

DOGMATISM AND ALIENATION: AN ATTEMPT
TO ASSESS THEIR RELATIONSHIP

by

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SCOPE AND CONTENTS: This thesis is an attempt to examine the relationship between the two attitudes of Dogmatism and Alienation, as an initial step toward the construction of a theory of the interrelationship between attitudes as a future means of obtaining a deeper comprehension of political behaviour than is now possible. The two concepts will be broken down into their constituent dimensions through Factor and Scalogram Analysis and the relations between these sub-dimensions will be assessed, as indication of the degree and strength of the underlying relationship between the two major concepts. Two groups were chosen for the research, a group of undergraduates following the Introduction to Political Science Course, at McMaster University and the City Council of the City of Hamilton. The results of these two groups are not to be utilised for strict comparative purposes, they will be used to substantiate each others sets of findings.

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INTRODUCTION

It would seem both a glaring and unfortunate omission in the discipline of Political Science, that, though there exists an ever-increasing body of research on various attitudinal constructs, minimal effort has been expended in examining what relationships exist between them. This thesis is, in part, a preliminary yet partial attempt to remedy this deficiency. Its primary concern will be an endeavour to assess the relationship between the concepts of Dogmatism¹ and Alienation², as an initial step which hopefully may spur future research and thereby culminate in an ultimate comprehension of how belief-systems associate, of how attitudes relate. Its secondary concern is methodological. Most multi-variate analysis of attitudes, of the past, has relied on either Factor Analysis³ or Guttman Scalogram Analysis⁴ to achieve its results, and little or virtually no analysis has been effected on a comparative basis, that it, in analysing a given body of data, the researcher has relied primarily on one of these two approaches

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- 1 A full description of this term is contained in chapter one.
 - 2 See chapter one for a full explication of this concept
 - 3 The reader is referred to chapter three for a description of this type of analysis
 - 4 This method of analysis is explained in detail in chapter four

and has not tried to obtain comparative and comparable results by utilising both. Where the dual approach was used, it seems endemic that satisfactory Guttman scales were not achieved, so that eventually there is a possibility that some information may have been lost through this inability to utilise both methods of analysis. In this thesis then, both methods will be used in an attempt to obtain the maximum amount of information from the data as is possible.

Chapter One is therefore concerned with a full explication of the concepts of dogmatism and alienation: their definition, usage and utilisation in their research are compared with their treatments in other relevant literature. The theory upon which their research is based is also explicated as well as the underlying hypothesis derived from this theory.

Chapter Two describes the methodology used both in the collection of the data and in its analysis.

Chapter Three is devoted to the use of Factor Analysis in this type of research and to its relevance, application and findings here and conclusions based upon it.

Chapter Four follows the pattern of the previous chapter except that the Guttman Scalogram technique will be utilised.

Chapter Five will be the concluding chapter, summarizing the findings on all hypotheses and according to all methods of analysis. Conclusions in accordance with the research aim expounded throughout the thesis will be drawn.

I

DOGMATISM AND ALIENATION: AN EXPLICATION

PROBLEM

It appears that most present day theory and research on attitudes is typically centred on the properties, determinants and the measurement of single attitudes and beliefs rather than on attitude systems and belief systems. It is the intention of this thesis, to move from the former type of analysis to the latter type of concern. The concern here is not so much as to how 'alienated' or 'dogmatic' persons are, or how these features are related to voting behaviour or various socio-economic indicators but rather how they relate to each other. Indeed it is not feasible to assume that attitudes are related to each other, so that if we wish to understand certain behavioural patterns, it is not more admissible to examine the relationships between attitudes and then relate these findings to behaviour, rather than try to explain what may have been a multi-motivated concepts, in terms of a single determinant? This research then, proceeds on the basis of the above argument.

THEORY

Essentially dogmatism and alienation were chosen because they have come to figure prominently in the scholarly literature on attitudes which has arisen in the past ten years or so and secondly, because they were assessed by the author as attitudes which do have a strong relationship with each other. Indeed, if dogmatism and alienation prove to be related, this should indicate that it is possible to examine relationship between

all attitudes and hence possibly develop a comprehensive theory of how attitudes relate to each other as a means toward increased comprehension of the behaviour with which individual attitudes are usually associated. If no such relationship is here proven or indicated, this may demonstrate the correctness of present approaches which utilise only one attitudinal concept to illustrate or explain certain aspects of behaviour but more probably, it will demonstrate a wrong choice here in attitudes that perhaps these are not related, but possibly others are." Should the second above result be indicated here, future attitudinal research therefore, should search for these attitudes which are related and attempt to examine any such relationships in attempting to develop a theory of attitudes as alluded to above.

Previous concern on the part of the author with the concepts of dogmatism and alienation in independent pieces of research initially led to the conclusions that there was possibly a positive relationship between them and that this relationship could be demonstrated empirically. Also similar items, in both dogmatism and alienation scales, seemed to have the same basic referents. This similarity raised the question as to whether two independent, variables were being dealt with.

Subsequent observations of people who were considered dogmatic by the author tended to show that they also exhibited traits which could be subsumed under the category of alienation. This is not to imply that all alienated people are dogmatic or that all people who are alienated are highly dogmatic but that observation of certain individuals tended to illustrate that there are frequent concomitant occurrences of both. Indeed

it seems feasible to argue that dogmatism may have a masking effect on a person's perceptions of events in their society. An individual's dogmatism may obscure his perception of his role in society and thus contribute to his alienated state. Conversely, one can imagine situations where an individual's alienation has the effect on his character to increase or incubate a dogmatic trait, or even instill one. Continued distrust of politicians' motives as a result of a perceived inability to affect one's destiny in the community may contribute to a rigidity of thinking on this issue or on any for example. It therefore becomes conceivable to posit that there is a two way relationship between dogmatism and alienation with each concept affecting the other, depending on the situation. At times it may be dogmatism causing alienation or contributing to it, at times the reverse may be true. The exact interaction between the two concepts being as yet unknown.

This is not to assert that the concepts are unidimensional, for as will later be posited, this is not seen as the case and multidimensionality will be postulated. All that is being argued here is that there is a relationship between the two concepts. The means of proving this relationship will be to denote the respective subdimensions of the concepts and examine any relationship between dogmatism and alienation. This should become more explicit as the research proceeds in that unidimensionality is not to be assumed, as it is not implied, for either of the concepts.

Some substantiation for the above postulated relationship may be drawn from existing literature other than that specifically on the topics of

alienation or dogmatism. Lipset¹ notes that many of the studies done in political science, of public opinion, religion, family patterns and personality, suggest that the lower-class way of life produces individuals with rigid and intolerant approaches to politics. Though it is by no means established that alienation is only a syndrome of the lower classes, yet there is evidence for noting that alienation tends to have a higher incidence among this class. So that following Lipset's statement it is possible to infer that the higher incidence of both alienation and dogmatic, intransigent views of life among the lower classes may be indicative of some underlying relationship between these two concepts. Likewise Connelly and Field² indicate that non-voters and people less interested in political matters are much more intolerant and xenophobic than those who vote or have political interest. If the alienated are non-voters or at least less interested in political affairs the same relationship may be further indicated here.

It therefore becomes possible to assume that if authoritarian or dogmatic attitudes are closely associated with alienation they may have a common basis. Indeed as Lipset states "the same underlying factors which predispose individuals toward support of extremist movements under certain conditions may result in total withdrawal from political activity and concern under other conditions".³ If this is in fact the case, then the previously expounded component theory seems to have some validity.

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S.M. Lipset, Political Man, New York; Doubleday, 1960.

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G.M. Connelly and H. E. Field, "The Non-Voter, Who he is and what he thinks", Public Opinion Quarterly, VIII (1944), p. 179.

³

Lipset, p. 116.

Indeed Gough⁴ in a study of anti-Semitic students and non-prejudiced students found that less tolerant subjects, ie. those who were more rigid in their views, also tended to illustrate a prevailing sense of pessimism and lack of hope and confidence in the future. This less tolerant attitude was also closely related to feelings of cynicism, distrust, doubt and suspicion: "The high scorers feel that other people cannot be trusted, that others will prey on them and exploit them and that motives such as rectitude probity etc. are in fact more facades and fictions".⁵ The above would seem to help substantiate the fact that there is indeed a relationship between the two concepts of dogmatism and alienation, as was in fact hypothesised.

Indeed as Adorno et al.⁶ point out a feature of their authoritarian personality is a strong cynicism, component, closely associated with a distrust dimension probably best exemplified by the statement, that most people do not realize how much our lives are controlled by plots hatched in secret places. Cynicism, it will later be argued, is seen as a major component of alienation.

Lane⁷ posits as one of the major components which form a political alienation syndrome the attitude that a person does not approve of the way decisions are made, the rules of the game are unfair, loaded,

⁴ H.G. Gough, "Studies of Social Intolerance. I Some Psychological and Sociological Correlates of Anti-Semitism", Journal of Social Psychology XXXIII (1951), pp. 237-246.

⁵ Ibid., p. 244

⁶ T. Adorno et al., The Authoritarian Personality. New York; Harper, 1950

⁷ R. Lane, Political Ideology. New York; Free Press, 1962, p. 162

illegitimate; the Constitution is in the same sense fraudulent. This rejection of the existing political structure as 'unfair, loaded' and 'illegitimate' seems to indicate more than a reasoned appraisal of the situation but an inflexible response based on some intolerent conception of what should actually be but is not, and of what part a person should play, but sees himself as being prevented from so doing. This in fact could be a situation where the alienated state is a response to some dogmatic, rigid thinking or like assessment of some situation. In association with the above, talking of the masochistic character of authoritarians, Fromm⁸ states that "these people show a tendency to belittle themselves, to make themselves weak and not to master things. Quite regularly these people show a marked dependence on powers outside of themselves, or other people or institutions, or nature". Accepting that alienated people often tend to illustrate a sense of weakness in the political sphere, often feeling they cannot do anything to help change matters, belittling the system and their own impotence within it and thus conversely illustrate their own need to play an effective role in order not to be alienated, one can see further relevant common bases between alienation and authoritarian personality causes a person to have a need for some authority over him to overcome their weakness, so possibly this is the same, if not related, need that the alienated has in order to give himself a sense of belonging and cease to be alienated. If so, this further indicates some deeper underlying common trend, as earlier posited.

Though most of the above inferences are only impressionistic, nevertheless they do seem to offer some substantiation to the thesis that there

⁸ E. Fromm, Escape from Freedom. New York; Farrar & Rinehart, 1941
p. 164

is an underlying relationship between dogmatism and alienation, though the degree of this relationship remains obviously uncertain.

Intuition and impressions however, are not solely responsible for indicating that these two concepts may be related. Some further substantiation for the above statements is to be found in the specific literature. Dean⁹ found that a positive relationship did exist between alienation and authoritarianism, as measured by the 'F' scale. Gunther noted that "a degree of dogmatism was found to be a powerful predictor of political personal-role definitions",¹⁰ and that high dogmatic persons tended to have a sense of low political efficacy. McClosky and Schaar¹¹ associate anomie with dogmatism, and hypothesize that anomie may be the result of social forces or may be the result of certain personality traits. They conclude that the inflexible person is more likely to be anomic than the flexible person. Cunningham¹² states that "those who withdraw from society either

⁹ D. Dean, "Alienation: Its Measurement and Meaning", American Sociological Review XXVI (1961), pp. 753-758.

¹⁰ M. Gunther, "Personality and Personal Efficacy", paper presented to the 1969 annual meeting of the Canadian Political Science Association, June 1969, p. 51.

¹¹ M. McClosky and J. Schaar, "Psychological Dimensions of Anomie", American Sociological Review, XXX (1965), pp. 14-40

¹² R. B. Cunningham, An Approach to the Problems of Development: Achievement, Alienation and Dogmatism among Jordanian Teachers. Unpublished Ph. D. dissertation, Department of Government, University of Indiana, September 1967, p. 22.

psychically or physically are more apt to see issues in a dogmatic manner" and finds a positive but weak correlation between dogmatism and alienation. Struening and Richardson¹³ stated that alienation and authoritarianism were overlapping concepts and found a correlation of .41 between them. They also inferred that feelings of emotional and interpersonal distance and authoritarianism are part of a more general alienation syndrome.

All the above evidence serves to indicate that dogmatism and alienation were related. In fact it can be hypothesized that somewhere within these two major dimensions is a point where they coalesce into a dogmatism-alienation component. This would in essence be a point where the relationship is so close, so fine, that it is indivisible. This core essentially only become alienation or dogmatism when it becomes manifest at a societal level in response to some stimuli from within or without, and it would only be at this societal level, the secondary surface level that the relationship is measurable. However it is hoped that when it is isolated and measured that some substantiation is obtained for the existence of this inner component.

