DIFFERENCES IN CONCEPTUAL STRUCTURES OF NATIONS:
AN EXPLORATORY STUDY

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This study is directed toward characterizing the ways different people conceive of nations, and toward understanding the conditions giving rise to different conceptions of nations. Primary attention is focused on a task in which 75 Columbia University students from eight countries gave pairwise ratings of overall similarity with respect to a set of 21 nations. An INDSCAL analysis of the similarities data revealed four dimensions which were interpreted as "Political Alignment and Ideology," "Economic Development," "Geography and Population," and "Culture and Race." Economic Development was more important than Political Alignment to doves, males, and subjects from developed countries, whereas the opposite was true for non-doves, females, and subjects from underdeveloped countries. Differences in the subjects' conceptions of nations appeared to be of degree rather than kind.

This article reports a study which is part of a program of research that is directed both toward characterizing the ways different kinds of people conceive of nations and their interrelations and toward understanding the conditions which give rise to different types of conceptions. The research reported here was guided by methodological as well as by substantive questions. We were interested in determining whether INDSCAL, a multidimensional scaling procedure recently developed by Carroll and Chang (1970), could be fruitfully applied to the understanding of individual differences in conceptions of nations. Also we were curious to see what similarities would emerge from several different methods of collecting data: paired comparisons of similarities, rating scales, sortings, etc.

Substantively, we wished to see whether there was little or much similarity in the underlying dimensions used to characterize nations among different groups of students; for example, students from developed and underdeveloped countries, students with opposed viewpoints on the war in Vietnam, and males and females. We of course expected that students would not necessarily agree in their characterizations of all nations. But this lack of full agreement might reflect a different set of underlying dimensions, different weights being placed on the dimensions, or different judgments of where a nation fits on a given dimension.

EXPERIMENTAL DESIGN FOR PILOT STUDY

Eighteen students in a psychological measurement class taught by the first author participated in the pilot study during one class session in April 1968. For each of the 66 possible pairs drawn from a set of 12 nations, every subject indicated his impression of the overall similarity between the nations in the pair. The similarity ratings were given on a scale ranging from 1 (extremely dissimilar) to 9 (extremely similar). All but 1 of the nations (Israel) selected for this study were used in the 1963 Detroit Area Study on International Attitudes (Robinson & Heffer, 1967; Wish, 1964). These nations spanned the multidimensional space obtained for the data in that study.

After the subjects completed the rating tasks, they were asked to state anonymously their opinions regarding the action that the United States should take in Vietnam. Subjects were classified as doves, moderates, or hawks, according to whether

1 The research reported in this paper was partially supported by a National Science Foundation Grant GS-302, "Elements of Conflict Resolution," whose principal investigator is Morton Deutsch.

2 Requests for reprints should be sent to Myron Wish, Bell Telephone Laboratories, Murray Hill, New Jersey 07974.
they advocated (a) withdrawal of United States troops from Vietnam, (b) concessions by the United States in order to bring about a negotiated peace, or (c) continuation or escalation of the current United States military involvement.

Since most previous investigations of the "dimensions of nations" (Adelman & Morris, 1965; Banks & Gregg, 1965; Cattell, 1949; Gregg & Banks, 1965; Jaspers, Von de Geer, Tajfel, & Johnson, 1965; Klingberg, 1949; Robinson & Hefner, 1967; Rummel, 1967, 1969; Russell, 1966; Sawyer, 1967; Wish, 1966) have dealt with objective characteristics of nations or aggregate judgments, one cannot tell how well the dimensions obtained reflect the perceptions of individual subjects. The INDSCAL procedure seemed to be particularly suited to our purposes—to explore the degree of individual differences in the importance of the dimensions, and to relate these "perceptual" or "conceptual" differences to the subjects' Vietnam opinions.

