presented, which describes the changing features schematically. Carefully considering the graphic representation, we discover the new change in 1978. The configuration seems to swing back. In order to make this clear, the following analysis is offered.

In Table 10, three categories in Question 1 (#2.5) (a, b and c), two

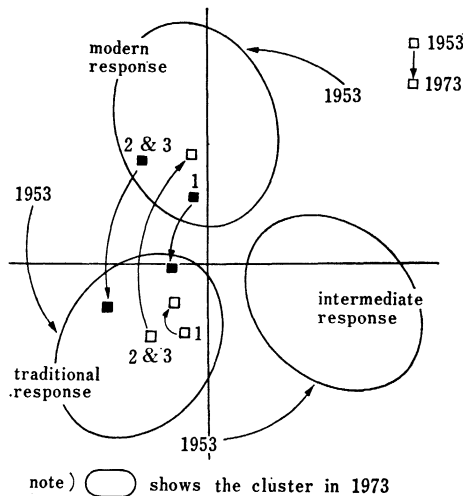


Fig. 10. Illustration of change of ideas

categories in Question 2 (#7.1) (a and c), and two categories in Question 3 (#7.2) (a and c), are taken up. The coordinates in the configuration, by the factor analytic method, are shown in $x_i(t)$ and $y_i(t)$, $i=1, 2, \dots, 7$, $t=1953, 1963, 1968, 1973$ and 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 the modern cluster, and J is the total number of the categories belonging to the 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 the traditional cluster, and K is the total number of the categories belonging to the 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 of dissimilarity, since $D(t, t')$ is not measurable, as it is, in a strict numerical sense. The relation is shown in Table 11.

Table 11. Dissimilarity matrix between t and t'

	1953	1963	1968	1973	1978
1953	—	2	2	4	3
1963		—	2	4	3
1968			—	2	1
1973				—	1
1978					—

note) 1 means smaller difference \longrightarrow 4 means larger difference

Here we apply the method of minimum dimension analysis in an ordered case (MDA-OR) [1], [4] and the configuration of time is shown in Figure 11. In Figure 11, the relative difference of configuration of the relations between the attitude toward science and civilization and that toward traditional versus modern ideas is clearly revealed. "1953 → 1973" shows one-sided movement, though the difference between 1953 and 1963 shows somewhat different movement too, while 1978 shows the swing back. It is notable that the intuitive conjecture from the graphs in Figure 9 has been confirmed in a statistical and objective representation.

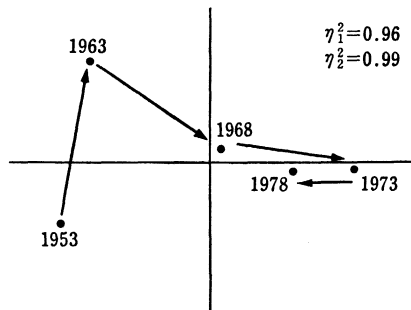


Fig. 11. Configuration of time by MDA-OR

5.2 Traditional versus modern idea for the younger group

We now take up the six questions discussed in the section of Traditional-Modern Attitude. The factor analytic method has shown that the stability of structure remains for the total. Here we apply this method to various age groups including the groups aged 20–24 years in 1953–1978. The configuration in the groups aged 20–24 years is given in Figure 12.

In 1953–1973, the similar configuration and the 'traditional versus modern' belief system is found in general even though there is a slight difference. Also we find the similar configuration in various age groups except the group aged 20–24 years in 1953–1978. But in 1978, a substantial change is detected, for the first time, in the group aged 20–24 years. However traditional and modern clusters may be found in a looser structure. Different categories in those clusters are located and Question 2 (#2.1) in Table 9 becomes independent of the traditional versus modern idea. This tells us that the firmly rooted traditional versus modern structure in the Japanese belief system is losing its stability in the young group in 1978. Past experience says that new signs of the change are always first found in a younger group, and then extended to older groups. We offer the conjecture that the rigid structure of traditional versus modern ideas will collapse in the Japa-

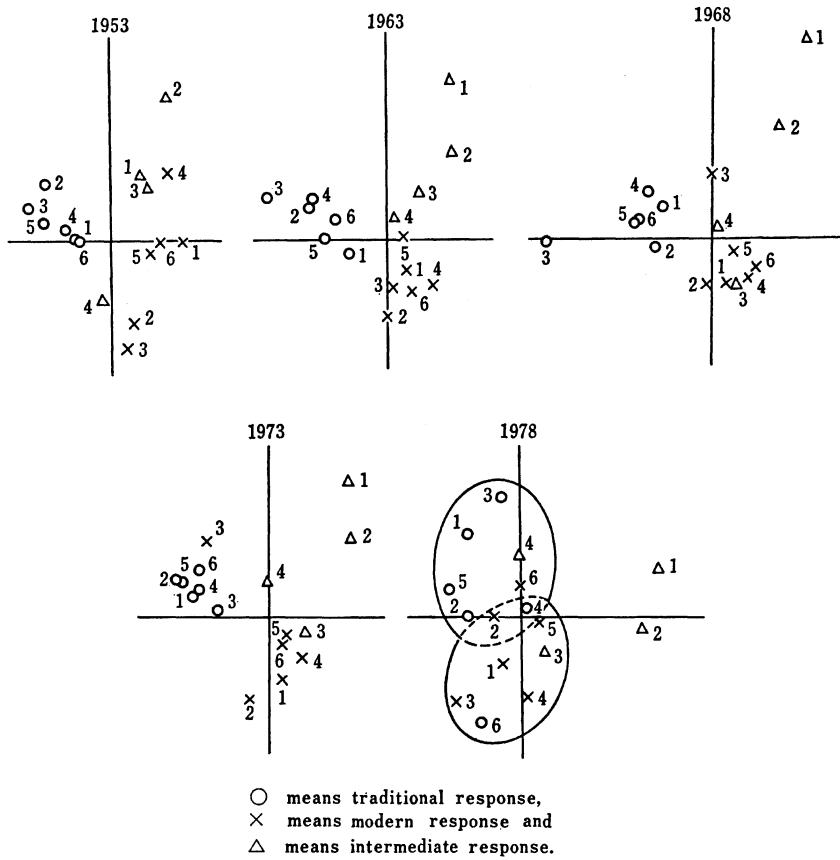


Fig. 12

nese mind. It may be said that the belief system which insists on the 'traditional versus modern' way of thinking is already old fashioned in today's Japan, and the germination of a new belief system beyond the 'traditional versus modern' is suggested.

Concluding remarks

For a new age especially in a highly industrialized society, a new way of thinking emerges and for that we have to prepare a set of new type of questions to measure the way of thinking, specifically the one which does not worry too much about material things because the society is rich, reevaluates the view of life, respects or puts more emphasis on humanity. These ways of thinking may become predominant after mixture with the traditional Japanese way of thinking. We can imagine that the life style and the way of thinking will change as the social environment changes.

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