If either of these two levels of relationship can be defined, then the import for the comprehension of behaviour must be apparent. Instead of attempting to explain or predict behaviour in terms of one attitudinal motivant, we will then be able to refer to multi-motivants and thus hopefully evince a higher degree of validity from the results, than has often

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E. Struening and H. Richardson, "A Factor Analytic Explanation of the Alienation, Anomy and Authoritarianism Domain", American Sociological Review XXX (1965), pp. 86-99.

been the result in the past.

HYPOTHESES

The above theory was therefore responsible for the formulation of the initial hypothesis, that there is a positive relationship between dogmatism and alienation.

With regard to further hypotheses Converse¹⁴ has made the argument that the more educated a person, the higher his age and the more he is politically active, the more consistent will be his answer to the type of questions upon which this survey is based. Logically extending this argument, it would be argued, for example, that the responses of a group, such as a body of students, will be less consistent, illustrate greater error variance and generally manifest lower reliability than those of another group, such as political activists. This in fact leads to the second hypothesis, that, as a relationship will be demonstrated between dogmatism and alienation so the relationship of dogmatism and alienation will be higher in the case of the second group, the activists.

As there is some evidence in the existing literature as a basis for the above theory so there is also substantiation for the remaining hypotheses underlying this research. Dean¹⁵ postulated that alienation was the sum of three sub-dimensions which he named powerlessness, normlessness and social isolation. He isolated various degrees of relationship between them, noting generally that the correlations were above the .01 level of

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P. Converse, "The Nature of Belief Systems in Mass Publics", in D. Apter, Ideology and Discontent. New York; Glencoe Free Press, 1964.

¹⁵

D. Dean, p. 753.

significance and therefore the subdimensions belonged to the same concept, though there appeared to be enough independence to warrant treatment as independent variables. Davids¹⁶ isolated five interrelated attitude dispositions, ego-centricity, distrust, pessimism, anxiety and resentment which he adjudged as comprising an alienation syndrome. Seeman¹⁷ noted five major ways in which alienation had been used in the literatures, indicating them as powerlessness, meaninglessness, normlessness, isolation and self-estrangement. The point to note here is not the profusion of meanings themselves, but that such profusion was attributed to the one concept, alienation. As so many authors have found or posited that alienation was comprised of several subdimensions, so it seems feasible to do likewise. So that, even though one has not the same definition of alienation as these others, nevertheless it is hypothesized that alienation here will also prove to be multidimensional. The question of the exact dimensions may only be resolved through factor analysis, though it is predicted, given the fact that the items used in this research have already been used elsewhere and the fact that powerlessness has continually been isolated, that one of the alienation subdimensions in this research will prove to be this component. Likewise for the same reasons it is also posited that distrust, cynicism and social isolation will also result. It is not, how-

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A. Davids, "Alienation, Social Apperception and Ego Involvement", Journal of Consulting Psychology, XIX (1955), pp. 21-27.

17 N. Seeman, "On the Meaning of Alienation", American Sociological Review XXIV (1959), pp. 783-791. See also A. Neal and S. Rettig, "On the Multidimensionality of Alienation", American Sociological Review XXXII (1967), pp. 54-64.

ever, possible to state exactly which of these sub-dimensions will be isolated, but, given the findings of past research, one can at least hypothesize that alienation will prove to be multi-dimensional, its exact components being amongst the above.

From this, and noting Dean's, Simmon's¹⁸ and particularly Struening and Richardson's findings where they infer from their results that their two scales of alienation and authoritarianism, measure different aspects of a complex interrelated domain even though they share common elements, it is further postulated that alienation here will tend to promote the idea that it is composed of discrete dimensions. The latter half of Struening and Richardson's conclusion is particularly important for understanding the component theory outlined earlier.

Because alienation was defined as it was and its scale constructed in close association with this definition¹⁹ I would further hypothesize that within each sample overall, alienation will exhibit a high degree of internal consistency within each dimension. As it will prove to be multi-dimensional so its subdimensions will illustrate high degrees of internal consistency within themselves. This latter postulate is made because most of the alienation items used in this survey have been utilized before, have exhibited acceptable degrees of internal consistency in these earlier scales and because in this research the definition of the concept was closely

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J. L. Simmon, "Some Intercorrelations Among Alienation Measures". Social Forces XXXVIII (1956), pp. 370-372.

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See Chapter II for the operationalization of alienation and dogmatism.

associated throughout its conception, with its own operationalisation.

Following the above concern with alienation, it is possible to make similar predictions for dogmatism, by way of introduction to the concept. M. Rokeach²⁰ illustrates what dimensions are referred to by what items in his scale²¹ and also notes the lack of a consistent underlying ideology, ie. he claims his scale is ideological-content free. It therefore seems logical to note for hypothesis four that dogmatism will prove to be multi-dimensional, though this essentially is saying very little. However the interesting point remains that one can not be sure what will be the major underlying dimensions. Also several items of the Rokeach scale may have lost their salience to certain sectors of society, notably young people, thus it could be posited that the major dimensions which evolve will not be those as defined by Rokeach. The categories will be broader to allow for this loss of salience of certain items. This will in fact mean that many items will return low reliability figures so that hypothesis four may be adjudged as, dogmatism will prove to be multi-dimensional when tested will illustrate lower internal consistency figures than alienation. These major categories which do evolve will still hopefully combine into a measure of dogmatism and will also rebate to alienation.

The question of which dimensions will be found within dogmatism remains difficult to resolve. However, given the fact that Rokeach illus-

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M. Rokeach, The Open and Closed Mind. New York; Basic Books, 1960

²¹

Rokeach, pp. 73-80.

trates that two of his major dimensions are intolerance and authoritarianism, it is postulated that these will be two components which will be found. Because most of Rokeach's remaining dimensions contain only a few items, whereas the above two do not and also because it is postulated that this scale will exhibit a high degree of redundancy, it is not practical to conclude that any further dimension will be equivalent to Rokeach's. This redundancy should affect the two above subdimensions by removing only a few items, though not in sufficient numbers to remove the dimensions from the scale. Within the remaining categories however there seem common trends, so that even noting possible redundancy, it is possible to conclude that other major dimensions will evolve through the combination of any remaining related items. There seem to be two dominant themes once intolerance and authoritarianism are removed, and they are 1.) a certain rigidity in views and 2) a tendency toward stubbornness of opinions. It is conceivable because the themes are similar and because many of the items will be redundant that they may actually factor as one dimension. So that it is postulated that dogmatism will factor into intolerance, authoritarianism rigidity and/or stubbornness.

PROBLEM RESTATEMENT

Given these hypothetical subdimensions for dogmatism and Cynicism, Powerlessness, Distrust and/or Isolation for alienation and give the various impressions obtained from the literature it is possible to hypothesize relationships between these dimensions. In general it is posited that all the dimensions will illustrate varying degrees of relationship with each other, that they will in effect all prove to be positively inter-related. This is postulated in accordance with the main theses of this research, that there is an underlying relationship between dog-

matism and alienation and in accordance also with what were general impressions obtained from the literature. Indicating relationships between all these subdimensions of the two major concepts should indicate the actual relationship between dogmatism and alienation.

In particular, following Gough, it is postulated that Intolerance would be positively related to Cynicism and Distrust; following Adorno it is posited that Authoritarianism would be strongly related to Cynicism and Distrust and following Fromm it is hypothesized that Authoritarianism would be strongly related to Isolation and Powerlessness. Other dimensions could illustrate varying relationships with each other, but these above are indicated because, on the basis of the literature they were assessed as being the predominant relationships between what could possibly be the subdimensions of dogmatism and alienation.

Should these above dimensions emerge in this research, the above relationships are those which, in such a case, would be hypothesized as existing. They will not be tested here as testable properties because of the as yet indeterminate nature of what are likely to be major dimensions, though, should these factors emerge as postulated, these above relationships will be alluded to accordingly.

Before making some definitional remarks concerning the two concepts several comments on the literature of these concepts are necessary. First, little scholarly work exists relating the concepts as defined in this research and that what research that has been effected relating alienation and other attitudinal variables is predicated upon different definitions, though as was noted, there is still some utility for this research. Secondly what literature that there is on alienation is primarily concerned with the relationship between this variable and such factors as voting, political

participation and socio-economic characteristics.

DOGMATISM: DEFINITION

Most of what is known about dogmatism is the result of research done by Milton Rokeach in The Open and Closed Mind²² and this present research owes a great deal to him, notably the definition of dogmatism and the concern with the nature of belief systems. To Rokeach dogmatism means

"a closed way of thinking which could be associated with any ideology regardless of content, an authoritarian outlook on life, an intolerance toward those with opposing beliefs and a sufferance of those with similar beliefs."²³

Dogmatism then, for this research, means a network of closed belief/disbelief systems, or more explicitly the tendency to be closed minded,²⁴ not only on single issues but on networks of issues.

Essentially Rokeach was concerned with examining belief systems, the extent that a system is 'open' or 'closed' and to do this he designed a Dogmatism Scale, which allows him to measure individual differences in the openness of belief systems. From the theory that was the generating force behind the scale, it also allows him to measure general authoritarianism and general intolerance.²⁵ Rokeach argues that the 'F' scale used

²²

Ibid.,

²³

Ibid., p. 4

²⁴

Explained in the following pages.

²⁵

"Because of the way we have defined open and closed in Chapter III, the scale should also serve to measure general authoritarianism and general intolerance", Rokeach, p. 72.

by Adorno²⁶ was specifically a measure of right authoritarianism rather than of authoritarianism in general. A measure of general authoritarianism, he stipulated, must be free of ideological content since it is found in people of very political persuasion as well as in art critics, Methodists and Freudians. He therefore formulates what he considers to be

"an ahistorical, contentless way of thinking about intolerance, independent of the specific group discriminated against, equally applicable to different persons of history and to all kinds of intolerance within a given period of history."²⁷

Thus, the dogmatism scale that is devised to measure individual difference along an open-closed continuum and also to measure general authoritarianism. Nonetheless, Rokeach's departure does raise some problems. By definition, the concept of dogmatism utilised here differs from that of 'authoritarianism' of Adorno and for that reason as most work relating authoritarianism and alienation is based on the 'F' scale, it has only partial utility here.²⁸ As indicated, it is useful for providing some basis to theoretical underpinnings of the research, though unfortunately

²⁶ T. W. Adorno, et al., The Authoritarian Personality. New York; Harper, 1950.

²⁷ M. Rokeach, p. 16.

²⁸ I do not propose to go into the various merits of the different approaches to 'authoritarianism'; the interested reader is referred to Rokeach, pp. 1-30, for merits, validity etc.; suffice to say I accept Rokeach's arguments on this issue. See also E.A. Shils "Authoritarianism: Right and Left", in R. Christie, and M. Jahoda, (eds), Study in the Scope and Method of the Authoritarian Personality. Glencoe, Ill.; Free Press, 1954; J. P. Kirscht and R. C. Dillehay, Dimensions of Authoritarianism: A Review of Research and Theory. Lexington, Kentucky: 1967.

direct comparisons between the results of the research and that of earlier endeavours in this field will not be possible because of the differences in definitions upon which they are based. Even where nominally the same concepts are used, variations in definitions negate direct comparisons. The results and findings of other research, as indicated, are used however wherever possible to substantiate as much of this research as possible, though generally, for one reason or another, their contribution is minimized.

What in fact is meant by an 'open' or 'closed' mind? To answer this question, Rokeach defines the notion of a belief/disbelief system. The

"belief system is conceived to represent all the beliefs, sets, expectancies or hypotheses, conscious and unconscious that a person at a given time accepts as true of the world he lives in. The disbelief system is comprised of a set of subsystems rather than merely a single one and contains all the disbeliefs expectancies, conscious and unconscious that, to one degree or another, a person at a given time rejects as false."²⁹

Therefore, a belief/disbelief system represents a person's total framework for comprehending the universe to the best of his ability.

Rokeach attributes three dimensions to all belief system: 1) a belief-disbelief dimension; 2) a central-peripheral dimension; and 3) a time-perspective dimension.³⁰ The sum of these three dimensions is the mind, and the composition of the dimensions determines whether it is open or

²⁹Rokeach, p. 16.

³⁰See Rokeach, pp. 29-80 for a fuller description of the concept.

close. Dogmatism, and authoritarianism are synonymous with a closed belief system. Persons scoring high on the scale are asserted to have a relatively closed system and persons scoring low are assumed to have relatively open system. Thus, Rokeach's work provides: 1) an initial indication of what belief systems are; 2) an indication of the complexities of their composition; and 3) some basic conceptual tools to deal with these complexities by promoting an analysis of how components of belief systems hang together.

There exists in political science a vast volume of literature on alienation, though this gives no indication of the problems raised by the concept. Though alienation has been treated extensively by political scientists, psychologists, sociologists and others, there remain several areas of concern. First on general issued, there is a remarkable lack of agreement on both the definitions and usages that the concept has received and this is manifest throughout the literature. Another problem is that much of the literature concerns itself with the relationship between alienation and various socio-economic factors and very little attention is devoted to the relationship between this concept and other attitudinal variables. What attitudinal relationships that are found are also really of minimal substantive importance for this study, because they concentrated on the association between alienation and that type of authoritarianism which is best exemplified by the California 'F' scale and which is not congruent with the definition of dogmatism, though as illustrated, it retains some utility.

