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Exploring the Possibilities of the Facet Approach in the Context of Japanese Reality*

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I. Introduction

The Facet Approach is a unique idea proposed by L. Guttman that goes beyond being a mere "research technique" to presenting a "scientific method". If we understand the Facet Approach in this way, wherein lies the significance of discussing this approach now? It lies precisely in the following types of "scientific orientations." Science must develop cumulatively. That is what makes science, science. So what are the possibilities for the development of the Facet Approach? This article presents two potential directions.

(1) There are two paths within the purview of Guttman's Facet Approach: the path of continuing the "confirmation work" on the various laws shown in the inventory list, and the path of completing the "implementation work" that is not shown. I traveled to Israel in 1976 as a visiting scholar (under an Israel Government Fellowship) of the Institute for Communication Research of Hebrew University. While there, following the leading of E. Katz, I had an "academic encounter" with Guttman who was conducting research at the Israel Institute for Applied Social Research. Since then, I have consistently moved ahead with my work along these paths. This would have to be considered comparable to working in the "palm of the Buddha." However, I must say that this work alone is worthy of pursuit as the life's work of a single researcher.

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The contributions of Japanese researchers are particularly important. This is undoubtedly because, in spite of the fact that social science seeks to formulate generalizations about human behavior, the bulk of the propositions of social science research are generalizations based on observations and measurements made in Western societies. Even in the area of social science, Japan's international exchange has been more concave than convex. That is, greater attention has been paid to "receiving knowledge from the outside" than to "disseminating knowledge to the outside." However, never before has Japanese research had a place within the global body of research which it has today. Japanese research has encountered the global body of research directly and in real time. In fact, this is opening up many roads that are making it possible for Japanese research to contribute to the body of global knowledge.

(2) It is possible that all of the tools, knowledge, and products that have been created by humans are going to go beyond the context in which they were created. It is similar to "literary independence." To cite a familiar example, it is like "scratching your back with a ruler." Comparatively speaking, this must be seen as an attempt to jump out of the "palm of the Buddha." Here I call this kind of attempt the "classification -oriented (non-law-oriented) use" of the Facet Approach.

Again, attempting such a thing in Japanese society has great significance. As long as social science is the "science" of "societies," it will be impossible to develop methods and theories that are separate from the reality of "society." Rather, only if the Facet Approach establishes deep roots in the reality of Japanese society, will it be possible for new methods and theories to be developed.

In this article I introduce examples of surveys that correspond to both (1) and (2) above. The first is a survey of conservative attitudes, corresponding to (1). This is followed by a survey of consumer behaviors and a survey of delinquent behaviors, both corresponding to (2).

II. Survey of Conservative Attitudes

The following is an overview of this survey.

1. Survey subjects	Male and female students (2,210total respondents) from freshmen to seniors affiliated with the Kwansei Gakuin University, School of Sociology and Social Work.
2. Survey method	A collective survey in which respondents had about 30 minutes of class time to record their responses on questionnaires distributed.
3. Survey period	Five days, December 10-14, 1979.
4. Response rate	Freshmen:74.3%, sophomores: 56.7%, juniors: 74.7%, seniors 52.3%

The questions asked in this survey, whose theme was the structure of conservative

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attitudes, were 24 items called "conservative attitude variables" in a theoretical model of the survey (Figure 1). After checking the distribution pattern of the responses using a simple-table = frequency distribution for each of the 24 items, a correlation matrix (Pearson's product-moment correlation coefficient) was created showing the relationship among the items, and this was analyzed using Smallest Space Analysis (SSA-I). The results yielded the following two-dimensional map (Figure 2). The circles and lines drawn on this map are the results of an attempt to assign some meaning to (interpret) the spatial distribution of the items based on the empirical law of Facet Theory. This SSA map (2D) shows what Guttman calls a radex structure that has been formed around the self-concept as conservative-reformist based on the question, "Do you think you are conservative or do you think you are reformist?" The radex is

Figure 1 Theoretical model of the conservative attitude survey
(Figures indicate the question item numbers.)