DESCRIPTION OF THE INDSCAL MODEL

It is assumed in the INDSCAL model (Carroll, 1971; Carroll & Chang, 1970) that all subjects use the same set of dimensions in making judgments of similarity or dissimilarity, but differ with regard to the relative importance, or weights, of these dimensions. As in other multidimensional scaling procedures (Coombs, 1964; Guttman, 1968; Kruskal, 1964a, 1964b; Shepard, 1962a, 1962b; Torgerson, 1958; Young & Torgerson, 1967), the similarities are assumed to be related to distances between stimuli in some latent psychological space. However, in the INDSCAL model the distances depend on the subjects' dimension weights as well as on the stimulus coordinates. The dimension weights for a particular subject indicate (approximately) how much each dimension should be stretched so that the distances between stimuli will correlate as highly as possible with that subject's similarity ratings. It is approximately true that the square of a subject's weight on a dimension indicates the proportion of variance of his similarities data which can be accounted for by that dimension. The aim of the program is to determine (by means of an iterative least-squares procedure) the stimulus coordinates and subject weights which will account for as much variance of the similarities data of all subjects as possible. (See Carroll & Chang, 1970; for a discussion of some relationships between INDSCAL, Tucker's, 1964, three-mode factor analysis, and Tucker & Messick's, 1963, "points of view" model.)

Although the INDSCAL model assumes that there is a common set of dimensions for subjects, it does allow for the possibility that some dimensions will have zero weight, and be irrelevant, for some subjects. Since different subgroups can have non-zero weights for different sets of dimensions, and zero weights for the dimensions relevant to other subgroups, the procedure is able to accommodate considerable variations in multidimensional structures. For example, an INDSCAL analysis of data from a study of perceived rhythm and accent of English words (Wish, 1969) showed that the dimensions most salient to subjects who had had musical or phonetics training were quite unimportant to subjects who had not had such training, and vice versa.

Two alternatives to doing an INDSCAL analysis are to do a multidimensional analysis of the averaged similarities, or to do a separate scaling for each subject. Although a multidimensional solution for averaged data is usually very similar to the stimulus configuration obtained from INDSCAL, except for a rotation and weighting of dimensions (see Horan, 1969), it does not provide dimension weights for individuals. One cannot tell from a solution for averaged data whether a dimension is moderately important for all subjects or whether it is very important for some subjects and unimportant for others. Since the unrelated dimensions from INDSCAL are generally easier to interpret than those obtained directly by the other scaling procedures, INDSCAL is particularly valuable when the dimensions are not known ahead of time.

A single INDSCAL analysis is far more economical, in terms of computer time or number of parameters to solve for, than a separate multidimensional scaling analysis for every subject. INDSCAL also makes the comparison of subjects much easier and more reliable, since all subjects can be compared in terms of a common frame of reference, which is derived from the data of the entire group. If one suspects that the dimensions for different subjects or subgroups differ considerably, one can supplement the INDSCAL results with multidimensional analyses for individual subjects or for subgroups defined by statistical or psychological criteria. Alternatively, one can do an INDSCAL analysis in enough dimensions to represent those of most subjects (Wish, 1969).

PILOT STUDY RESULTS

Interpretation of Dimensions

Figure 1 shows the two more important dimensions of nation similarity, as determined by the INDSCAL analysis. The horizontal dimension refers to "Political Alignment and Ideology." Nations aligned with Russia or China are to the left, while those more aligned with the United States are to the right. Neutral, or nonaligined values on the first developed nations or underdeveloped nations (see Figure 2) shows the labeled "Geographic Roughly separates countries in the real real differences between dimensions, esp. countries is so smi.
Differences in Conceptual Structures of Nations

Fig. 1. Dimensions 1 and 2 of three-dimensional INDSCAL configuration for 12 nations.

Central, or nonaligned, nations have intermediate values on the first dimension. Since the more developed nations project higher than the underdeveloped nations on the vertical dimension, the second dimension is interpreted as "Economic Development." These two dimensions relate closely to the "evaluative" and "potency" dimensions that have been found in many different types of attitudinal studies (Osgood, Suci, & Tannenbaum, 1957).