ALIENATION: DEFINITION

The definition of alienation used in this study, though not entirely resolving past problems, nevertheless endeavours to present a format which

may be acceptable to most scholars in the future and thus avoid most of the polemic which has plagued the topic in the past. Taking as a departure point most early definitions, a definition of the concept has been constructed which hopefully may be acceptable to all. The definition of alienation was obtained through a dual process. In the first instance the departure point was most early definitions, in so far as the alienation literature was analysed for areas of consensus. Indeed it is unfortunate that much time has been spent arguing the merits of one definition of alienation over another and little time has been spent noting the vast amounts of consensus which do exist throughout.

In the second stage four people were asked to draw up a list of characteristics which they considered that a person who was alienated would exhibit. The rationale for this approach was taken from the following statement of Rokeach; "long before we were able to define the phenomena of ideological dogmatism explicitly it seemed clear that it referred to a number of things"³¹ where he indicates that this type of intuitive approach has a certain degree of inherent validity in delineating the concept in question. However, intuition alone is not a sufficiently rigorous tool, so the research proceeded from this point. The four lists were then compared with another draw up by the author, which was the result of an earlier endeavour in this field.³²

³¹Rokeach, p. 4

³²I would like to thank here particularly K. Jones of the Department of Philosophy, S. Blackmore, Department of Political Science, both of McMaster University; V. M. Ferman and M. Marsh of the Department of Government, University of Essex, Colchester, Essex, England. My list is the result of the third year seminar in 'The Psychology of Politics' at the University of Essex, Colchester, Essex, England, where I am further indebted to the teachings of Professor J. M. Thomas.

The five lists were then broken down into groupings, ie. the items of the test were categorized and classified accordingly to what they were perceived or alluding to. Five major categories evolved which were named as the following: a perceived lack of power in community affairs; a distrust of those who hold power positions (any); degrees of political cynicism; social disorientation; and personal disorientation. The last two were later subsumed under one category. Using the classifications which were extracted from into a coherent a theory of alientation as was possible.

As Thompson and Horton³³ point out

"political alienation is most accurately understood
an an emergent response to social structure in action,
a reaction to perceived inability to influence or to
control one's social destiny"

Alienation, therefore, is seen as an experienced state, induced and determined both situationally and psychologically, in which an individual feels a perceived lack of power in community affairs and distrust of those who hold power positions, as well as exhibiting a high degree of political cynicism³⁴ with some concomitant sense of personal and social disorientation. Most treatments of alienation allude to one of these features in varying degrees but non includes them all together. It is hoped that this definition has both a greater utility, and a greater

³³ W. Thompson and S. Horton, "Political Alienation as a Force in Political Action", Social Forces XXXVIII (1960), pp. 190-196.

³⁴ Defined in this research as the belief that the political system operates without any value and that very little is to be gained from trusting politicians who for the most part are unprincipled and self-seeking. See R. Agger and M. Goldstein and S. Pearl, "Cynicisr: Measurement and Meaning", Journal of Politics XXIII (1961).

degree of pragmatic validity than has been exhibited by any other research in the field. The respective merits of some concerns of political scientists in this area were noted earlier in conjunction with the theoretical aspects of the research. This subsequent review alludes to those features of the literature which were adjudged relevant for the definitional or similar aspects. It illustrates the various points of concensus which exist among the alienation studies, as well as those articles which play a substantive, clarificatory role in aiding this consensus by removing some of the confusion and polemic from the subject. Prominent are those which were in accordance with my theory of alienation.

Nettler³⁵ in one of the earliest studies found that there was a need to separate three related but non-identical ideas, which she gauged from an examination of the historical usage of the concept and they were alienation, anomie and personal disorganisation. She further postulated that anomie was a societal condition of relative normlessness and that alienation was a psychological state of an individual. Alienation to her was therefore a state where one was estranged from, made unfriendly toward his society and the culture it supported. Her research was guided by the assumption that the alienated person would resent the common cultural values of his society. Consequently, she selected as a measure of alienation a 'feeling of estrangement' (thus equating this feeling with alienation). Using a 17 item, five point response scale Nettler thus attempted to measure 'estrangement from society', as a means of measuring alienation.

³⁵ Gwynn Nettler, "A Measure of Alienation", American Sociological Review XXII (1957), pp. 670-677.

Later research however, tends to show that equating this concept with alienation is far from sufficient as a true index, as it may merely measure one aspect of alienation also that alienation is not only a psychological state but has situational (societal) determinants.

Dean³⁶ following on this work of Nettler, isolated three variables which he thought contrived to create an alienation dimension, or rather, which in conjunction added up to what he considered was a reliable measure of the concept. As noted earlier, his variables were powerlessness, similar to the Marxist concept of division of labour; normlessness, either lack of clear norms of conflict among norms and societal isolation, a perception of losing effective contact with significant and supporting groups. He was also concerned with the relationship between these variables and some political and social aspects of apathy, as well as relating all to various socio-economic and demographic indicators. Though some of the correlations were found to be statistically significant, the coefficients were uniformly low and were rejected. Dean however did raise the question of whether alienation is in fact a generic trait, or must, in view of his findings be considered a situationally-related variable. This latter postulate is particularly important in view of my definition of alienation, and receives a more explicit treatment in a later study by the same author.³⁷

In this later article Dean again utilises the three concepts that he

³⁶D. Dean, "Alienation and Political Apathy", Social Forces XXXVIII (1960), pp. 185-190.

³⁷D. Dean, "Alienation: Its Measurement and Meaning", American Sociological Review XXVI (1961), pp. 753-758.

isolated in the initial work. Likewise constructing individual scales to measured alienation. He was also particularly concerned with the question as to whether alienation was a general syndrome or whether the sub-scales were discrete.

Dean was also concerned with the correlation between alienation and its components and various factors such as social status, age and rural background. However though he found that his hypotheses were sustained at statistically significant levels, the correlation coefficients were again of such low magnitude that it did not seem feasible to predict the degree of alienation from the score in any of the five social correlates measured, so he rejected the correlations. However since each of the sub-scales exhibited a normal curve of score distribution, with scores along the entire range, this indicated to Dean that these components and scales are not merely artifacts. He therefore postulated that one explanation may be that alienation is not a personality trait but a situational one. It is plausible that an individual might have high alienation-powerlessness scores with regard to political activity but a low one in regard to religion,³⁸ and Dean ultimately posits that alienation may not be a unitary phenomenon but a syndrome. This conclusion appears to be a sound one.

Significant research toward the syndrome thesis has been made by Davids³⁹ in his attempt to solve the relationship between alienation, social apperception and ego-structure. Using what he termed as

³⁸ For some interesting finding on the bi-dimensionality of alienation see R. B. Cunningham, Perceptions of Society and Polity: Bi-Dimensional Alienation in the Middle East, mimeo, Department of Political Science, McMaster University, 1969.

³⁹

A. Davids, pp. 21-27

'affect questionnaire' he attempted to probe certain personality dispositions, in that he contrived eight scales of ten items apiece to measure each of the following dispositions (one scale per disposition), socio-eccentricity, optimism, trust, ego-centricity, pessimism, distrust, anxiety and resentment. The first three he termed socially desirable, the remainder are negative or socially undesirable. The items were randomly mingled in an eighty item questionnaire. The statistical findings of highly significant intercorrelation led Davids, as noted earlier, to the formulation of a syndrome termed 'alienation' composed of five interrelated dispositions, egocentricity, distrust, pessimism, anxiety and resentment. Subjects who were high in one, tended to be high in the other and subjects who manifested relatively large amounts of ego-centricity, distrust, pessimism, anxiety and resentment were considered to be alienated.

Within the general dissensus on alienation, attempts to help clarify and expedite classification have not always been too successful and have occasionally only succeeded in compounding the problem. Seeman's is a case in point.⁴⁰ Essentially his intention was to illustrate the profusion of meanings attached to the concept and attempt to isolate some basic definitions which may be accepted by all. He therefore indicated 5 major ways in which the terms had and cites them as powerlessness, meaninglessness, normlessness, isolation and self-estrangement. This approach in itself is most useful as this type of illustratory explanation was needed. However Seeman then proceeded to undo what good work he had done when he attempted to redefine these major features, for though he cites

⁴⁰ Seeman, pp. 783-791.

other authors who have used the same terminology that he utilises and points out that their usage of the terms is different in substance and some cases in import, he still retains the original expressions. He therefore compounds the problem of definition rather than solves it, and this attempt at classification is further complicated by the fact that though he redefines the concepts in terms of reward, value, behaviour and expectancy, his arguments in favour of these definitions are no more plausible than those of the authors he is attacking and in fact, his attributing meanings of reward, expectancy and behaviour as he explains them to alienation, is to allocate motivation, either latent or manifest to a state where they may never be present, subconsciously or otherwise.

Probably one of the better articles on the effects of alienation on voting behaviour is that on McDill and Ridley.⁴¹ They postulate that low social position is likely to lead to anomie and political alienation, which in turn affect political participation. Thus anomie and political alienation are posited as two intervening variables which in the present instance are seen as interpreting the predicted relationship between social status, voting behaviour and attitudes on any relevant issue, which for their research was an issue of metropolitan government. They further hypothesized that controlling these two socio-psychological factors should therefore reduce the proportion of variation in attitude and voting behaviour explained by social position. In fact they found that the effects of education and anomie and political alienation in voting behaviour and attitude in the specific issue were for the most part additive.

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E. McDill and S. C. Ridley, "Status and Anomie, Political Alienation and Political Participation", American Journal of Sociology LXVIII (1962), pp 205-213.

Education, anomie and political alienation were found to contribute additively to an unfavourable attitude, which if expressed at the polls was likely to a 'protest' vote, or negative vote. I shall not here go into all the findings on alienation and political participation or on the relationship between alienation and protest voting, suffice to say the most findings support the above contentions in one way or another.⁴²

This research though does have another relevance in so far as it does give some indication as to how important attitudes may be in an analysis of behaviour, so that presumably research which relates several attitudes to behaviour will have an even an even greater utility than that which merely makes use of a single determinant. A position which hopefully will be the projection of the results of this research.

At this point another problem arises, which though avoided by the above authors, has been troubling several scholars. Ever since Srole⁴³ introduced his concept of anomie, there has been confusion over the usage of this term, though this confusion only stems from carelessness on

⁴² For similar findings in the relationship between low socio-economic status, a sense of political efficacy and alienation and participation, see W. Thompson and T. Horton, pp. 190-196; M. Olsen, "Alienation and Public Opinion", Public Opinion Quarterly XXIX (1965), pp. 200-212. A recent criticism on the 'protest' vote theme and of its association with themes of powerlessness, inefficacy and distrust or rather a modification of this idea, is found in J. Aberbach, "Alienation and Political Behaviour" American Political Science Review LXIII (1969), pp. 86-99. Though in view of his evidence, Aberbach overplays his conclusion.

⁴³ L. Srole, "Social Integration and Certain Corollaries", American Sociological Review XXI (1956)

the part of the users. It has been variously referred to as 'anomia', its correct usage; as anomie, where it is erroneously equated with Durkheim's concept of the same name; and as anomy, a political science 'hybrid' designed to avoid confusion but which is unable to counteract the basic errors of usage. Srole's anomia is a generalised pervasive sense of self-to-others estrangement, or estrangement from society and as such is akin to alienation but not equivalent, unless you erroneously define alienation a la Hettler, where you compound both errors. There is a definite relationship between alienation and anomia as research has shown but to continue to use them as synonymous is to lead this area of the discipline further into error. The fault presumably lies in the original coinage of the term (Srole's) as it essentially is too close to Durkheim's anomie, or relative normlessness, but even so there is little excuse for committing the definitional errors that have been manifest in the use of this term.⁴⁴

RELEVANCE TO POLITICAL SCIENCE

If a relationship can be proven between the two concepts of alienation and dogmatism it would seem to have a certain inherent validity for research in this area.

In a general sense the fact that relationships could be isolated between attitudes hopefully would provide important pointers for the understanding of behaviour. While some political scientists have been content to attempt to explain specific behaviour in terms of one specific

⁴⁴ See especially I. Srole, G. Hettler, H. McClosky and J. Schaar, "A Debate on Anomy", American Sociological Review XXX (1965), pp. 757-767 and also McClosky and Schaar, pp. 14-40.

variable, it seems that greater utility would be obtained by first attempting to delineate relationships between this variable and what would be assessed as related variables and thus attempting to relate this first relationship to the specific behavioural aspect under examination.