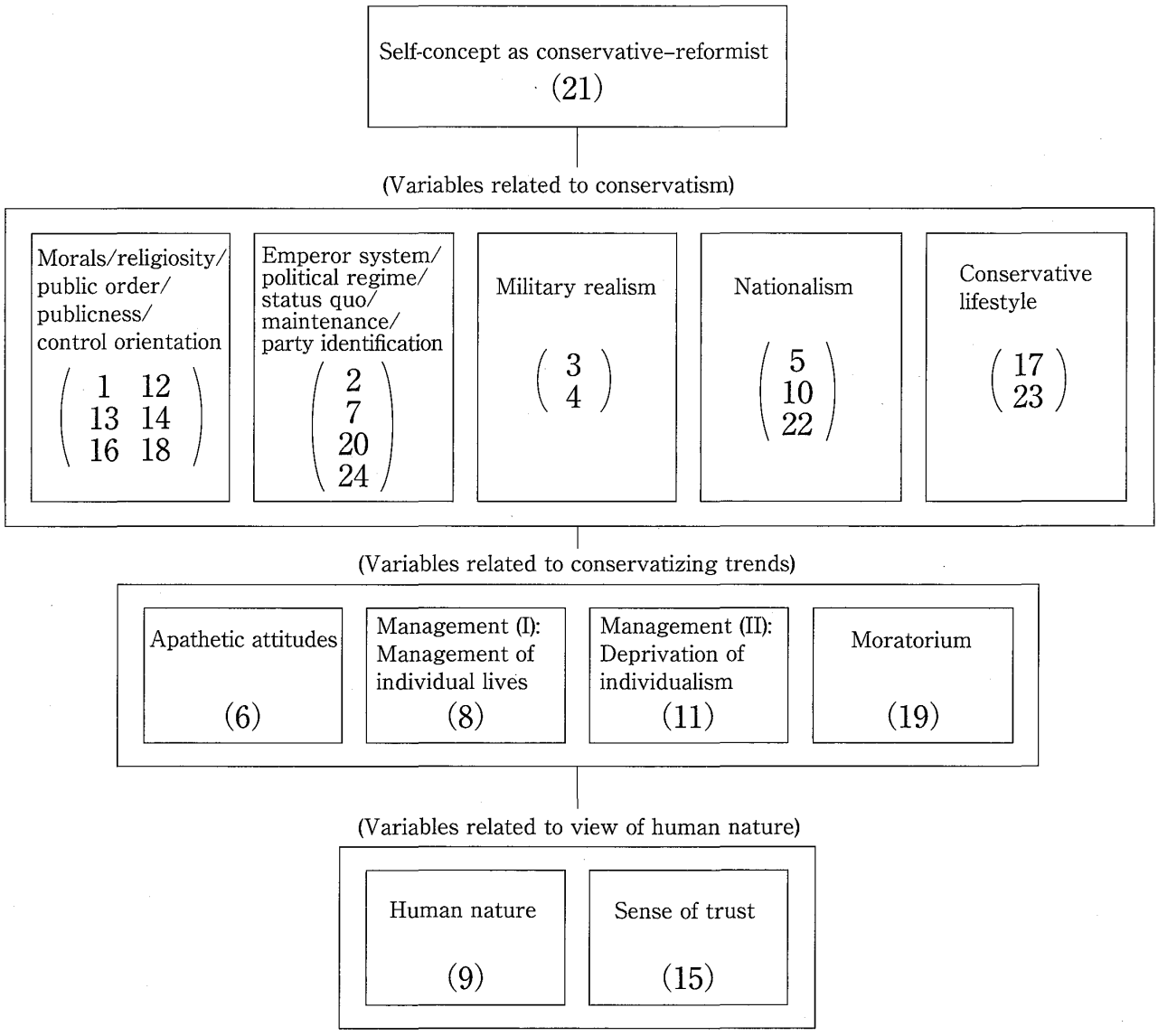

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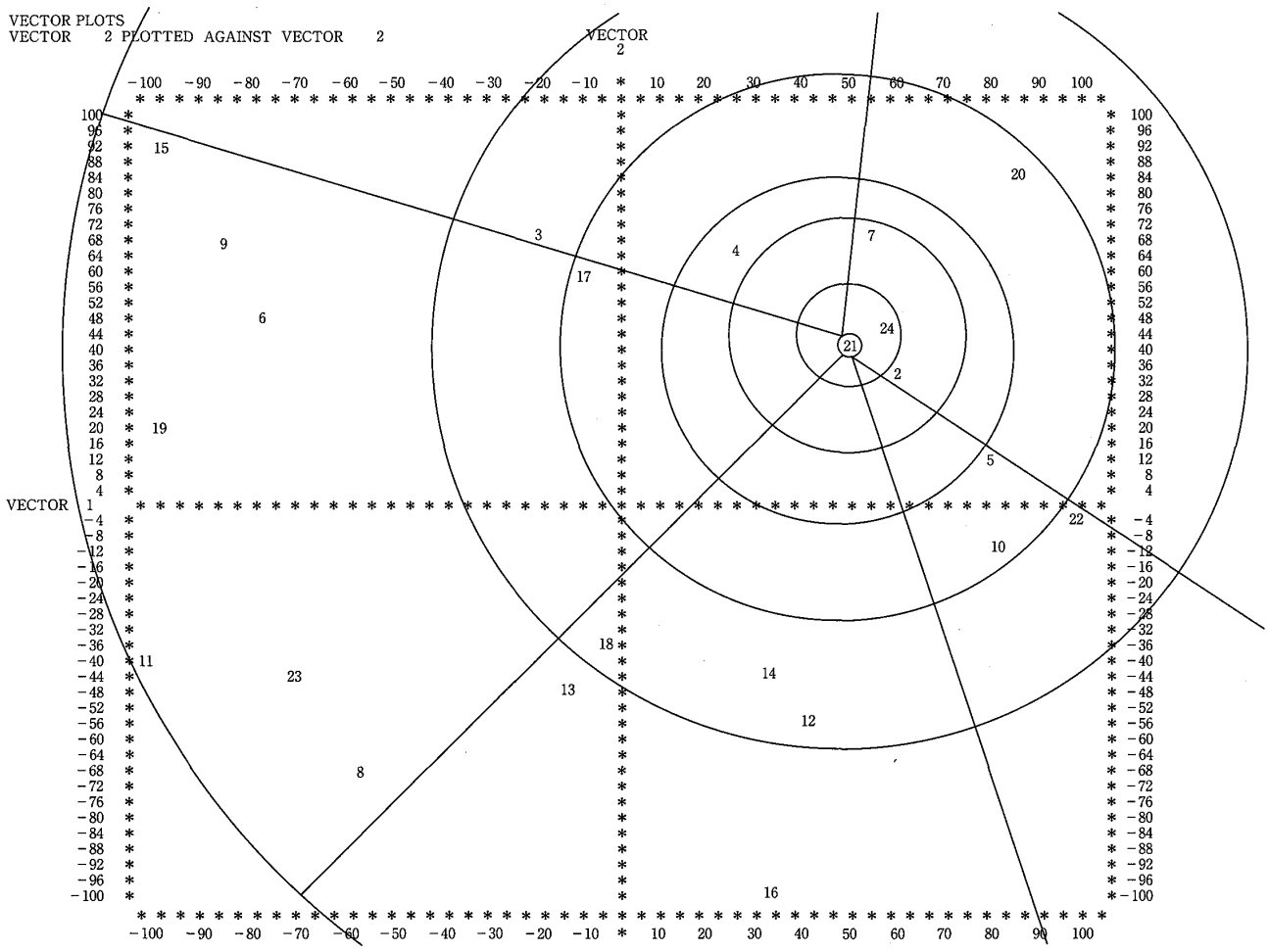
Figure 2 Smallest Space Analysis of Conservative Attitude