Figure 2 shows a plot of the first and third dimensions. The third dimension is harder to interpret than the first two. However, it is labeled "Geography and Culture," since it roughly separates Eastern from Western nations. Since geography and culture are highly related in the real world, it is difficult to distinguish between them in the interpretation of dimensions, especially when the sample of countries is so small.

**Dimension Weights for Subjects**

Subjects' weights on the first two dimensions are shown in Figure 3 by the projections of the circles on the coordinate axes. The D, M, or H in a circle indicates whether a subject was classified as a dove, moderate, or hawk on the basis of his Vietnam opinion. A diagonal line through the origin separates the doves from the hawks. The fact that all hawks project higher on the first than on the second dimension indicates that Political Alignment is a more important factor than Economic Development in their judgments of nation similarity. The relative and absolute weight for Economic Development is greater for the doves than the hawks. Figure 4 shows that the attitudinal subgroups do not differ systematically with regard to the relative importance of the third dimension.

Although Political Alignment is only slightly more important to the hawks than to
the doves, Economic Development is much more salient to the doves than to the hawks. In fact, four of the six hawks almost totally disregarded Economic Development in their judgments of nation similarity. These results suggest that the hawks are more influenced than the doves by evaluative, or affective, considerations when they judge similarities among nations. Scott (1963) has pointed out that "simple cognitive structures tend to consist of attributes which are not well distinguished from the affective, whereas complex structures include a number of additional dimensions [p. 69]." Accordingly, this definition suggests that the subjects who have high weights on the Economic Development dimension—those who do not—have greater "cognitive flexibility" (Scott, 1962) than the hawks, since they are more likely to weight the dimensions differently when evaluating different relations among nations (e.g., friendship versus similarity among nations).

Fig. 2. Dimensions 1 and 3 of three-dimensional INDSCAL configuration for 12 nations.

Experimental Design for Second Study

The primary aim of the second study was to determine how well the results from the first study could be generalized to other nationality groups and to a larger set of nations. Due to the use of only 12 nations in the first study, we suspected that there might be some confounding of dimensions. Nine countries were added to the original list to give a total set of 21 nations. We were also interested in this study in relating the results obtained from a variety of different data-collection procedures. Although the scope of the second study was much greater than that of our discussion to this point, we are still involving ratings of scales.

Subjects

Ninety subjects were used for the study, and subjects were randomly assigned to the experimental conditions. The sample size was large enough to ensure that the results were representative of the population. The subjects were students at Columbia University, and the sample was representative of the 12 nations.

6 The experimental design is described in greater detail in Wish, Deutsch, and Biener (1971).
much greater than the first, we shall primarily confine our discussion to two of the tasks—one dealing with similarity ratings of nations, and the other involving ratings of nations on numerous bipolar scales.

Subjects

Ninety subjects from 15 different countries volunteered for the study. All but a few were Columbia University students, and the great majority were in graduate school. Subjects were primarily recruited by means of posters placed in the International House and Foreign Student Center at Columbia. They were run in six groups of 10-20 each from mid-August to mid-October 1968. Included in the sample were 7 or more subjects from each of 8 countries (Colombia, England, France, India, Korea, Thailand, United States, and Yugoslavia) and 3 or fewer subjects from each of several other countries. Subjects were paid $7.50 for the 2-4 hours it took to complete a questionnaire. Only the data for 75 subjects from the 8 nations listed above will be discussed. Although these subjects may be reasonably representative of foreign students at Columbia University, it is unlikely that they are representative of the student or general population in these nations.

Tasks in the Questionnaire

Subjects rated (on a scale from 1 to 9) the similarity of 21 nations to each other. As part of the similarities task each subject also indicated how similar each country was to his hypothetical "ideal country." Later in the questionnaire subjects rated the countries on 16 semantic-differential-type scales and sorted the countries according to how they thought the nations would be aligned if there were a large-scale war in the next 5 years. Also included in the questionnaire were items dealing with perceived friendship among nations, characterizations and settings of nations, factual information about nations (geographical location, population, head of government, and capital or largest city), and finally, several biographic, demographic, and attitudinal items, including an opinion item regarding the United States involvement in Vietnam (used to classify subjects as doves, moderates, and hawks).