More specifically there is theoretical relevance here on two levels. Firstly, this type of research hopefully may lead to the development of some theory of the relationship between attitudes. Though political science is gradually building up bodies of knowledge in certain areas, one area in which there seems to be an ever large gap is in attitudinal research and the part played by attitudes in explaining behaviour, though this second concern relates to my above contention. Continually isolating and measuring individual variables seems determined to defeat its own end, as comprehension must ultimately become bogged down in a mass of single, unrelated attitudes. The need must be to attempt to relate these attitudes to each other⁴⁵ in a process which hopefully may culminate in a theory of attitudes and their relationships which may be utilised for a fuller understanding of that area of this discipline.

At a lower theoretical level, it is hoped to show that by the judicious use of composite scales, one can discover underlying attitude dimensions which single dimension scales are unable to tap and thus indicate further

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For a specific work relating attitudes and some aspect of Political Science see R.B. Cunningham, An Approach to the Problem of Development: Achievement, Alienation and Dogmatism among Jordanian Teachers. Unpublished Ph.D. dissertation, Department of Government, Indiana University, 1967.

underlying relationships. If the use of a composite alienation scale here helps contribute to the knowledge which is already accumulating on alienation and also helps relate it to dogmatism, thus its utility here is doubly assured, so that where in the past authors have spoken of alienation purely in terms of one dimension, such as cynicism, or distrust etc. then in the future hopefully research will be implemented in terms of an alienation syndrome.

Similarly for dogmatism it is hoped to illustrate the major dimensions underlying this concept and then relate them to alienation as a test of the hypotheses upon which this research is based, as an initial step toward the stages denoted above.

It has been my concern here then to outline the basic considerations upon which this research is based, as well as delineating the parameters of my own definitions, and hypotheses. Further it is evident while Rokeach affords me a ready created measure of dogmatism, a brief survey of the literature on alienation however indicates little of substance in the measurement sphere, so that my own definition and its operationalisation, which will be outlined in the next Chapter, though obviously owing its genesis to this earlier literature, is essentially a concept of alienation sui generis. However, it should be noted, given the manner through which the definition of alienation was achieved that this definition is essentially an empirical, not a theoretical one. Indeed it seems evident in this area that there is a problem of the operationalisation of any theoretical definition on a theoretical level, essentially in this thesis any test of their relationship and hence their existence as independent concepts, must be subject to empirical criteria. A theoretical consideration is possible but the actual determination of the existence of

any of the concepts must be effected through empirical criteria and hence to avoid the gap between the theoretical and the empirical, the definitions in this thesis are considered on the latter level.

RESEARCH METHODS

It is not intended here to go into the technique of social surveys in general,¹ but merely to indicate the methods and re-iterate the hypotheses underlying this research in particular, in both its initial formation and subsequent implementation. This chapter is therefore partly concerned with an analysis of the premises upon which this study is based, as well as the research methods.

The concept of dogmatism essentially needs little additional explanation to what was stated in the first chapter, other than to indicate that the definition follows Rokeach's and that the scale used in this research was his 40 item 'E' scale,² with certain questions rephrased to suit Canadian conditions.³ Alienation however needs further statement, as this scale⁴ was derived from no one authority in particular and in fact is essen-

¹See in particular C. Seilitz M. Jahoda et al., Research Methods in Social Relations. New York; Holt, Rinehart & Winsten, 1967. C. Backstrom, and G. Hirsch, Survey Research, Chicago, Illinois; Northwestern University Press, 1963. H. Hyman, Survey Design and Analysis, Glencoe, Illinois; Free Press 1955.

²Rokeach, The Open and Closed Mind, New York; Basic Books, 1960, p.73

³See Appendix I.

⁴See Appendix 1.

tially independent of each versions of this concept, at least definitionally.

The construction of the scale to measure this concept and thus provide a means for proving a relationship with dogmatism, with a further step of definitional development. Previous research in this area was analysed and as many items as possible that had been utilised in any studies of this concept were formed into a list. Using the four major factors which were isolated earlier, any terms were picked from the list which were taken as referring to any one of these four factors and grouped into these sections. From the lists that then comprised these categories, questions were eliminated which were gauged as being redundant or were represented in more than one category, so that finally 30 items were left, comprising these four groupings, but which had a certain underlying relationship, in so far as some of the items could refer to more than one group. These 30 items therefore formed my alienation scale. The items within the respective categories were then randomly distributed into the final version of the scale, which was used in the survey.

Two points must be raised here. On the use of composite scales, some opposition has been expressed.

Composites are useful devices for obtaining a more homogenous and precise measurement of a variable or for obtaining a better device for predicting another variable. However, forming them on an ad hoc basis (ie. without either of the above purposes clearly in mind) may disguise the relationship of some of the components with outside variables or otherwise distort the results.⁵

I think however, that my approach does meet this contention of Aberbach's though a later argument of his has more power, where he says, in talking of other authors by way of example,

"the fundamental reason for defining alienation as a combination of distrust and powerlessness is the expectation that the joint occurrence of the two attitudes produces a unique behavioural tendency and this should be established rather than, as in the case of these authors, assumed."⁶

The fact that the initial indication of alienation was some people's observations, partially if not totally, of other's behaviour, may go part of the way in meeting this additional criticism. However, it is not certain that the criticism itself has a great validity in so far as it is probably of greater truth to say that "the joint occurrence of (the) two attitudes" may produce "a unique behavioural tendency", as this is what we are testing and to note that there is a (definite) expectation, as Aberbach does, is to reverse the usual procedure and argue the result before the evidence. The same arguments hold for Rokeach's scale, as for alienation.

Probably a more relevant criticism and one which can be levelled equally at the dogmatism scale as well as that of alienation, is that of acquiescence response set.⁷ Randomly mingling the items as was effected in the alienation scale does help counteract this charge, though this procedure was not operated in terms of the dogmatism scale, so that it

6

Ibid., p. 89

7

See particularly J. P. Kirscht and R. C. Dillehay, Dimensions of Authoritarianism: A Review of Research and Theory. Lexington, Kentucky; 1967, for a general review of this theme.

stands open to correction on this issue. However, Gunther⁸ states in his assessment of the position where he agrees with Rorer,⁹

"it seems safe to conclude that even if these studies (of response bias) are interpreted unequivocally as showing the effects of acquiescence, they show that effect to be small. Unfortunately the long list of studies which here 'demonstrated' the existence of acquiescence on the basis of the dubious interpretation of statistically significant correlations of negligible practical value has created the illusion that acquiescence is widespread and of great importance."

Questions of validity and internal consistency which arise from these two scales will be considered in the next two chapters, where the more methodological aspects of the study will be considered, as well as the initial analysis of the basic considerations of this research.

These considerations are in fact divisible into distinct categories, those arising from the attitudinal nature of the research which are repeated here for clarity and those predicated on some methodological considerations. In the first instance, it was hypothesized that:

- 1) there is a positive relationship between dogmatism and alienation.
- 2) the relationship of dogmatism with alienation will be stronger in the case of the City Council sample.

⁸ M. Gunther, Personality and Political Efficacy. Paper presented to the 1969 annual meeting of Canadian Political Science Association, June 4th, 1969.

⁹ L.G. Rorer, "The Great Response - Style Myths", Psychological Bulletin Vol. LXIII (1965), pp. 129-156.

Secondly it is hypothesised that:

- 3) Alienation will prove to be multidimensional and will consist of discrete dimensions.
- 4) Dogmatism likewise will prove to be multidimensional and will consist of discrete dimensions.

Finally, as a result of the above, it is advanced that it is possible to discover relationships within belief systems.

As a means of testing the above hypotheses and the propositions alluded to throughout, it was decided to test this research on two widely divergent groups, in the hope that the same result obtained from two different samples would be more conclusive than results obtained from one. Accordingly a random sample¹⁰ of 110 persons was drawn from the 711 students studying 1a 6 'Introduction to Political Science' course at McMaster University, Hamilton, Ontario, as the first group.¹¹ The second group chosen was the 21 combined members of the Hamilton City Council, which included the mayor, Board of Control, and aldermen.

The first scale administered was the dogmatism scale, which also had

10

See H. Blalock, Social Statistics, New York; McGraw Hill, 1960 for the various techniques subsumed under this term. The method used here was that of 'systematic' random sampling.

11

This group was chosen expressly for ease of access, and because the Council would provide a good contrast with it.

appended to it six questions concerning various socio-economic factors for use in later research. This scale was given to the 110 students by their tutorial leaders in their seminars, to be returned to me independently and anonymously in pre-addressed envelopes through the University mail. The City Council received exactly the same questionnaire through the mail, to be returned in a stamped addressed envelope which was provided. Both samples were to be allowed a maximum of 6 weeks within which to complete the questionnaire. At the end of this period, the alienation questionnaire was sent to the same original sample, using exactly the same method of distribution. This second scale also contained in the instructions at the beginning some reminders about the first questionnaire aimed at those who had not yet completed it and respondents were given a further month in which to return the both questionnaires. Both questionnaires were numbered to match each other on return. However by the time that the later month had elapsed only 54 of the student sample and 10 of the Council sample had returned completed sets of questionnaires.

The respondents on both questionnaires were asked to indicate disagreement or agreement with each item on a scale ranging from +3 to -3, with the 0 point excluded to ensure that definite responses were forthcoming, within the scale. The scales were subsequently converted for scoring purposes to a 1-to-7 scale by adding a constant of four to each item score, except for the socio-economic question, which are ignored forthwith. The total scores on both scales are the sum of scores obtained on all items in the test, and persons scoring high on both scales are assumed to be dogmatic and alienated respectively. Some items in the alienation questionnaire had their scores

reversed for coding purposes.¹²

It is probably necessary to justify some of the assumptions which are latent in the above research design. Firstly, it was decided to contact the students through their tutorial leaders and not mail the questionnaire because primarily it was considered easier and it was also assumed that these instructions would be able to elicit more response than a merely impersonal letter. The fact that the dogmatism questionnaire had a response rate of 77.7% is sufficient justification for this. Unfortunately however, the alienation scale coincided with the end of seminars, first year exams and a general disinterest among both sides, so that concerted efforts by this author were unable to increase response rate on alienation and it slumped drastically, though still retaining parity overall with the returns of the Council, who were contacted entirely through the mail service. Secondly, the survey was distributed in two main sections, and not one, because again it was assumed that people would be less likely to answer one questionnaire of 76 items than two of 46 and 30 respectively, and spaced well apart. The success of this assumption however, has not been demonstrated.

Thirdly the question of 'forced' responses may be contentious for some¹³

¹² See Appendix I.

¹³ See H.J. Ehrlich, "Instrument Error and the Study of Prejudice", Social Forces XL (1964) p. 205. Where, talking of forced choice items in self-administered questionnaires, he notes that, "under such conditions respondents may well chose to lie, to be evasive, or to answer randomly or in a careless or offhand manner." Though, as all of my respondents who were used in the final data analysis completed every item and there is no missing data, the criticism may be minimised. Is it not feasible to assume that if respondents concern themselves with completing every item that they also are concerned with the quality and validity of their responses?

though arguments may be mustered for the type of 'closed ended' item utilised here. In particular it must be noted that this tupe of question does not really 'force' responses, it is merely intended to elicit comment on an item associated with an underlying attitude, so in effect what is essentially does is to tap a response which is present but which needs stimulating. It does not force a particular response but merely aids the stimulation of what is present in the attitude and which guides any reply in this sphere.

The data thus obtained in this research was subjected to both Factor and Scalogram Analysis as tests of the various hypothesis posited. The results are indicated in subsequent chapters.

III

FACTOR ANALYSIS

INTRODUCTION

The fact that factor analysis¹ is essentially concerned with defining patterns of relationship or clusters of relationship within any given body of data, therefore obviates the necessity of justifying its utilisation in the research.

However some explanation should be offered for its use in this thesis. As indicated in Chapter I and II, it is hoped to prove a relationship between dogmatism and alienation by indicating relationships between their components. As factor analysis in the case of rotated factors indicates the most distinct clusters of relationships within any set of data, hopefully it will illustrate what are the most distinct clusters of relationships in the data utilised here and the correlations between these clusters should then give the underlying patterns of association. As dogmatism and alienation are being dealt with in this research, perfect results would be the defining of the data into several distinct sub-dimensions which could then be categorized under the major headings of either dogmatism or alienation. The resultant correlations between these sub-dimensions would then illustrate whether a relationship exists between the two major concepts. The above features should give adequate substant-

1 for the specification of this term, see R.J. Rummel, "understanding factor Analysis", Journal of Conflict resolution Vol XI, No. 4 (1969) pp. 444-480. A more mathematical and statistical description may be obtained from H. Harman, Modern Factor Analysis, Chicago; University of Chicago Press, 1965.

iation as to whether the major hypotheses of this research are proved or not. It is hoped therefore that factor analysis will provide several interrelated dogmatism and alienation factors or sub-dimensions, which should then be sufficient to indicate the substance of the basic premises upon which this thesis is predicated.

ANALYSIS

Initially an interval level of measurement was assumed throughout. The factorial study was undertaken in two steps and on each sample separately. In the first step the bodies of data derived from each sample were analysed according to the specifications of an orthogonal rotation² factor analysis program. Subsequent to this, the resultant factor loadings were then introduced into an oblique³ rotation factor analysis program, as the ultimate step in testing my earlier hypotheses.