1. Ancestor worship and filial piety, for example, are morals deeply rooted in Japanese tradition, so they should be more respected.
2. The Japanese Emperor system has the danger of being used by reactionary forces, so we should try to do away with it as soon as possible.
3. The idea that Japan's security policy can be based on unarmed neutrality is unrealistic.
4. The Self Defense Forces must not be reinforced beyond their current strength.
5. Thanks to a high level of economic development in Japan, the daily life of individuals is becoming more affluent.
6. In present day Japan, no matter how much effort is made by citizens, politics do not get any better.
7. It is better that Japan's current economic and political systems remain as they are.
8. In today's society, the lives of individuals are being ever more controlled by computers and other means.
9. Human nature is basically evil.
10. If I were to be born again, I would still like to be born a Japanese.
11. In today's society, individuals have become nothing more than parts of a machine.
12. A religious heart is an important thing for human beings.
13. People today do too much of whatever they want to do.
14. It can't be helped that individual freedom must be limited for the public good.
15. Most people can be trusted.
16. To dedicate oneself completely to the betterment of society without considering one's own individual needs is a wonderful way to live.
17. It is a good thing that women are increasingly becoming employed.
18. Nowadays our society is not what it used to be, so we should brace ourselves.
19. Once out in society there will be less freedom so the time at university should be extended as long as possible.
20. If the power of the political parties in the Diet remains as it is now, we can hold little hope for the future.
21. Do you think you are conservative or do you think you are reformist?
22. Generally speaking, do you think that Japan is behind the rest of the world or do you think Japan is ahead of other countries?
23. What is your attitude towards new ways of thinking and new trends?
24. Which of the following political party is closest to your own political attitude?

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comprised of the following two roles.

(1) The variables regarding conservative attitudes are positioned in an space divided into six concentric circles that are centered around a "variable regarding self-concept as conservative-reformist" and spread outward in accordance with the degree of content relevance to that self-concept (Guttman calls this the "modulating role"). The value of the correlation between a "variable regarding the self-concept as conservative-reformist" and the variable in the first circle from the center of the concentric circles (24) is 0.40 or higher, while the correlation with the variables in the second circle (2, 7) is 0.30 or higher, in the third circle (1, 4) is 0.20 or higher, in the fourth circle (5, 10, 17, 20) is 0.15 or higher, and in the fifth circle (3, 12, 14, 18) is 0.10 or higher. The variables lying outside of these concentric circles have a very low significant correlation (0.05 or less) with the "self-concept as conservative-reformist."

(2) The variables regarding conservative attitudes are also positioned in a space divided into five wedge-shaped regions by five rays emanating from the "variable regarding the self-concept as conservative-reformist" according to the various regions: "Emperor system (the phrase "Emperor system" has diverse connotations, but here it is used simply to refer to the existence of the emperor) / religiosity / status quo maintenance / party identification (2, 7, 20, 24), nationalism (5, 10, 22), morals / religiosity / public order / publicness / control orientation (1, 12, 13, 14, 16, 18), conservative lifestyle (17, 23), and military realism (3, 4). (Guttman calls this the "polarizing role.")

This shows that the theoretical model of the conservative attitude survey has been generally validated by the SSA map. However, slight differences between the theoretical model and the SSA map are apparent. (1) The "attitude towards new ways of thinking and new trends," which is established as a conservative lifestyle item, was not plotted until the 5th concentric circle from the center. (2) I was able to predict that while the "variables regarding conservatism" would be gathered close to the self-concept as conservative-reformist, the "variables regarding conservatizing trends" would likely be widely dispersed. However, I was not able to predict that the pattern of their dispersal would be limited to the "conservative lifestyle" area. (3) I hypothesized that "conservatism is based on a pessimistic view of human nature" based on what I found in the existing literature regarding conservative thought (conservatism, conservative attitudes, etc.), but I also predicted that the value of the correlation between the "variables regarding views of human nature ("human nature is basically evil" and "most people can be trusted") and the "variables regarding conservatism" would never be very small. The results of the analysis, however, show that this was not always the case. A

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more thorough investigation of these three points is needed.

III. Survey of Consumer Behaviors

Data from the following survey was reanalyzed using the unique data analysis method described here.