RESULTS FROM SECOND STUDY

Interpretation of Dimensions

The unrotated stimulus dimensions from a four-dimensional INDSCAL analysis of the similarities data are shown in Figures 5 and
6. As can be seen in Figure 8, the first two dimensions again refer to Political Alignment and Economic Development. The third and fourth dimensions (Figure 6) show what is left after political and economic considerations have been accounted for. Our predictions are to interpret this plane as a whole as reflecting geography, culture, race, and other associated characteristics of the nations. For convenience, however, the third dimension is labeled "Geography and Population," while the fourth is interpreted as "Culture and Race." The four African countries are to the left of the third dimension, followed by three countries that are geographically close to Africa—Greece, Israel, and Spain. The Far-Eastern countries are at the opposite extreme of the third dimension. Moreover, except for two comparisons, all of the countries to the right of Yugoslavia on the third dimension exceed all of the other countries in population. The countries high on the fourth dimension are European (but not Spanish) in geography or culture. Oriental, African, and Spanish nations are low on the fourth dimension. This dimension could also be roughly interpreted as "European-Non-European," "North-South," or "Light-Dark."

Correlations of Rating Scales with INDSCAL Dimensions

Table 1, which shows the correlations and multiple correlations between the rating scale means and the INDSCAL dimensions, supports and provides additional insight regarding the interpretation of these dimensions. The multiple correlation for a scale indicates how well mean ratings on that scale can be predicted from the four optimally weighted INDSCAL dimensions. The scales are grouped in these tables on the basis of factor analyses of the rating scales.

The first dimension (as its name would suggest) correlates mean ratings on the scale. The correlati-
suggest) correlates most highly (.965) with mean ratings on the "Aligned with USA" scale. The correlation between the first dimension and the "Individualistic" scale is lower, since some nations aligned with the United States (such as Israel) are rated as more collectively oriented than some nations aligned with Russia or China (such as Egypt). The first dimension also has a high positive correlation with the most evaluative scales, indicating that the subjects in our sample tended to favor the non-Communist countries.

The second dimension correlates very highly with scales directly concerned with Economic Development—.924 with "Industrialized," .906 with "Rich," and .890 with "Educated Population." There are also moderate correlations between the second dimension and scales indirectly associated with Economic Development, such as "Stable," "Powerful," "Similarity to Ideal," and "Satisfied Population."

Since none of the rating scales is specifically concerned with geography, culture, or race, there are no correlations in the 50s or 60s between the scales and the last two dimensions. The scales most highly correlated with the third dimension are concerned with power and size. As a matter of fact, the third dimension correlates .800 with the population of these countries.

The high correlations between coordinates of nations on the fourth dimension and mean ratings on Scales 5–13 indicate that evaluative considerations are involved in the fourth dimension. While the evaluative aspects of the
first dimension reflect international political considerations, such aspects of the fourth dimension relate more to the internal, domestic conditions in those countries; for example, “Population Satisfied,” “United,” “Similar to Ideal,” “Stable.” Since the fourth dimension correlates .825 with the mean latitude of the countries, a North-South interpretation also has some validity.

The high multiple correlations for most of the ratings scales show that a variety of measures can be predicted with a high degree of success from the INDSCAL dimensions. Many of these characteristics probably had some influence on the similarity ratings. However, 5 of the 18 scales—“Peaceful,” “United,” “Cultural Influence,” “Progressing,” and “Large”—have multiple correlations in the .60s and .70s. These relatively low correlations, and other evidence in the data which will not be discussed here, suggest that these five characteristics were not very salient in subjects’ judgments of similarity among nations.