Responses to the 70 items on the questionnaire were initially correlated to form a 70 x 70 product-moment correlation⁴ matrix for each sample. However, an inbuilt limitation of the orthogonal rotation program⁵ of only allowing a maximum of 60 items to be handled at a time

2 see 1

3 see 1

4 Program used was the BMD 02D correlation program, adaptation for the CDC 6400. For details and operation of program see W. Dixon (ed.), Biomedical Computer Programms. Berkeley; University of California Press, 1967, p.49. See Appendices II & III for intercorrelation matrices.

5. Program used was BMD 03M factor analysis program, adapted for the CDC 6400. For details and operation of program see Dixon op. cit., p.169.

caused the deletion from this research of those 10 items with the lowest mean intercorrelations so that the factor analysis was performed on this remaining number.⁶ In the student sample this resulted in ten unrotated factors with per cent of total variance varying from 23.88 in the case of the first factor, to 6.7% in the case of the tenth. However as it was decided beforehand that any factor exhibiting less than 8% of the variation would be dropped from rotation. This was not in fact a purely arbitrary decision as it was decided that as such factors contribute so little to the total variation there is a high probability that they are there incidentally and are not significant independent factors. Indeed, as in the final three factors only two items per factor had a loading of over .30 and were in fact almost identical in loading to other loadings within other factors the role of coincidence becomes more feasible. So that after the principal unrotated factors were examined, in the case of the student sample, seven were retained for orthogonal rotation.

For the City Council sample, the unrotated factors, illustrated similar findings with per cent of total variance ranging from 23.57 to 3.30, though only 9 principal component factors were extracted by the computer.

To keep parity with the student population it was also decided to retain seven factors for orthogonal rotation. Within the retained factors such low range within the distribution and such relatively low variance percentages accounted, for, throughout both samples, would tend to indicate that one has not isolated several discrete, and possibly interrelated dimensions.

6. H. Harman, p.382

and further evidence for this will be advanced as the research proceeds. Having therefore successfully defined the most general pattern of relationships in the data the task at hand then became to delineate what would be the most distinct clusters of relationships, as a means of probing the relationship between dogmatism and alienation. Indeed only by noting these clusters and the relationships that are exhibited between them can one ultimately define or examine the hypothesized relationship between the two major concepts. These clusters are only observable through totation, so that for both samples, the remaining seven factors were related to orthogonal simple structure.

This subsequent rotation resulted in lower variance figures for the student sample from a high of 18% to a low of 5% and alightly higher ones, at the tope of the range, for the Council sample from a high of 19% to a low of 7%

In the case of the former sample these uniformly low figures also tend to support the contention that several discrete dimensions have not been isolated, though the fact that items which load highly on one dimension do not load highly on others, could be considered as evidence for discrete dimensions. Further evidence for discreteness could be indicated by the fact that, in general, correlations among items within groups are higher than correlations between items of different groups.⁷ However given that the correlations within groups are lgenerally only moderate (see Tables 1a and 1b) and given the low amount of variance explained by each factor, where variance is essentially a summary of the factor loadings, it would seem that the evidence for discreteness is not provided. So that one cannot conclude on the basis of the above evidence that discrete dimensions have been isolated here.

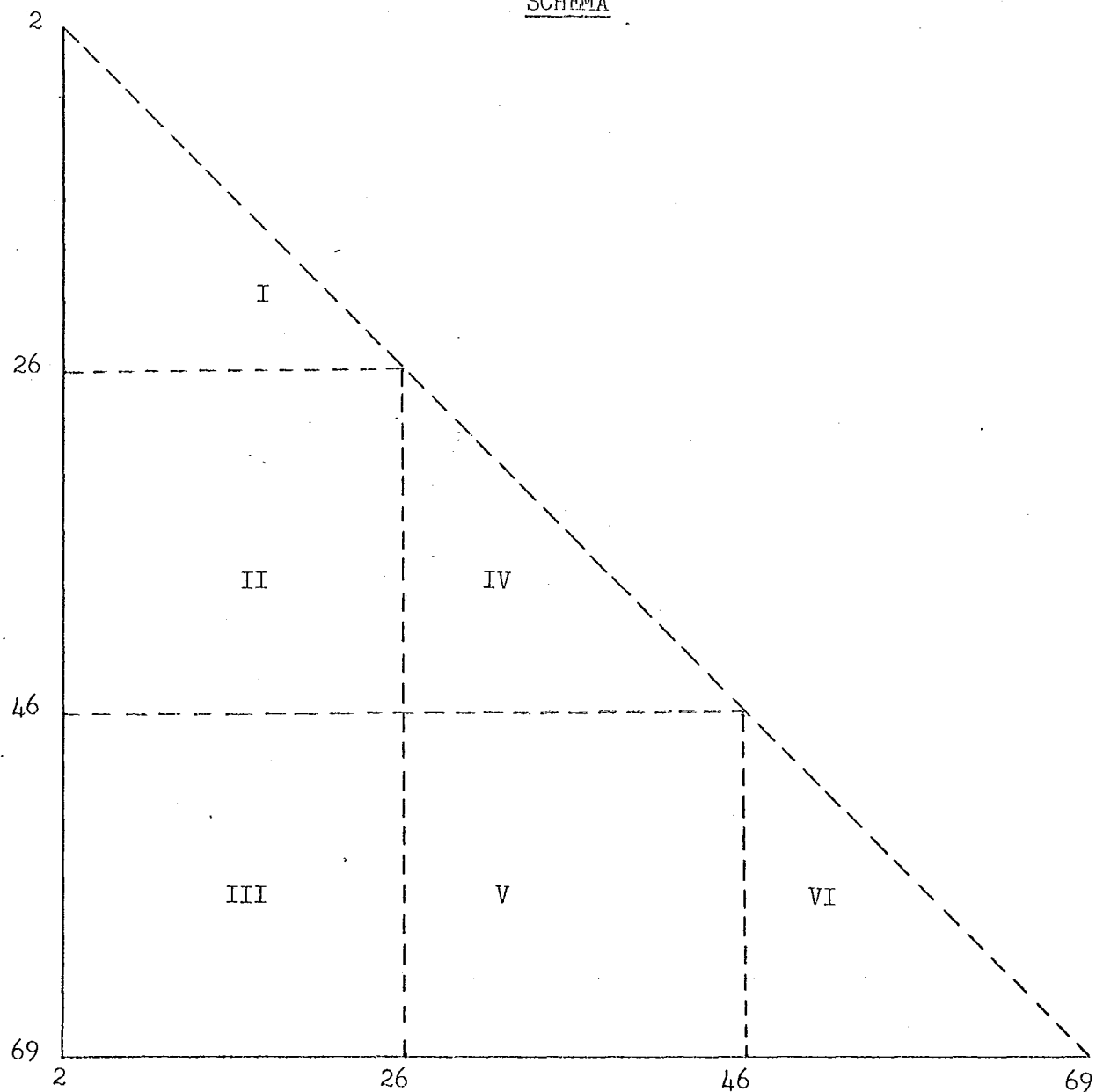
7. See R.B. Cunningham, "Bi-Dimensional Alienation in Middle-East", p.2

FACTORS

To define the factors only items with a loading of .30 or greater were utilised (see table IIa and Table IIb). Within the student sample the following factors thus resulted. Factor I, is composed of a syndrome of traits reflecting aspects of an individual's perception of his polity, and his own position within it. It reflects a respondents general opinion about the political system and politicians and his own distrust, almost suspicion, of people in power positions. For these reasons this factor is seen as a strong component of alienation and is named cynicism. Factor II exhibits a very strong dogmatism component and is saturated with items from Rokeach's scale, notably those which demonstrate that type of insecure feeling which had an underlying authority need. There is a strong air of insecurity manifest in these items which reflects itself in a respondent's inclination to a belief in strong ruling figures-leaders and parents notably. This factor can be termed deference. Factor III also contains a major proportion of items from Rokeach's scale but those which reflect general intolerance and a belief in one's own cause above all others, and was named intolerance. Factor IV exhibits a respondent's concern for power and status, concomitant with a strong dogmatic component and rejection of views not in accord with a respondent's own. This factor was in fact named power-esteem. Factor V was composed of a series of items reflecting what would be a person's total insecurity; it manifests a sense of personal powerlessness, distrust of other people and a general pervasive social and personal disorientation. From these features, it was decided to name this factor powerlessness, where this concept is assumed to mean a sense of impotence in the individual's role in the running of the society, a perceived lack of power in community affairs. Factor VI is comprised primarily of items from the dogmatism scale and appears to reflect a rigid belief in the correctness of one's own beliefs and action. It essentially

TABLE Ia

INTER-CORRELATION MATRIX: STUDENTS: 60 ITEMS

SCHEMA

ITEM NUMBERS ARE ITEM NUMBERS ON QUESTIONNAIRE

ITEMS UTILISED -- 2, 4, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 21, 22,
 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39,
 40, 41, 42, 43, 44, 45, 46, 47, 49, 50, 51, 52, 54, 55, 56, 57, 59,
 60, 61, 62, 63, 64, 65, 66, 67, 68, 69.

Decimal points omitted.

TABLE Ia: SECTION I

	2	4	6	7	8	9	10	11	15	16	17	18	19	20	21	22	23	24	25	26
2	1.00																			
4	26	1.00																		
6	07	-16	1.00																	
7	03	31	20	1.00																
8	30	-06	-02	-06	1.00															
9	15	28	-00	17	04	1.00														
10	26	16	15	-04	16	02	1.00													
11	18	-05	11	02	23	30	31	1.00												
15	-27	19	11	04	07	-00	-05	16	1.00											
16	12	09	02	33	11	15	10	11	17	1.00										
17	04	-28	01	28	07	08	19	12	-06	-01	1.00									
18	17	-10	28	26	07	-13	-07	-06	-10	23	-10	1.00								
19	-08	11	10	26	-10	13	11	02	16	06	-13	21	1.00							
20	27	02	28	15	17	07	18	21	05	01	10	09	-10	1.00						
21	21	-07	27	16	27	10	11	35	06	28	10	27	-14	52	1.00					
22	-07	01	06	01	-12	03	-14	-14	07	04	01	08	-21	28	03	1.00				
23	-11	-05	01	07	-16	18	-02	01	-20	12	12	05	-09	17	09	05	1.00			
24	05	10	13	13	-18	23	02	-14	-01	10	-12	14	28	14	-21	51	-02	1.00		
25	-16	-10	00	05	-05	-18	-20	07	-02	-03	-26	27	-04	17	12	33	14	25	1.00	
26	06	-03	-08	06	12	03	20	-17	-10	-08	28	08	-20	03	-20	36	09	26	07	1.00

TABLE Ia: SECTION II

	2	4	6	7	8	9	10	11	15	16	17	18	19	20	21	22	23	24	25	26
27	16	14	16	19	-05	01	23	12	02	38	-08	10	-02	00	22	-10	22	-06	10	-04
28	07	05	09	04	12	-00	-11	10	-02	25	-14	24	12	-04	21	02	21	20	02	-22
29	-07	03	02	19	-15	14	-02	-08	-06	44	-14	35	11	04	-04	09	12	32	07	06
30	17	-07	-03	-09	-00	14	-04	-014	07	10	15	-01	-13	-08	-03	22	17	11	07	10
31	-08	-13	-10	-01	03	19	15	23	06	05	24	-10	-20	11	05	29	15	12	-11	33
32	16	-04	-15	-01	23	14	25	11	11	04	38	-14	24	02	01	-24	11	03	-19	18
33	03	-28	07	-03	14	-14	10	14	11	-01	01	03	-02	08	11	06	11	07	21	13
34	35	17	13	-09	04	-21	13	15	07	07	-10	-04	06	07	13	-24	02	-14	10	37
35	10	-05	16	05	28	-09	03	20	-04	29	28	17	-12	23	40	03	12	02	09	33
36	16	-08	19	11	21	-03	18	17	-05	39	10	20	21	-01	31	-06	06	07	15	49
37	02	-10	25	28	07	04	16	21	-24	-07	03	07	22	-06	24	-08	04	06	26	29
38	-11	-12	00	05	15	19	34	27	33	05	20	-36	-01	15	02	05	05	14	-00	18
39	-00	-03	03	02	04	09	-09	22	-08	-19	-03	-01	16	-13	-08	-21	-21	-16	11	-15
40	14	-03	00	20	02	13	05	26	05	07	03	01	-03	-21	08	-03	-03	-06	03	25
41	19	-12	00	21	01	26	04	27	-09	13	02	10	10	09	27	17	03	21	21	25
42	-28	-20	05	10	01	03	-15	-17	-15	-02	-18	05	09	05	-01	-10	-13	-02	09	-30
43	16	10	-16	15	11	24	-01	-10	-30	11	-11	15	05	08	13	26	08	14	-06	-07
44	09	02	10	34	-08	15	17	05	01	12	-18	16	24	-04	10	-01	33	18	14	17
45	24	-10	-04	23	16	20	-10	-09	-26	18	-14	15	-11	00	10	07	18	16	22	08
46	03	09	07	10	11	14	-05	11	06	28	-07	07	-14	18	25	12	24	17	33	09