1. Survey subjects	Men and women aged 15 to 64 in households of two people or more.
2. Survey region	(1) Osaka City and southern Osaka Prefecture (2) Nara City and Ikoma City
3. Survey method:	(1) Osaka City and southern Osaka Prefecture: distributing-by- mailing-and-collecting-by-visit method (2) Nara City and Ikoma City: distributing -by-visit-and-collecting-by-visit method
4.Sampling method	(1) Osaka City and southern Osaka Prefecture: stratified two-stage random sampling based on household statistics (2) Nara City and Ikoma City: area random sampling
5. Sample size	(1) Osaka City and southern Osaka Prefecture: 700 (2) Nara City and Ikoma City: 300
6. Valid responses	(1) Osaka City and southern Osaka Prefecture: 540 (response rate: 77.1%) (2) Nara City and Ikoma City: 230 (response rate: 76.7%)
7. Survey period	(1) Osaka City and southern Osaka Prefecture: November 26 – December 1, 1980 (2) Nara City and Ikoma City: November 26 – December 3, 1980

The 13 department stores discussed here are located in five regions: Kita Osaka, Minami Osaka, Higashi Osaka, Sakai/Senboku, and Nara. Based on this grouping, I hypothesize that there will be a high correlation between department stores in the same regions, and a low correlation between those in different regions. Specifically, this would suggest that, for example, a person who patronizes Hankyu will often also patronize Hanshin, which is located in the same region, but will not often patronize Nara Kintetsu, which is located in a different region. That is, I believe that the mutual department store relationship from the viewpoint of department store patronage is most significantly affected by "geographical location and transportation convenience."

A correlation matrix (Table 1) was created to indicate the relationship between the responses to the question: "Have you been to any of these 13 department stores in the last six months?" SSA-I was then used to draw a 2D map (Figure 3).

The first hypothesis was clearly validated from this SSA map, but some sub-groupings were evident even among department stores in the same region. For example, Kita Osaka and Minami Osaka can be broken down further into two sub-groups, "Hankyu-Hanshin" and "Matsuzakaya-Mitsukoshi," and "Daimaru-Sogo-Takashimaya" and "Abeno Kintetsu," respectively. Also, given that the position of these 13 department stores on

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Table 1 Mutual Relationship Between Department Store Patronage
Pearson's Product-Moment Correlation Coefficient

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Umeda Hankyu	—												
2. Umeda Hanshin	0.65	—											
3. Shinsaibashi Daimaru	0.37	0.31	—										
4. Shinsaibashi Sogo	0.33	0.32	0.68	—									
5. Nanba Takashimaya	0.25	0.19	0.50	0.43	—								
6. Sakai Higashi Takashimaya	−0.00	−0.05	0.12	0.13	0.21	—							
7. Senboku Takashimaya	−0.02	−0.01	0.07	0.09	0.15	0.50	—						
8. Tenmabashi Matsuzakaya	0.27	0.32	0.19	0.17	0.10	−0.02	−0.04	—					
9. Kitahama Mitsukoshi	0.26	0.27	0.26	0.22	0.18	0.02	0.00	0.40	—				
10. Ueroku Kintetsu	0.14	0.12	0.21	0.18	0.23	−0.04	−0.08	0.16	0.19	—			
11. Abeno Kintetsu	0.14	0.14	0.22	0.20	0.23	0.16	0.08	0.16	0.12	0.12	—		
12. Nara Kintetsu	−0.09	−0.10	−0.01	−0.02	−0.04	−0.20	−0.16	−0.08	−0.05	0.21	−0.22	—	
13. Higashi Osaka Kintetsu	0.02	0.04	−0.00	0.05	0.05	−0.07	−0.07	−0.02	0.05	0.28	0.06	0.03	—

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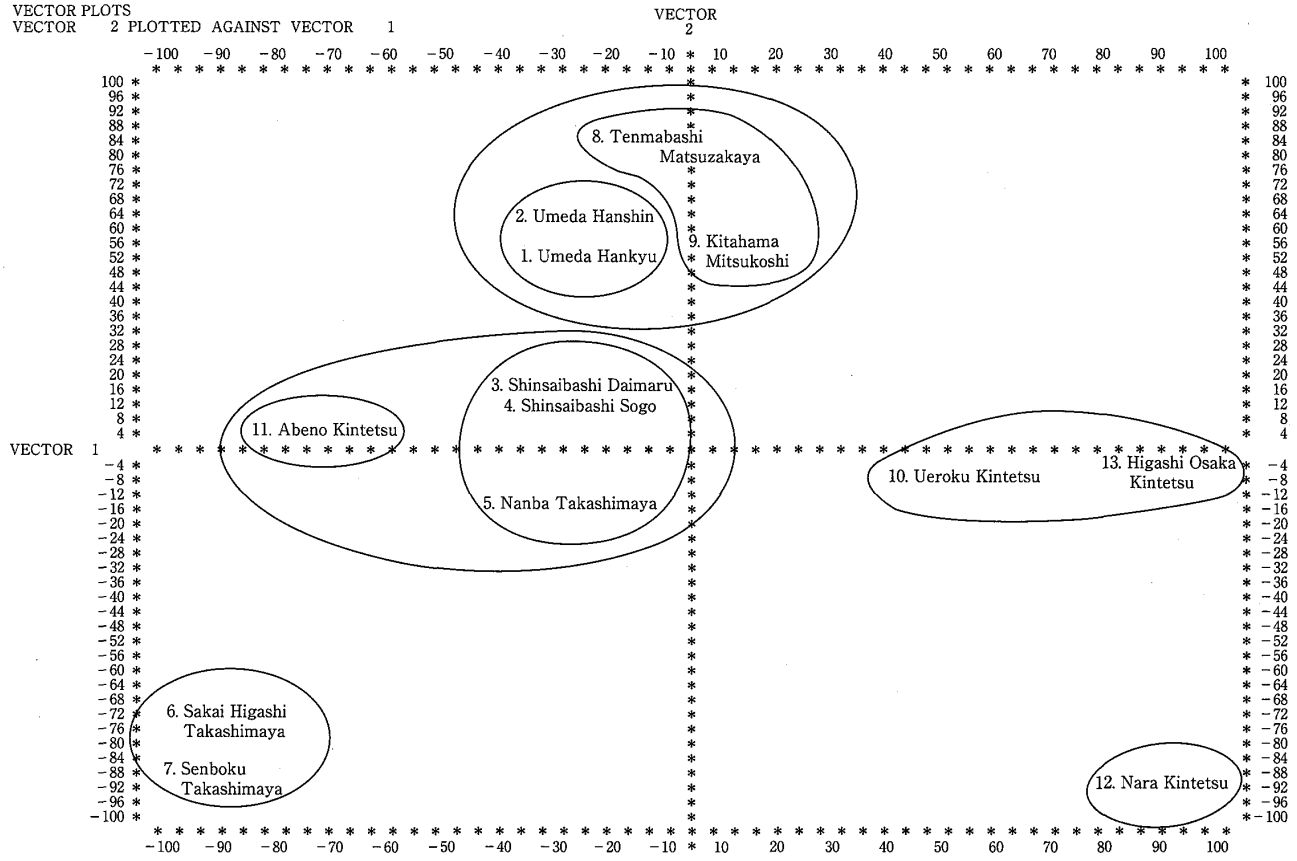
Figure 3 Smallest Space Analysis of Department Store Patronage