There are considerable individual differences with regard to the correlations between the rating scales and the Political Alignment dimension. For example, Table 2 shows that the Political Alignment dimension correlates more highly with the doves’ than the non-doves’ mean ratings of nations on every scale. Differences in these correlations are greatest for highly evaluative scales such as “I Like,” “Good,” and “Similarity to Ideal” and least for scales concerned with objective characteristics such as “ful.” In rating those scales, the more influenced alignment of

Subgroup Differ. Dimensions

Table 3 show INDSCAL dime subgroup. On Development in m Alignment for the most pilot study, the doves and the in weights on the analyses show, not a homogeneity of the States doves pr

A more detailed shows that with INDSCAL dimension between sex, political gin.
TABLE 1

Correlations of Rating Scale Means with INDSCAL Dimensions

<table>
<thead>
<tr>
<th>Scale</th>
<th>Dim. 1 Political Alignment</th>
<th>Dim. 2 Economic Development</th>
<th>Dim. 3 Geography and Population</th>
<th>Dim. 4 Culture and Race</th>
<th>Multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aligned with USA</td>
<td>.965</td>
<td>.379</td>
<td>.012</td>
<td>.299</td>
<td>.974</td>
</tr>
<tr>
<td>2. Individualistic</td>
<td>.818</td>
<td>.193</td>
<td>-.124</td>
<td>-.159</td>
<td>.976</td>
</tr>
<tr>
<td>3. Peaceful</td>
<td>.500</td>
<td>-.043</td>
<td>-.066</td>
<td>.201</td>
<td>.506</td>
</tr>
<tr>
<td>5. I Like</td>
<td>.606</td>
<td>.301</td>
<td>.246</td>
<td>.700</td>
<td>.890</td>
</tr>
<tr>
<td>6. Good</td>
<td>.556</td>
<td>.482</td>
<td>.395</td>
<td>.660</td>
<td>.861</td>
</tr>
<tr>
<td>7. Similarity to Ideal</td>
<td>.498</td>
<td>.733</td>
<td>.390</td>
<td>.736</td>
<td>.940</td>
</tr>
<tr>
<td>8. Changeable Status</td>
<td>.548</td>
<td>.676</td>
<td>.384</td>
<td>.633</td>
<td>.885</td>
</tr>
<tr>
<td>10. Satisfied Population</td>
<td>.350</td>
<td>.703</td>
<td>.241</td>
<td>.708</td>
<td>.842</td>
</tr>
<tr>
<td>11. United</td>
<td>.022</td>
<td>.423</td>
<td>.116</td>
<td>.672</td>
<td>.698</td>
</tr>
<tr>
<td>15. Industrialized</td>
<td>.315</td>
<td>.924</td>
<td>.407</td>
<td>.537</td>
<td>.975</td>
</tr>
<tr>
<td>16. Powerful</td>
<td>.142</td>
<td>.748</td>
<td>.556</td>
<td>.356</td>
<td>.885</td>
</tr>
<tr>
<td>17. Progressing</td>
<td>-.000</td>
<td>.461</td>
<td>.544</td>
<td>.434</td>
<td>.715</td>
</tr>
<tr>
<td>18. Large</td>
<td>-.099</td>
<td>.056</td>
<td>.522</td>
<td>-.203</td>
<td>.614</td>
</tr>
</tbody>
</table>

The table above shows the correlations between various scales and the INDSCAL dimensions. For example, the correlation between the scale "Aligned with USA" and the Dim. 1 Political Alignment is .965, indicating a strong positive correlation.