TABLE Ia: SECTION III

	2	4	6	7	8	9	10	11	15	16	17	18	19	20	21	22	23	24	25	26
47	12	09	-05	26	13	08	-03	-05	-00	09	-25	01	06	-13	06	-14	-22	-05	14	-30
49	05	10	05	38	02	33	05	-05	-09	32	-28	24	29	-05	25	19	01	15	00	-27
50	10	-10	32	14	-00	08	-10	16	-01	10	-04	15	05	06	11	10	-06	07	26	-08
51	08	-02	05	35	-01	30	-20	06	-00	28	-07	01	19	09	20	10	10	20	15	-30
52	27	18	28	16	27	21	00	33	-08	25	-06	04	-06	13	37	21	-07	11	02	-11
54	11	-01	16	27	12	06	-02	22	14	31	07	18	-26	-13	-01	-04	-21	09	01	-11
55	-04	08	08	09	07	21	-00	-03	02	-08	-08	-30	-02	02	-10	05	-07	06	-33	04
56	14	13	-12	40	06	07	01	09	-02	41	-29	25	12	-11	17	12	02	11	20	-20
57	00	07	-16	15	-07	-15	-15	03	-02	-12	-24	-01	13	-18	-19	-03	-28	08	13	-11
59	10	-11	20	30	-06	24	05	-00	-20	30	-10	32	22	-02	13	-01	04	10	02	-19
60	12	03	-23	11	16	17	05	17	-04	17	-11	07	09	-02	-04	07	-01	18	-04	-13
61	-02	09	-19	12	22	35	-16	30	16	11	-02	08	16	10	00	-11	-02	06	02	-08
62	23	14	07	32	09	37	-26	14	11	14	-04	19	14	24	25	21	13	29	22	-22
63	21	09	-13	17	00	29	20	-15	-28	18	-04	13	07	-10	-04	02	04	08	-14	21
64	10	14	-11	22	19	18	15	11	-38	21	-03	-04	-25	-10	08	-00	10	-02	15	-20
65	20	13	-04	46	16	25	-02	14	-04	34	-22	-05	05	-05	11	-08	02	08	17	02
66	28	-00	10	34	16	05	26	26	07	28	15	28	04	06	25	20	00	01	11	20
67	05	-21	-11	16	16	40	-05	04	00	32	-14	06	-04	-01	19	10	03	18	03	-15
68	-02	-08	01	02	31	-10	-09	08	07	-01	-11	-02	02	19	13	15	-12	-03	-05	-04
69	09	-10	05	10	15	19	-09	11	-18	07	06	13	07	-18	-01	10	-12	-01	-01	03

TABLE Ia: SECTION IV

	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
27	1.00																			
28	17	1.00																		
29	12	12	1.00																	
30	11	27	27	1.00																
31	33	07	13	25	1.00															
32	18	-10	06	03	18	1.00														
33	13	02	-04	-08	16	15	1.00													
34	37	02	-20	-22	-13	17	06	1.00												
35	33	10	31	08	09	12	03	16	1.00											
36	49	17	09	-08	-01	06	32	30	49	1.00										
37	29	-00	-13	03	14	18	03	07	23	35	1.00									
38	18	-02	-16	14	-12	25	15	14	13	05	35	1.00								
39	15	01	-06	-06	22	12	06	-09	02	-02	05	17	1.00							
40	25	15	09	13	-06	16	19	09	18	29	-02	18	46	1.00						
41	-15	-06	13	-01	-06	-08	27	-06	09	19	11	-19	09	01	1.00					
42	07	-16	07	-11	-08	-01	03	-16	08	16	23	03	-12	-09	-27	1.00				
43	17	17	13	-00	20	11	00	-07	06	08	23	07	06	04	-02	20	1.00			
44	08	10	04	-09	-15	09	08	-03	04	25	37	13	12	14	19	-03	23	1.00		
45	09	01	25	-04	-05	-03	23	-10	13	18	12	15	15	17	29	36	31	30	1.00	
46	17	21	35	24	14	22	13	10	14	05	23	09	01	18	18	-13	08	29	21	1.00

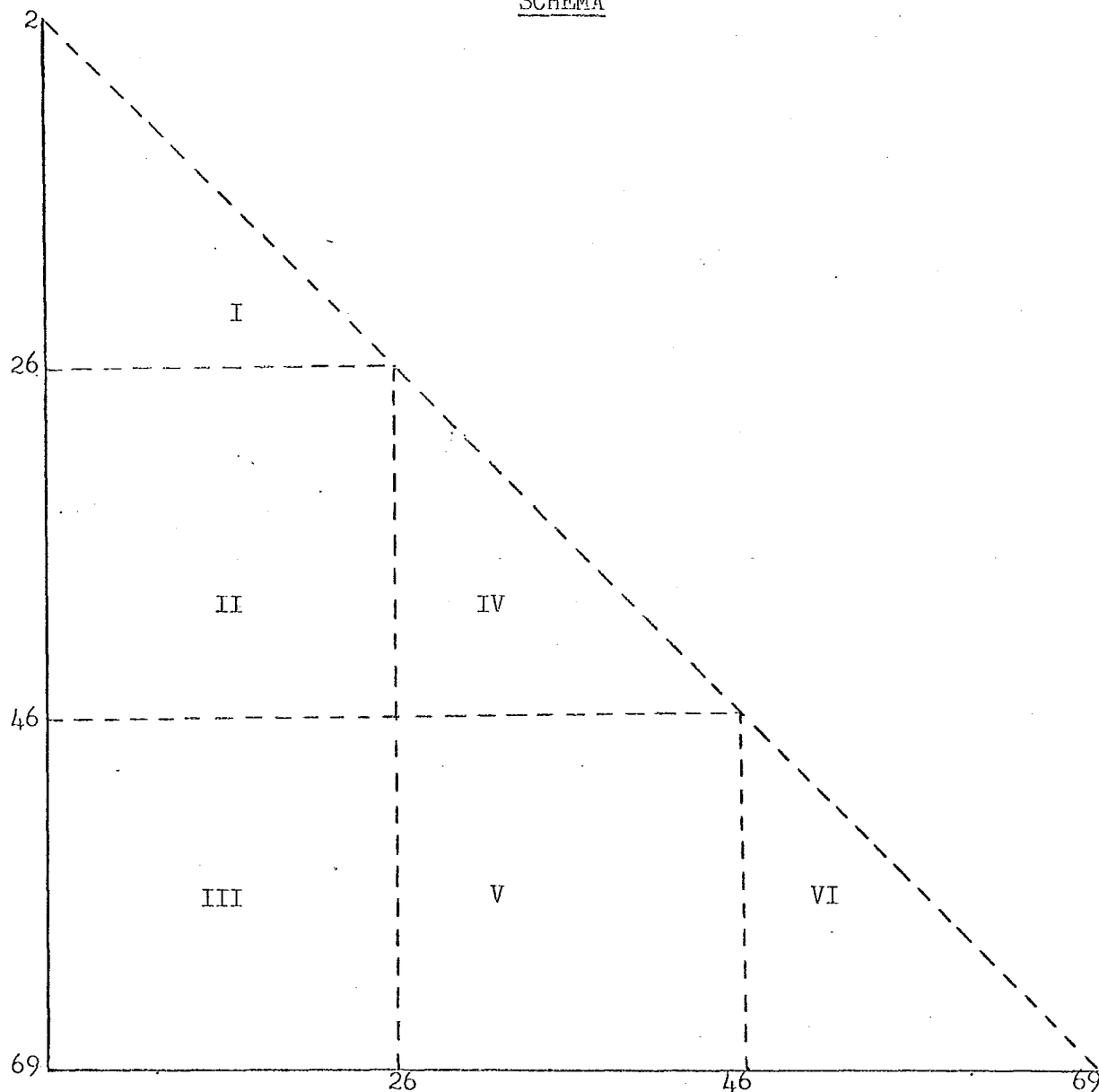
TABLE Ia: SECTION V

	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
47	11	-02	-01	12	-13	-13	13	22	01	10	04	16	-08	30	-03	21	19	10	22	-14
49	14	25	09	-09	-11	-08	-04	-06	03	25	28	-03	02	20	05	30	55	44	27	17
50	15	01	26	02	-13	05	27	02	27	12	23	19	10	06	28	22	16	05	35	25
51	-02	18	29	10	-08	18	27	-08	23	14	14	14	05	25	21	23	33	15	43	19
52	12	05	11	06	21	-14	15	05	22	31	16	-11	01	13	34	-11	06	04	17	25
54	07	07	28	-04	13	12	09	02	32	14	07	03	10	21	36	-14	01	15	15	24
55	03	-06	-18	-01	14	-12	19	-06	-05	19	09	06	-18	02	27	18	04	-04	-03	-09
56	11	21	15	-10	-06	08	06	04	-05	33	20	-19	16	37	11	04	40	32	40	18
57	-30	03	-08	-22	-24	-24	19	-12	-23	03	06	-08	23	15	14	-09	07	15	13	06
59	-02	-04	21	-08	-21	17	12	08	00	03	04	-04	08	16	26	23	23	24	27	09
60	-06	27	20	04	13	-03	08	-06	05	11	-08	04	-11	16	13	-06	36	23	23	08
61	12	20	28	19	15	04	-08	-07	18	-07	-04	08	21	11	14	-08	16	-12	04	17
62	05	25	21	10	07	31	17	-07	17	01	02	07	21	39	11	-08	28	11	33	22
63	04	20	28	24	07	10	-04	-22	-20	-05	13	-01	20	24	02	02	41	14	36	24
64	34	-01	15	10	21	-03	02	03	12	20	34	05	-04	13	07	02	24	12	18	39
65	30	-02	20	-03	-02	15	18	15	09	08	23	25	19	30	30	09	18	20	40	34
66	21	-02	24	14	20	24	21	-08	23	14	40	17	09	21	21	-16	22	15	05	35
67	01	03	27	05	02	09	14	-20	14	11	07	04	02	06	21	35	47	34	46	23
68	-21	-11	-11	-20	-07	-30	04	-13	07	06	09	02	-13	-05	20	04	09	07	03	04
69	17	07	20	04	15	11	26	-04	08	15	26	-12	13	22	33	10	36	05	31	18

TABLE Ia: SECTION VI

	47	49	50	51	52	54	55	56	57	59	60	61	62	63	64	65	66	67	68	69
47	1.00																			
49	26	1.00																		
50	18	12	1.00																	
51	45	34	52	1.00																
52	00	11	23	10	1.00															
54	11	16	42	42	18	1.00														
55	-07	12	-07	08	08	-12	1.00													
56	27	59	-03	30	24	07	-09	1.00												
57	15	15	17	09	20	12	-08	43	1.00											
59	24	45	43	51	06	28	-01	18	-06	1.00										
60	36	34	-00	32	06	31	-08	47	21	-02	1.00									
61	18	-01	15	24	-12	38	-01	-02	02	-10	26	1.00								
62	23	24	21	63	07	38	-07	21	-10	32	11	39	1.00							
63	03	34	00	14	01	00	03	39	12	14	24	01	11	1.00						
64	08	18	06	05	23	18	08	16	-06	-08	09	17	02	31	1.00					
65	30	20	45	56	16	42	12	17	-01	41	02	27	38	26	45	1.00				
66	-00	25	36	22	21	38	-13	20	08	21	07	19	18	26	27	30	1.00			
67	27	46	20	44	04	25	08	23	-16	36	26	27	33	10	22	30	17	1.00		
68	-07	10	-07	03	13	20	34	11	25	-10	28	09	-13	-04	-03	-05	05	10	1.00	
69	-02	25	41	37	23	50	24	10	02	26	07	23	27	28	44	53	24	23	-05	1.00

TABLE Ib

INTER-CORRELATION MATRIX COUNCIL: 60 ITEMSSCHEMA

ITEM NUMBERS ARE ITEM NUMBERS ON QUESTIONNAIRE

ITEMS UTILISED --- 2, 4, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 21,
 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36,
 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49, 50, 51, 52,
 54, 55, 56, 57, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69.