the SSA map generally correlates with their actual geographical locations, the notion that "geographical location and transportation convenience" are important factors in the cross-patronage of department stores seems to be a reasonable one.

Ⅳ. Survey of Delinquent Behaviors

1. Overview of the Survey

Here I extract items regarding delinquent behaviors from the questionnaire used in the Youth Survey and add an analysis of the relationship between these items. The following is an overview of this survey.

1. Survey subjects	Junior and senior high school students residing in Hyogo Prefecture.
2. Sampling	Hyogo Prefecture was divided into seven regions (Kobe, Hanshin, Higashi Harima, Nishi Harima, Tajima, Tanba, and Awaji) and 24 junior high schools and 18 senior high schools were sampled based on the population and school distribution in each location. The survey was conducted among second-year students at each school.
3. Survey method	A collective survey using a questionnaire.
4. Survey period	Two weeks, July 5-18, 1983

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5. Valid responses	1,923 from junior high school students and 1,431 from senior high school students for a total of 3,354 responses.

2. Correlation Analysis

Twenty items were selected as items regarding delinquent behaviors. A correlation matrix (Table2) was then created to analyze the relationship between these items. If n is the number of variables (items) in the correlation matrix, then the total number of combinations is n (n-1)/2. Thus, the number of variables is 20, and the number of combinations is 190. The greater the number of items, the more complex is the process of comparing the results of the correlation coefficient tabulations against the size of the values in the correlation matrix. Here, I will use the following two-stage method of investigation.

(1) The first stage of correlation matrix analysis examines the sign of the correlation coefficient. These results show that the signs of the 190 correlation coefficients in the correlation matrix are all positive. This confirms that Guttman's First Law of Attitude applies to the orientation toward delinquent behaviors (using the actual text of the question, Do you think that you might engage in these delinquent behaviors under certain circumstances?). This indicates that the orientation toward delinquent behaviors is more cumulative than mutually exclusive. Specifically, it is not the case that a person who is oriented toward one delinquent behavior will not be oriented toward a different type of delinquent behavior, but rather that a person who is oriented toward one delinquent behavior is likely to be oriented toward other types of delinquent behaviors, regardless of the specific nature of the behaviors.

The First Law of Attitude says that as long as the respondents are randomly selected, the relationship between two items about attitude toward the same object will be monotone, and with a positive or zero sign. Guttman has used large-scale questionnaire surveys to establish which human behaviors to which this is applicable, as well as under which conditions it is applicable. With regard to the former, it has been confirmed that this law applies not only to "attitudes," but also to "involvement" as well as to special cases of "attitudes," such as "intelligence", "values", and "well-being." Thus the First Law of Intelligence and the First Law of Involvement were formulated. With regard to the latter, the following have been identified as conditions for establishing the First Law of Attitude: (1) the items being analyzed must be items of attitude (intelligence, involvement, etc.), (2) those attitude (intelligence, involvement, etc.) items must be directed toward the same object, (3) the respondents must be randomly selected, and (4) the meaning of the attitude (intelligence, involvement, etc.) items must be mutually complementary (not contradictory).

The results of this survey on the orientation of youth toward delinquent behaviors

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Table 2 Relationship between Items Regarding Delinquent Behaviors
Pearson's Product-Moment Correlation Coefficient