Subgroup Differences in Weights for Dimensions

Table 2 shows the mean weights on the INDSCAL dimensions for several overlapping subgroups. On the average, Economic Development is more important than Political Alignment for the doves, while the opposite is true for the moderates and hawks. As in the pilot study, the moderates are between the doves and the hawks with regard to the mean weights on the first two dimensions. Further analyses show, however, that the doves are not a homogeneous group with regard to the importance of these dimensions. In this regard the doves were divided into pro-United States doves, pro-Russia doves, and neutral doves according to whether they rated the United States higher, lower, or the same as Russia on the I Like scale. The mean weights on the Political Alignment dimension for pro-United States, neutral, and pro-Russia doves

TABLE 2

Correlations of Rating Scale Means for Doves and Non-Doves with Political Alignment Dimension

<table>
<thead>
<tr>
<th>Scale</th>
<th>Doves</th>
<th>Non-doves</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aligned with USA</td>
<td>.928</td>
<td>.953</td>
</tr>
<tr>
<td>2. Individualistic</td>
<td>.772</td>
<td>.783</td>
</tr>
<tr>
<td>3. Peaceful</td>
<td>.200</td>
<td>.689</td>
</tr>
<tr>
<td>4. Many Rights</td>
<td>.941</td>
<td>.828</td>
</tr>
<tr>
<td>5. I Like</td>
<td>.132</td>
<td>.739</td>
</tr>
<tr>
<td>6. Good</td>
<td>-.013</td>
<td>.739</td>
</tr>
<tr>
<td>7. Similarity to Ideal</td>
<td>.133</td>
<td>.856</td>
</tr>
<tr>
<td>8. Changeable Status</td>
<td>.291</td>
<td>.632</td>
</tr>
<tr>
<td>9. Stable</td>
<td>.112</td>
<td>.335</td>
</tr>
<tr>
<td>10. Satisfied Population</td>
<td>.086</td>
<td>.497</td>
</tr>
<tr>
<td>11. Internally United</td>
<td>-.080</td>
<td>.086</td>
</tr>
<tr>
<td>12. Cultural Influence</td>
<td>.287</td>
<td>.335</td>
</tr>
<tr>
<td>13. Educated Population</td>
<td>.229</td>
<td>.421</td>
</tr>
<tr>
<td>15. Industrialized</td>
<td>.263</td>
<td>.366</td>
</tr>
<tr>
<td>16. Powerful</td>
<td>.092</td>
<td>.189</td>
</tr>
<tr>
<td>17. Progressing</td>
<td>-.236</td>
<td>.227</td>
</tr>
<tr>
<td>18. Large</td>
<td>-.106</td>
<td>-.085</td>
</tr>
</tbody>
</table>

A more detailed analysis (With et al., 1971) shows that with regard to mean weights on the INDSCAL dimensions, there is little interaction between sex, political orientation, and country of origin.
Like the doves, males and subjects from the more developed countries have higher weights on the Economic Development than on the Political Alignment dimension. In contrast, Political Alignment is more important than Economic Development to the females and to the subjects from the underdeveloped countries. Although the pattern of dimension weights for females and for subjects from the underdeveloped countries might reflect a greater evaluative orientation, there is not as much supplementary evidence (e.g., data such as appears in Table 2) supporting this conjecture for those subgroups as there is for non-doves.

It is important to note that subgroup differences can be partially explained by differences in the amount of information subjects have about these nations. Mean scores on the factual information test (on which the highest possible score is 108) for doves (116.1), males (110.6), and subjects from the developed countries (118.9) are considerably higher than those for non-doves (93.5), females (87.5), and subjects from the underdeveloped countries (86.9).

Table 4 shows the mean dimension weights for informed subjects (above the median in the information test (below the median) for both informed Economic Development important than Political Alignment, males, and subjects while the reverse is true for uninformed subjects.

Separate INDSCAL number of subgroups in the informed and uninformed subjects in the stimulus subgroups (Wish, 1993). These results indicate a judgment to the with respect to a different aspect.

**DISCUSSION**

Several conclusions results of these studies are evident. The methodological aspects of the methodological aspects of the methodological framework are made of how different dimensions people. While INI able methodological aspect and the ease of use of the data-collecting comparison rating appropriate data and less cumbersome for example, ratings, which in many cases like those who say this will make it a powerful data-an-
the information test) and uninformed subjects (below the median) in several subgroups. For both informed and uninformed subjects, Economic Development is relatively more important than Political Alignment to doves, males, and subjects from developed countries, while the reverse holds for non-doves, females, and subjects from underdeveloped countries. However, subgroup differences are much smaller among informed than among uninformed subjects.