Decimal points omitted

TABLE Ib: SECTION I

	2	4	6	7	8	9	10	11	15	16	17	18	19	20	21	22	23	24	25	26
2	1.00																			
4	04	1.00																		
6	32	-20	1.00																	
7	14	-25	48	1.00																
8	48	-46	56	30	1.00															
9	49	-08	32	61	56	1.00														
10	61	59	04	27	-01	36	1.00													
11	13	38	30	29	40	54	21	1.00												
15	18	-25	57	-15	26	-04	-46	07	1.00											
16	18	-65	23	30	25	-11	-23	-24	30	1.00										
17	-14	-45	29	14	33	06	-25	-26	25	20	1.00									
18	20	-83	35	61	57	37	-09	-26	-03	58	54	1.00								
19	23	22	56	64	25	73	26	72	21	-21	-17	-01	1.00							
20	-20	-16	44	01	27	-13	-39	39	72	54	12	-01	17	1.00						
21	24	-67	34	46	23	27	-26	-29	50	61	48	66	15	30	1.00					
22	-04	33	-11	09	28	32	23	69	-20	-14	16	-16	19	27	-27	1.00				
23	13	50	06	35	16	53	39	89	-09	-21	-20	-28	65	29	-18	81	1.00			
24	01	-55	60	78	30	24	-21	07	32	59	30	64	42	41	72	-16	06	1.00		
25	-18	22	13	54	09	31	24	59	-19	12	22	05	40	34	02	79	77	32	1.00	
26	17	-26	-10	41	-14	18	24	-43	-13	44	49	51	-11	-15	67	-00	-07	33	29	1.00

TABLE Ib: SECTION II

	2	4	6	7	8	9	10	11	15	16	17	18	19	20	21	22	23	24	25	26
27	18	-14	29	68	61	69	31	55	-24	17	36	51	42	11	16	70	61	36	76	30
28	-22	16	30	34	-06	-24	24	01	-12	12	48	14	-02	17	01	28	15	37	58	31
29	-00	46	-04	70	23	32	15	-05	-47	54	29	74	-01	-09	40	25	13	50	53	63
30	-11	10	41	84	04	47	17	57	-07	07	-14	14	81	20	18	22	60	65	66	09
31	12	-27	-11	31	22	38	-13	18	18	26	32	30	19	27	59	38	42	43	37	48
32	01	32	08	29	29	27	24	76	-03	01	05	-12	35	45	-15	88	87	18	83	-03
33	31	-58	-04	15	08	06	-74	03	37	28	00	22	15	34	49	-19	-04	52	-10	-07
34	29	-28	-20	28	09	-06	25	-17	-28	74	-03	42	-33	16	31	14	05	28	28	53
35	-48	-42	-33	-06	-46	-66	-34	-84	25	37	21	30	-68	-23	21	-52	-72	18	-25	37
36	07	-44	-06	72	33	47	18	04	-46	39	29	74	09	-17	40	30	23	50	49	59
37	-11	38	-21	36	-52	-03	29	12	-16	07	-14	-21	25	11	18	22	49	31	54	46
38	-08	-11	68	70	34	41	01	56	20	30	20	28	65	49	23	34	46	60	70	05
39	26	00	-11	42	13	30	27	26	-06	32	15	22	18	25	41	49	57	40	57	54
40	12	-28	-11	53	40	52	30	13	52	23	41	62	01	22	20	55	31	18	57	55
41	12	-48	87	67	56	40	-20	23	44	27	29	57	59	31	49	-23	-01	81	09	-05
42	08	75	-20	-26	-09	17	40	47	-09	-69	-00	-59	22	-08	-44	62	63	-46	32	-13
43	50	40	-15	05	-56	-17	-02	00	-27	-65	-32	-40	26	41	36	-28	01	-01	-10	30
44	-55	-29	-24	-47	08	-19	-82	05	35	-07	32	-15	-24	34	00	25	-05	-17	-04	-28
45	09	29	55	39	34	38	-47	50	58	08	-04	11	70	51	36	-05	27	60	11	-30
46	31	-22	58	29	30	46	15	-16	23	-08	40	41	33	-27	33	-34	-29	14	-20	21

TABLE Ib: SECTION III

	2	4	6	7	8	9	10	11	15	16	17	18	19	20	21	22	23	24	25	26
47	58	34	-41	01	05	37	68	12	-35	04	-24	-09	01	-22	-01	39	41	-36	22	44
49	-39	-10	-21	-13	22	07	-44	46	12	07	28	-09	-03	50	-03	76	49	-03	54	-09
50	-38	-16	19	17	21	29	-58	61	41	-01	03	-10	51	55	14	36	47	30	37	-32
51	-32	-56	32	13	72	22	-35	14	02	01	15	49	03	-04	-05	-09	-22	22	-23	-47
52	-12	00	-37	08	-02	11	24	-24	-75	-50	00	22	-18	-87	-34	-10	-20	-22	-22	-00
54	19	-39	-33	15	18	04	24	-39	-67	30	-05	55	-47	-52	-03	-12	-34	-08	-16	27
55	-17	-34	-12	-39	34	-08	-63	23	44	30	21	-04	-24	63	11	42	12	-07	09	-22
56	56	-68	-24	-17	02	-24	-92	-24	28	37	30	24	-34	33	38	-07	-29	22	-09	03
57	70	-08	37	48	23	26	47	00	16	38	-11	34	29	11	48	-23	10	53	-02	34
59	21	-28	88	32	76	34	-20	52	61	19	25	28	51	60	48	06	-36	64	-07	-07
60	26	-21	41	45	-08	-00	-00	-15	44	46	00	25	31	32	19	12	52	15	42	25
61	27	-48	-24	12	09	19	-22	-01	09	54	-40	26	-02	15	44	-23	-06	22	-23	13
62	-04	-73	07	61	47	52	-34	15	-05	43	16	71	26	08	54	07	12	62	21	23
63	-15	-49	-30	49	24	43	-19	12	-35	26	12	54	09	-09	35	29	26	39	34	34
64	-59	-51	-21	-24	-15	-41	-90	-25	42	39	32	06	-34	49	39	-04	-23	23	-01	07
65	-16	04	34	21	14	04	-29	54	56	22	19	-13	41	82	29	44	57	51	57	-04
66	37	16	-36	14	02	17	44	12	-24	21	00	06	-08	05	18	47	47	05	39	50
67	23	03	-17	45	39	52	42	48	-47	13	07	30	17	-01	01	76	67	12	68	31
68	-05	34	-23	-39	13	15	-16	54	23	-47	-06	-50	18	25	-26	56	54	-32	13	-40
69	12	-44	22	88	40	55	24	11	-41	38	25	80	29	-16	40	18	20	62	48	50

TABLE Ib: SECTION IV

	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
27	1.00																			
28	34	1.00																		
29	70	32	1.00																	
30	51	30	39	1.00																
31	41	05	39	22	1.00															
32	67	45	28	45	48	1.00														
33	-10	-34	08	22	56	-03	1.00													
34	32	23	71	03	33	26	-03	1.00												
35	-37	26	32	-24	-12	-47	15	34	1.00											
36	75	25	95	39	55	35	17	63	19	1.00										
37	10	43	27	52	49	45	11	35	10	29	1.00									
38	63	36	36	78	03	43	04	01	-31	27	11	1.00								
39	51	33	52	33	86	68	20	61	-11	63	71	10	1.00							
40	86	25	86	21	42	41	-14	52	-01	89	09	27	51	1.00						
41	33	19	17	55	10	02	35	-16	-13	21	-15	64	-02	01	1.00					
42	15	17	-36	-03	23	55	-33	-32	-58	-20	31	-17	31	-02	-39	1.00				
43	-36	10	-31	32	-19	-14	15	-53	15	-23	32	-14	-22	-41	04	21	1.00			
44	-11	-27	-25	-30	25	05	52	-36	-01	-21	-30	-08	-15	-11	-12	09	-10	1.00		
45	13	-21	-13	58	28	15	71	-37	-37	-04	-01	54	01	-23	74	-16	19	30	1.00	
46	13	-08	-04	05	-27	-48	-26	-40	-16	-05	-44	28	-41	06	49	-21	-10	-22	14	1.00

TABLE . Ib: SECTION V

	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
47	28	-19	26	-09	27	24	-40	49	-31	29	31	-20	49	45	-56	35	-41	36	-50	42
49	41	03	15	05	49	63	34	03	-24	18	05	24	33	32	-15	31	-29	77	22	-44
50	24	-21	-07	47	36	38	66	-35	-40	-02	02	52	07	-06	36	06	08	65	82	-12
51	24	-17	10	-05	-09	-07	30	-17	-07	19	-68	10	-23	15	54	-33	-06	23	36	13
52	09	01	23	-13	-10	-18	-15	-09	25	36	-13	-42	-09	35	-13	09	43	-20	-37	05
54	22	-09	63	-24	-12	-22	-20	61	42	59	-24	-26	03	58	-19	-45	-31	-34	-55	-03
55	09	-29	-08	-30	34	28	42	05	-19	-08	-30	05	09	04	-12	01	-55	83	25	-34
56	-13	-26	14	-16	35	-14	77	02	40	11	-15	03	-02	01	05	-41	-15	81	33	-24
57	13	18	23	26	35	12	03	48	-06	31	39	03	56	05	37	-10	-12	-69	09	05
59	21	12	19	50	16	-37	37	14	-10	33	02	28	18	-24	82	-11	-73	11	69	34
60	68	-45	-06	75	-03	35	-14	22	10	39	37	-05	39	26	50	-28	13	-39	39	03
61	-07	-65	28	03	35	-18	58	48	08	28	03	-12	24	07	-01	-51	-32	04	25	-23
62	52	-22	67	41	56	13	69	30	05	-74	-01	34	35	54	47	-45	-18	19	50	02
63	54	-12	74	33	68	30	57	42	12	34	24	12	56	69	10	-17	-08	19	21	-26
64	-23	-08	02	-15	38	-05	71	02	41	-03	04	-02	06	-15	-01	-29	-11	79	31	-34
65	25	36	-03	47	56	68	44	00	-30	01	47	49	52	-10	33	28	-02	33	60	-34
66	36	21	42	03	70	57	-03	67	-08	52	62	-21	91	48	-36	40	-28	-23	-33	-50
67	84	21	69	32	55	75	-08	56	-29	78	32	24	74	85	-09	30	-33	-15	-14	-30
68	-04	-22	-44	-11	45	51	26	36	-59	-24	07	-20	27	-13	-24	75	08	58	26	-41
69	78	29	92	56	34	26	10	50	12	94	18	49	44	81	45	-34	-16	-37	10	19

TABLE Ib: SECTION VI

	47	49	50	51	52	54	55	56	57	59	60	61	62	63	64	65	66	67	68	69
47	1.00																			
49	01	1.00																		
50	-34	69	1.00																	
51	-51	08	21	1.00																
52	00	-28	-41	38	1.00															
54	31	-24	-56	31	57	1.00														
55	-06	83	59	20	-48	-19	1.00													
56	-40	57	54	25	-19	-03	70	1.00												
57	27	-49	-35	-08	-07	12	-41	-43	1.00											
59	43	15	47	57	-38	-35	26	01	18	1.00										
60	-14	-39	-03	-21	-32	-24	-31	-04	79	19	1.00									
61	29	03	18	05	-20	33	29	41	28	-14	28	1.00								
62	-07	31	47	49	13	33	25	53	14	23	17	60	1.00							
63	17	43	34	27	31	41	22	47	06	-12	03	52	89	1.00						
64	-41	58	53	01	-38	-25	69	94	-37	-01	10	29	32	29	1.00					
65	-21	58	67	-13	-61	-69	43	25	15	49	41	-05	16	13	44	1.00				
66	71	23	-22	-37	04	21	05	-16	50	-33	22	23	13	43	-09	25	1.00			
67	-58	49	06	05	21	39	12	-14	21	-03	-17	14	45	67	23	18	73	1.00		
68	09	64	52	02	-09	-51	53	15	-23	11	-26	-08	-06	10	20	49	28	21	1.00	
69	14	-01	-00	29	32	54	03	03	35	14	18	20	73	70	-19	-03	27	65	-25	1.00

seems to manifest that type of attitude which holds self-sufficiency and personally enforced independence as uppermost and is thus termed obduracy. Factor VII contains a strong alienation component, in so far as it is concerned with a respondent's lack of belief in his own ability, which itself reflects a feeling that the world is hostile, not to say aggressive, and thwarting to the individual's will. This factor like factor V to which it appears similar, also illustrates powerlessness but more especially insecurity and for this reason was termed insecurity. A noticeable feature within these factors was the fact that within no one factor was there a pure distribution of either dogmatism or alienation items. Occasional items from one of the scales always appeared within a factor dominated by the other.

Factor I within the Council sample is composed primarily of those items from Rokeach's scale which are concerned with the propriety and correctness of one's own beliefs. As a general dimension it reflects a certain overall similarity to Factor III of the Student sample, but it loads highly on different items. More particularly it contains a strong cynicism component from the alienation items, however the factor was ultimately named intolerance. Factor II loads highly on those items which are widespread in Factor I of the Students sample and reflects much the same traits and was termed cynicism. It is worth noting here however, that some of the items which comprised the cynicism component in Factor I of the students still remain in Factor I in the Council sample but are there dominated by dogmatism items. Factor III reflects those dogmatism items which one would consider to be concerned with irrationality. It illustrates that type of attitudinal syndrome which manifests itself in the unreasonable rejection of arguments opposed to one's own creed, as well as portraying a deep belief in the sagacity and correctness of the actions

TABLE .IIa: FACTOR LOADINGS STUDENT SAMPLE

Only loadings over .30 used to define a factor. Item numbers are item numbers in original questionnaires
Decimal points omitted.