Do you think that you might engage in the following behaviors under certain circumstances? Or do you think that you probably would not engage in these behaviors under any circumstances?	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Wear a prohibited hairstyle, clothing, or shoes at school.	—																			
2. Play games at a pachinko parlor or game center.	0.27	—																		
3. Smoke a cigarette.	0.27	0.29	—																	
4. Run away from home.	0.18	0.16	0.23	—																
5. Use a bicycle left along the road without telling anyone.	0.15	0.22	0.26	0.17	—															
6. Shoplift from a supermarket or store.	0.16	0.18	0.34	0.23	0.38	—														
7. Join others in bullying a vulnerable person.	0.17	0.13	0.11	0.12	0.15	0.16	—													
8. Sniff paint thinner.	0.18	0.13	0.37	0.22	0.21	0.29	0.14	—												
9. Drive a motorcycle without a license.	0.29	0.33	0.39	0.20	0.32	0.26	0.11	0.21	—											
10. Intentionally break a window or door of a school.	0.17	0.17	0.22	0.22	0.25	0.31	0.18	0.27	0.25	—										
11. Take something from a vending machine without paying.	0.14	0.17	0.19	0.17	0.30	0.33	0.16	0.27	0.26	0.29	—									
12. Exhibit violence against a teacher.	0.24	0.19	0.28	0.25	0.21	0.25	0.14	0.32	0.27	0.36	0.25	—								
13. Stay out overnight without telling your family.	0.23	0.22	0.25	0.34	0.24	0.22	0.15	0.22	0.27	0.24	0.19	0.26	—							
14. Skip school.	0.34	0.29	0.31	0.33	0.27	0.25	0.15	0.20	0.34	0.25	0.20	0.26	0.38	—						
15. Have sexual intercourse.	0.25	0.26	0.35	0.21	0.26	0.26	0.16	0.22	0.33	0.23	0.24	0.27	0.28	0.29	—					
16. Exhibit violence against a parent.	0.16	0.15	0.19	0.27	0.16	0.22	0.16	0.21	0.17	0.26	0.18	0.34	0.25	0.24	0.18	—				
17. Drink alcoholic beverages.	0.25	0.36	0.38	0.17	0.22	0.19	0.10	0.16	0.39	0.19	0.18	0.19	0.24	0.37	0.30	0.16	—			
18. Drive recklessly, violating traffic rules.	0.25	0.30	0.31	0.19	0.26	0.23	0.16	0.18	0.42	0.25	0.22	0.25	0.26	0.27	0.28	0.18	0.31	—		
19. Read pornographic magazines or watch adult movies.	0.17	0.33	0.32	0.09	0.27	0.23	0.12	0.16	0.36	0.22	0.20	0.21	0.22	0.25	0.45	0.14	0.39	0.34	—	
20. Gamble on activities like road races or horse races.	0.14	0.26	0.24	0.14	0.26	0.22	0.11	0.20	0.28	0.21	0.18	0.20	0.20	0.20	0.23	0.15	0.27	0.29	0.32	—

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can contribute the following two points to the development of Guttman's "theory of human behavior." (1) The first pertains to the survey content. Because the results confirmed that the First Law of Attitude applies even to the special-case attitude of orientation toward delinquent behaviors, it suggests that a First Law of Orientation toward Delinquent Behaviors can be formulated. (2) The second pertains to the survey method. Because the First Law of Attitude was confirmed even though this questionnaire survey was not conducted among people of all age groups but among a limited subject pool of junior and senior high school students, it may be possible to relax the conditions for establishing the law.

(2) The second stage of correlation matrix analysis is an investigation of the size of the values of the correlation coefficients. This begins with the process of reading several trends based on a comparison of the individual values in the correlation matrix. However, this process poses the following two problems: (1) the process becomes considerably more complex as the number of items grows, and (2) because the correlation coefficient is a measurement of the relationship between pairs of items, the process of interpreting the trends in the relationship between items based on a comparison of individual values may only end up independent, not comprehensive. Thus, a method was developed of showing the structure of the relationship between items in a particular space so that it could be seen intuitively, and of extracting basic aspects that are connected against the background of the relationship between individual items. This is called the Smallest Space Analysis (SSA-I).

3. Smallest Space Analysis

Applying Smallest Space Analysis (SSA-I) to the correlation matrix shown above yields the following 2D map (Figure4). The elliptical shapes and bold dotted-lines lines are the results of the researchers' attempts to give meaning to the spatial distribution of the items based on (1) considerations using the theoretical "constellation (meaning relation diagram)" prepared by the researchers based on the "meaning content" of the items regarding delinquent behavior, and (2) an investigation conducted by adding the dimension of the height of the relationship of the items based on 3D mapping performed in addition to the 2D mapping shown here.

First, the two bold dotted-lines drawn from the upper left to the lower right part of the diagram divides the figure into three sections which represent the social "spaces" in which the delinquent behaviors expressed in each of the 20 items might occur. That is, the upper right section is "home," the middle section is "school," and the lower left section is "the broader social space that includes home and school."

Next, several ellipses attempt to compile items with a high level of similarity based on the meaning relationships and spatial distances between the items, and each comprises