Separate INDSCAL analyses for a large number of subgroups show that the four INDSCAL dimensions occur with slight variations in the stimulus configurations for all subgroups (Wish, Deutsch, & Biener, 1971). These results indicate that differences among subjects in conceptions of nations are largely of degree rather than kind, and give further justification to the comparison of subgroups with respect to a common set of dimensions.

**Discussion and Conclusions**

Several conclusions seem warranted by the results of these exploratory studies. In terms of the methodological queries that we had posed at the outset of our investigation, it seems evident that INDSCAL can be fruitfully applied to the understanding of the differences in conceptions of nations which exist among different types of people. There seems to be sufficient communality in the underlying dimensions employed in characterizing nations for meaningful comparisons to be made of how salient or important the different dimensions are for various groups of people. While INDSCAL seems to be a valuable methodological tool for analyzing conceptual structures, it would be limited in its applicability if it were dependent upon such tedious data-collection procedures as paired-comparison ratings of similarity. Fortunately, appropriate data can be generated from much less cumbersome data-collection procedures; for example, rating scales and multiple sortings, which in many instances give results much like those obtained with direct similarity ratings (see Wish, 1970). Hopefully, this will make it possible to employ these powerful data-analysis procedures in studies of young children and of people with little formal education.

Substantively, our data indicate that four dimensions seem to underlie the judgments made by our subjects in comparing nations. We labeled these Political Alignment and Ideology, Economic Development, Geography and Population, and Culture and Race. The labeling of the dimensions was facilitated and supported by the correlations with other data, mainly obtained from the rating scales.

The dimensions which we obtained from individual judgments of similarities among nations correspond closely to those which arose from a factor analysis of 236 social, economic, political, and other objective characteristics of 82 nations (Sawyer, 1967). Sawyer reported that the three major dimensions were "wealth," "politics," and "size," dimensions analogous to the first three we found. Our fourth dimension seems to reflect an affective evaluation of the domestic tranquility of the nations, and seems to parallel a factor labeled "domestic conflict" in the factor analysis of the objective characteristics of the 82 nations. (See Rummel, 1967, 1969, which provide a summary of the project from which Sawyer's paper was prepared.)

The correspondence between the findings reported by Sawyer and our results suggests that our subjects had cognitive structures that were sensitive to the major characteristics of nations. However, as might be expected, a subjective orientation is more evident in the results obtained from the psychological data: "political orientation," which provides the basis for an evaluative dimension, has more importance in our results than in the analysis of the objective data.

Despite the considerable heterogeneity of our subject population, consistent differences in conceptual structures were obtained as a function of attitudes, sex, and country of origin. The weight of Political Alignment relative to Economic Development was consistently greater for hawks, females, and people from underdeveloped countries than for doves, males, and people from developed countries. It would be interesting to explore the relationship between attitudes and con-
ceptual structure further by attempting to change one to see what effects it has on the other. For example, would hawks become more dovish if Economic Development became more important to them in viewing nations? Or under what circumstances would a change from a hawkish to dovish attitude bring with it a change in the perceived significance of economic development and an increase in the complexity of the cognitive structure? We would also like to know how much the conceptual structures of subjects would differ if subjects were made to view nations from various perspectives—for example, from the perspective of a tourist, of a military strategist, of an international civil servant, or of an import-export trader. On the basis of some pilot study results, we suspect that the structures of some subjects would vary considerably as a function of the particular perspective which is momentarily dominant, while those of others would remain relatively unchanged. It seems worth while to identify the major types of perspectives on nations, to investigate how much variation there would be as a function of perspective, and also to study what factors lead to one or another type of perspective to be dominant. These are tasks which will guide some of our future research.

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