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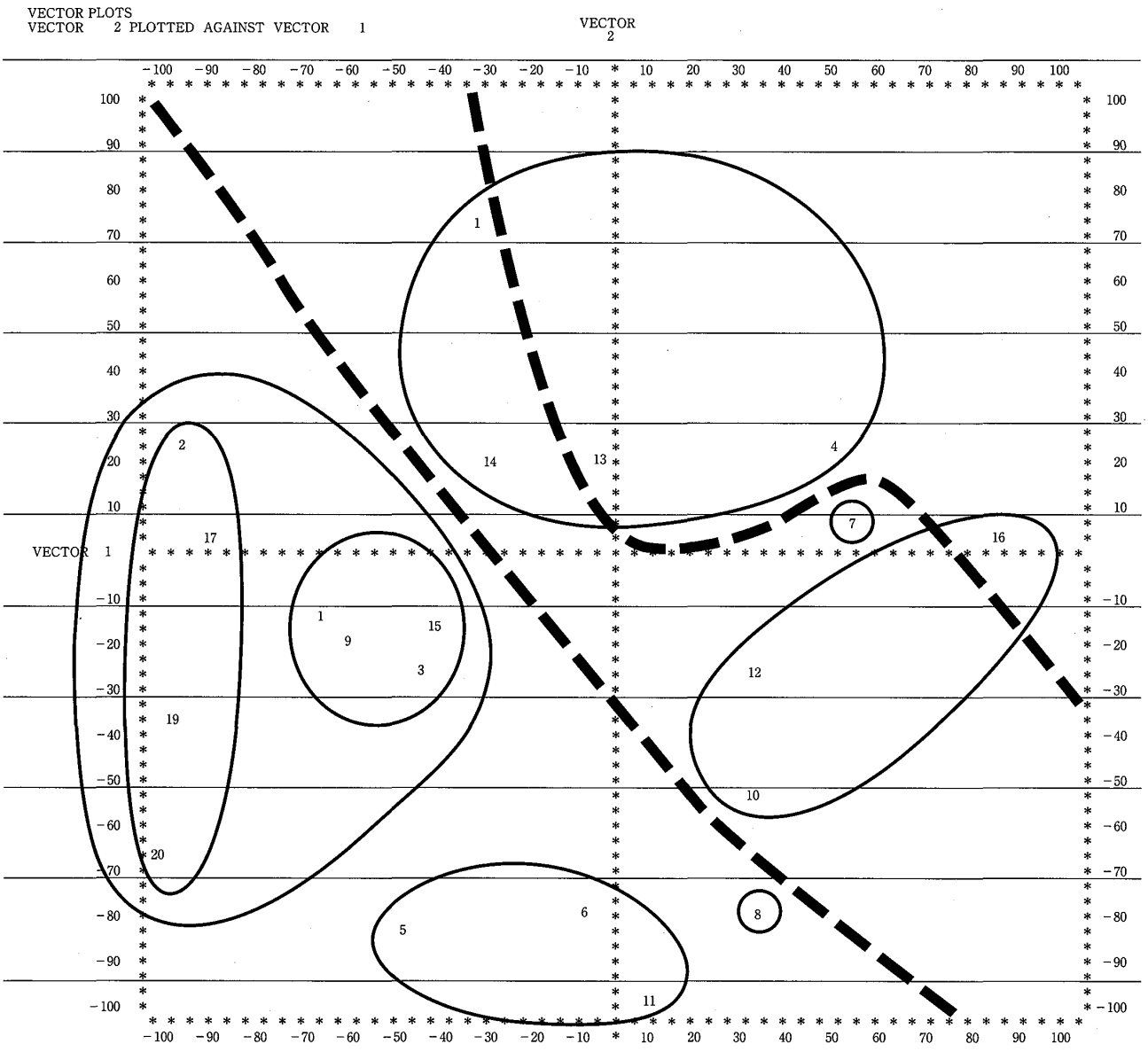
Figure 4 Smallest Space Analysis of Orientation toward Delinquent Behavior



Do you think that you might engage in the following behaviors under certain circumstances? Or do you think that you probably would not engage in these behaviors under any circumstances?.

1. Wear a prohibited hairstyle, clothing, or shoes at school.
2. Play games at a pachinko parlor or game center.
3. Smoke a cigarette.
4. Run away from home.
5. Use a bicycle left along the road without telling anyone.
6. Shoplift from a supermarket or store.
7. Join others in bullying a vulnerable person.
8. Sniff paint thinner.
9. Drive a motorcycle without a license.
10. Intentionally break a window or door of a school.
11. Take something from a vending machine without paying.
12. Exhibit violence against a teacher.
13. Stay out overnight without telling your family.
14. Skip school.
15. Have sexual intercourse.
16. Exhibit violence against a parent.
17. Drink alcoholic beverages.
18. Drive recklessly, violating traffic rules.
19. Read pornographic magazines or watch adult movies.
20. Gamble on activities like road races or horse races.

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an "island" that shows a specific type of delinquent behavior. The reason that 7 and 8 are separate islands even though 7 is close to 4 and 16, and 8 is close to 10 and 11, is not only because of "speculative examination" which says that 7 is different in terms of its meaning from 4 and 16, as is 8 from 10 and 11, but also because of "empirical examination," indicated by the fact that the height dimension of 7 is clearly distinct from 4 and 16, as is 8 from 10 and 11, based on the SSA 3D mapping.

Eliminating the two items that are somewhat isolated, numbers 7 (Join others in bullying a vulnerable person) and 8 (Sniff paint thinner), from the space diagram of the items related to "orientation toward delinquent behavior" as described above, the responses can be shaped into five islands: (i) an island comprised of four items, 13 (Stay out overnight without telling your family), 4 (Run away from home), 14 (Skip school), and 1 (Wear a prohibited hairstyle, clothing, or shoes at school), (ii) an island comprised of three items, 16 (Exhibit violence against a parent), 12 (Exhibit violence against a teacher), and 10 (Intentionally break a window or door of a school), (iii) an island comprised of three items, 5 (Use a bicycle left along the road without telling anyone), 6 (Shoplift from a supermarket or store), and 11 (Take something from a vending machine without paying), (iv) an island comprised of four items, 2 (Play games at a pachinko parlor or game center), 17 (Drink alcoholic beverages), 19 (Read pornographic magazines or watch adult movies), and 20 (Gamble on activities like road races or horse races), and (v) an island comprised of four items, 3 (Smoke a cigarette), 9 (Drive a motorcycle without a license), 18 (Drive recklessly, violating traffic rules), and 15 (Have sexual intercourse). However, because the items that comprise islands (iv) and (v) are very closely connected to other items outside of their own islands, it may be that they together form one large island. In this case, the space diagram is divided into four islands.

4. Factor Analysis

These four islands contain the items regarding delinquent behavior that have a high level of mutual similarity. Stated in terms of factor analysis, one would say that a certain type of "common factor" is acting on each cluster of delinquent behaviors that form these islands. Of course, factor analysis is a method of extracting general, small numbers of common factors by performing mathematical operations on variables that tend to vary together. Thus, I attempted to compare the analytical results obtained from performing both a SSA and a factor analysis on this data. Here I used factor analysis to extract common factors from the 20 items regarding orientation toward delinquent behavior, and calculated the factor loading after varimax rotation. Varimax rotation is performed because the assignment of meaning to factors often becomes easier when the axes are rotated. The result (Table 3) shows that if items with a factor load of more than 0.40, set as a standard, are examined, the fourth island is a factor I, the third and

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Table 3 Factor Analysis of Items Regarding Delinquent Behavior

VARIMAX ROTATED FACTOR PATTERN

	FACTOR 1	FACTOR 2	FACTOR 3
1. Wear a prohibited hairstyle, clothing, or shoes at school.	0.30699	0.08993	0.36180
2. Play games at a pachinko parlor or game center.	0.50344	0.09065	0.20266
3. Smoke a cigarette.	0.44336	0.28971	0.24114
4. Run away from home.	0.08052	0.21903	0.49820
5. Use a bicycle left along the road without telling anyone.	0.32397	0.41897	0.09437
6. Shoplift from a supermarket or store.	0.21313	0.54270	0.13783
7. Join others in bullying a vulnerable person.	0.11529	0.21098	0.17134
8. Sniff paint thinner.	0.12724	0.43763	0.23440
9. Drive a motorcycle without a license.	0.55835	0.23221	0.20490
10. Intentionally break a window or door of a school.	0.15389	0.47924	0.24495
11. Take something from a vending machine without paying.	0.18739	0.48364	0.10551
12. Exhibit violence against a teacher.	0.15562	0.40915	0.34622
13. Stay out overnight without telling your family.	0.24326	0.20051	0.47045
14. Skip school.	0.36646	0.13350	0.51870
15. Have sexual intercourse.	0.45090	0.27891	0.19683
16. Exhibit violence against a parent.	0.06867	0.29839	0.37761
17. Drink alcoholic beverages.	0.59216	0.06355	0.22291
18. Drive recklessly, violating traffic rules.	0.46932	0.23099	0.19706
19. Read pornographic magazines or watch adult movies.	0.61711	0.22046	0.01272
20. Gamble on activities like road races or horse races.	0.39772	0.25706	0.07237

fourth islands are a factor II, and the first island is a factor III.

Here it is important to note the following: (1) Items 5/6/11, 8, and 10/12, which were separated into different islands by the SSA are included in the same group by the factor analysis. (2) Item 16, which was grouped in the same island as 10 and 12 by the SSA, would be close to the first island based on the factor analysis. (3) Item 7 seemed to form its own isolated island distinct from other items under the SSA, and factor analysis confirmed this result.

5. Comparison of SSA and Factor Analysis

SSA and factor analysis are both methods of analyzing the correlations between multiple variables. Although the goal in both cases is to classify variables, not to make predictions using variables, SSA proved to be more useful for our purpose here of analyzing the orientation of youth toward delinquent behaviors. That is, while the SSA space diagram of the items, which plotted the similarities in people's orientations at a particular point in time and in that sense must be recognized as a static structured

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diagram, it nonetheless proved more expedient to the development of a model regarding the escalation of delinquent behaviors.

Before developing this model, it will be helpful to name the "islands" (or in factor analytical terms, the "common factors") of items created using the SSA. These are: (I) 1/14/13/4 island: deviation factor, (II) 7 island: (the weak) oppression factor, (III) 10/12/16 island: violence factor, (IV) 8 island: pathology factor, (V) 5/6/11 island: theft factor, and (VI) 2/17/19/20 and 9/18/3/15 island: self-indulgence factor. There are various endogenous and exogenous factors believed to be operating in the background of the delinquent behaviors of youth, but the results nonetheless seem to suggest that individuals engage in factor I: deviation-factor behaviors, and then next proceed either to factor III: violent-factor behaviors or to factor VI: self-indulgence-factor behaviors. In either case, the behaviors then escalate, proceeding down the path toward theft-factor behaviors and pathology-factor behaviors. If this is the case, then as is already well known, it is especially important that measures be taken by families and schools to combat deviation behaviors (that is, to prevent young people from "wearing a prohibited hairstyle, clothing, or shoes prohibited at school," "skipping school," "staying out overnight without telling their family," and "running away from home") while the deviation behaviors are still in their infancy.

V. Conclusion

The study shows two possible paths for the Facet Approach in the future. First, insofar as the Facet Approach is an emergent knowledge system, i.e., a behavioral science (that is, a science that focuses on human behavior in a collective sense) as constructed by Guttman, it will be made stronger and its blueprint made further complete by the implementation of a broad spectrum of studies.

The survey of conservative attitudes moves in this direction, and confirms Guttman's Radex Theory. However, while this survey is an exercise in confirmation, it is not a mere replication of that which Guttman has already verified. Rather, by introducing the idea of the "self-conceptualization as conservative – reformist, " I attempt to illustrate the discrepancy that exists in Japanese political views and lifestyle attitudes wherein people are politically reform-minded but conservative in their daily lives.

The second of the two paths goes beyond the Facet Approach's knowledge system and uses Facet Analysis—in this case Smallest Space Analysis—in a completely new way within the scope of the topic. Studies conducted along these lines include the survey of consumer behaviors and the survey of delinquent behaviors. The former compared department stores' positions on SSA maps as determined through the

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proximity seen in consumers' use of the stores with the stores' positions on geographical maps to show that geographical location and transportation convenience are important factors in the cross-patronage of department stores. In the latter study, meanwhile, maps indicating proximity in types of juvenile delinquency behaviors highlighted the "routes" (i.e., processes) by which delinquency becomes more serious.

Of the two aforementioned paths, the former has a clear destination. In that sense, I dubbed that path to be working in the "palm of the Buddha." By contrast, the latter path could be viewed as an attempt to jump out of the "palm of the Buddha", in which the attempt itself is evident, though the destination remains to be identified.

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