ITEMS	FACTORS						
	CYNICISM	DEFERENCE	INTOLERANCE	POWER-ESTEEM	POWERLESSNESS	OBDURACY	INSECURITY
7	<u>37</u>	12	28	20	23	08	02
15	<u>-5½</u>	02	18	12	28	00	-18
38	<u>40</u>	23	-05	-08	<u>30</u>	<u>-31</u>	07
43	<u>64</u>	03	04	14	15	-02	-10
44	<u>40</u>	19	23	19	02	07	05
45	<u>58</u>	-01	06	15	20	13	28
49	<u>63</u>	11	<u>39</u>	24	08	10	-06
56	<u>52</u>	22	<u>38</u>	23	06	<u>34</u>	-29
63	<u>67</u>	-04	16	-01	15	-04	-25
64	<u>53</u>	<u>32</u>	<u>-30</u>	-08	13	-05	-06
67	<u>43</u>	-06	12	19	<u>38</u>	-07	20
2	17	<u>45</u>	-06	-02	07	13	-07
8	01	<u>47</u>	-11	-18	19	11	07
10	08	<u>47</u>	-20	-17	-11	-17	-05

TABLE IIIa: CONTINUED

ITEMS	FACTORS						
	CYNICISM	DEFERENCE	INTOLERANCE	POWER-ESTEEM	POWERLESSNESS	OBDURACY	INSECURITY
11	-24	<u>54</u>	-04	-09	<u>38</u>	14	-02
21	-03	<u>60</u>	05	<u>34</u>	01	04	18
27	20	<u>58</u>	06	13	-01	<u>-43</u>	07
34	-18	<u>54</u>	28	-13	-12	-10	-16
35	-13	<u>48</u>	05	27	17	-17	22
36	18	<u>61</u>	23	15	-08	01	17
37	<u>36</u>	<u>43</u>	07	10	-01	-04	<u>30</u>
52	09	<u>46</u>	-14	20	11	<u>40</u>	05
66	20	<u>40</u>	-18	17	<u>36</u>	05	09
17	-21	15	<u>-45</u>	-15	10	08	12
19	01	04	<u>46</u>	02	17	01	-01
26	12	-14	<u>-74</u>	10	-10	06	-02
31	05	20	<u>-55</u>	10	20	22	-28
47	20	04	<u>50</u>	-06	22	03	-03
16	19	<u>33</u>	16	<u>43</u>	20	-12	-15
18	16	11	20	<u>52</u>	-10	08	12

TABLE IIa: CONTINUED

ITEMS	FACTORS						
	CYNICISM	DEFERENCE	INTOLERANCE	POWER-ESTEEM	POWERLESSNESS	OBDURACY	INSECURITY
20	-26	27	-21	<u>40</u>	-01	03	13
22	07	-16	<u>-40</u>	<u>58</u>	02	22	04
24	13	-20	-13	<u>51</u>	18	09	01
25	01	01	19	<u>44</u>	-02	15	29
28	05	06	21	<u>43</u>	09	-09	-28
29	22	-08	-03	<u>50</u>	<u>31</u>	-13	-04
46	18	25	-16	<u>37</u>	<u>31</u>	-02	-01
9	28	-02	-13	-03	<u>50</u>	-12	-15
39	07	-02	15	<u>-30</u>	<u>-32</u>	10	02
40	18	<u>30</u>	15	-13	<u>41</u>	-02	-15
51	26	-04	<u>32</u>	23	<u>63</u>	01	<u>30</u>
54	-01	16	16	07	<u>63</u>	22	18
61	-10	-03	02	05	<u>68</u>	-01	-22
62	11	-01	21	<u>34</u>	<u>62</u>	-13	05
65	<u>40</u>	20	09	-07	<u>57</u>	-03	22
69	<u>43</u>	08	-16	-10	<u>46</u>	09	<u>31</u>

TABLE IIa: CONTINUED

ITEMS	FACTORS						
	CYNICISM	DEFERENCE	INTOLERANCE	POWER-ESTEEM	POWERLESSNESS	OBDURACY	INSECURITY
23	14	07	-14	<u>34</u>	-08	<u>-36</u>	-01
30	02	-13	-28	27	23	<u>-32</u>	-17
32	-02	20	-01	-19	<u>34</u>	<u>-52</u>	05
41	11	13	-23	16	<u>33</u>	<u>50</u>	<u>32</u>
57	11	-08	24	-12	07	<u>70</u>	-12
68	-04	12	-06	01	-01	<u>58</u>	03
4	-05	06	09	04	09	06	<u>-56</u>
6	-18	28	03	28	-08	-06	<u>41</u>
33	01	21	-04	03	18	16	<u>40</u>
42	<u>33</u>	-18	<u>33</u>	-06	-11	-22	<u>42</u>
50	09	09	11	15	<u>42</u>	06	<u>61</u>
57	<u>35</u>	-04	<u>31</u>	14	25	-08	<u>43</u>
59	25	05	16	14	<u>30</u>	<u>34</u>	<u>-38</u>

TABLE IIb FACTOR LOADINGS COUNCIL SAMPLE

Only loadings over .30 used to define a factor. Item numbers are item numbers in original questionnaires
Decimal points omitted.

FACTORS.

ITEMS	INTOLERANCE	CYNICISM	POWER-ESTEEM	INSECURITY	DEFERENCE	POWERLESSNESS	OBDURACY
7	<u>65</u>	-22	06	<u>62</u>	27	-22	07
9	<u>47</u>	-29	<u>40</u>	<u>46</u>	-11	10	- <u>41</u>
15	- <u>56</u>	<u>34</u>	-05	<u>51</u>	28	<u>43</u>	-08
18	<u>76</u>	04	- <u>41</u>	<u>35</u>	06	<u>31</u>	03
27	<u>73</u>	-11	<u>52</u>	<u>32</u>	-05	21	20
29	<u>94</u>	01	-03	01	24	03	18
36	<u>97</u>	-01	-08	-04	-21	-01	-02
40	<u>91</u>	-09	26	-10	-05	20	16
54	<u>70</u>	-25	- <u>38</u>	- <u>39</u>	-17	18	-12
62	<u>75</u>	<u>41</u>	-02	<u>35</u>	08	01	- <u>37</u>
63	<u>83</u>	<u>38</u>	17	-03	13	-14	- <u>30</u>
67	<u>73</u>	-13	<u>62</u>	-13	12	14	-01
69	<u>93</u>	15	02	<u>31</u>	12	-05	07
2	02	- <u>65</u>	07	13	23	<u>56</u>	- <u>42</u>
10	14	- <u>93</u>	29	-13	10	-01	05

TABLE IIb: CONTINUED

ITEMS	FACTORS						
	INTOLERANCE	CYNICISM	POWER-ESTEEM	INSECURITY	DEFERENCE	POWERLESSNESS	OBDURACY
20	-29	<u>46</u>	29	<u>40</u>	<u>42</u>	<u>40</u>	16
33	13	<u>75</u>	-09	28	26	-19	- <u>46</u>
44	-17	<u>89</u>	17	-10	- <u>30</u>	14	-02
49	15	<u>71</u>	<u>64</u>	-10	-08	20	13
50	-05	<u>68</u>	<u>47</u>	<u>48</u>	-07	-13	-17
55	-08	<u>76</u>	<u>31</u>	-09	-07	<u>54</u>	-10
64	-06	<u>95</u>	-15	-07	22	05	07
4	- <u>49</u>	- <u>49</u>	<u>54</u>	-27	-03	- <u>36</u>	14
11	-01	-04	<u>86</u>	<u>42</u>	-12	-03	-03
22	26	09	<u>90</u>	-12	-08	17	25
23	12	-11	<u>94</u>	17	16	-13	-04
25	<u>40</u>	04	<u>68</u>	18	23	-11	<u>49</u>
32	23	06	<u>87</u>	09	21	04	24
35	21	26	- <u>74</u>	- <u>35</u>	20	-22	<u>32</u>
42	-28	-21	<u>78</u>	-25	-08	-12	09
65	-17	<u>45</u>	<u>54</u>	<u>41</u>	<u>49</u>	01	19

TABLE IIB: CONTINUED

ITEMS	FACTORS						
	INTOLERANCE	CYNICISM	POWER-ESTEEM	INSECURITY	DEFERENCE	POWERLESSNESS	OBDURACY
68	<u>30</u>	<u>34</u>	<u>74</u>	-13	-11	02	-28
6	-11	-20	-06	<u>91</u>	03	27	21
19	02	-24	<u>45</u>	<u>75</u>	08	-28	-22
24	<u>39</u>	19	-17	<u>71</u>	<u>50</u>	-07	10
30	<u>31</u>	-08	<u>33</u>	<u>63</u>	27	-49	07
38	23	04	29	<u>75</u>	06	01	<u>35</u>
41	17	04	18	<u>95</u>	03	03	02
45	-10	<u>42</u>	16	<u>81</u>	07	-15	-32
46	03	-37	-36	<u>51</u>	-31	20	05
47	24	-48	<u>39</u>	-50	28	26	-26
59	-09	10	16	<u>86</u>	-14	<u>37</u>	06
16	<u>31</u>	24	-33	15	<u>57</u>	<u>49</u>	08
21	29	22	-32	<u>38</u>	<u>60</u>	28	-11
26	<u>51</u>	-14	-19	-16	<u>56</u>	11	24
31	<u>40</u>	<u>35</u>	<u>39</u>	03	<u>55</u>	09	-23
34	<u>55</u>	-09	-06	-31	<u>57</u>	<u>31</u>	05

TABLE IIB: CONTINUED

ITEMS	FACTORS						
	INTOLERANCE	CYNICISM	POWER-ESTEEM	INSECURITY	DEFERENCE	POWERLESSNESS	OBDURACY
37	10	-08	<u>33</u>	-12	<u>76</u>	<u>50</u>	16
39	<u>45</u>	01	<u>48</u>	-08	<u>70</u>	07	-03
51	<u>31</u>	22	-17	<u>41</u>	- <u>59</u>	13	-22
52	<u>47</u>	-27	-18	-29	- <u>48</u>	- <u>40</u>	-10
57	15	<u>50</u>	-09	28	<u>67</u>	13	-24
60	-06	-07	-28	<u>43</u>	<u>81</u>	-13	-10
66	<u>37</u>	-16	<u>45</u>	- <u>42</u>	<u>60</u>	14	-09
8	<u>35</u>	-01	18	<u>50</u>	-26	<u>64</u>	-17
43	-23	-04	-05	07	-13	- <u>93</u>	-02
17	28	27	-11	17	-03	<u>36</u>	<u>56</u>
28	15	-15	11	12	26	-11	<u>87</u>
61	27	25	-18	-06	<u>37</u>	16	- <u>74</u>

and words of those people considered superiors. For these reasons it was named power-esteem. Factor IV was named insecurity as it portrays a general feeling of apprehension concerning one's lot in society based primarily on suspicion of other people and of their motives. Factor V resembles Factor III within the student sample and both factors have a high proportion of common items. Here there is a strong belief in leaders, implying a reversed altruism in so far as there is a noticeably present feeling of the correctness of the sublimation of self within the serving of these leaders and of right causes. An authority need is dominant, so that this factor, like Factor II of the earlier sample was termed deference. Factor VI concerned a strong feature of personal disorientation and of powerlessness and was in fact termed powerlessness. Factor VII was weighted strongly with those dogmatism items indicating a desire to be independent, based on some feelings of personal insecurity, and a concern to obtain meaning to life and was in fact named insecurity. This fact must be assimilated, that across the samples when factors have the same titles they are so because of the attitudinal direction of the factor and not because they load on the same items, which indeed is generally not the case. Another point to be borne in mind here is one indicated earlier, that two samples are used in this research only in the hope that their respective results will substantiate each other. This is to note that the samples are not to be directly compared to each other, that this research may be viewed as two surveys in one, whose results hopefully will substantiate each other, insofar as similar results from both samples could be taken as evidence for both the validity and conclusiveness of the findings. The finding of similar dimensions and similar sets of correlation between these dimensions, in both samples, will be taken as indicators of the validity of these dimensions and as evidence for the conclusiveness of these finding. In this sense there

will be samples substantiate each other.

As a result of the defining of these factors within both samples one immediate problem has to be considered, if the above is not to be considered a severe linguistic tangle. Primarily this is the simple problem of nomenclature.⁸ Within both samples the factor analyses yielded surprisingly different results, in so far as within only a few factors was there ground for common definition across the samples as in only a few instances, noted during the defining of the factors, did factors within both samples yield the same items, and for the most part there was little items by item similarity from factor to factor, from sample to sample. However, though this was the case several factors still exhibited what could only be considered similar, if not identical, dimensions to others in the other sample, so that overall similarity was the point to note. This in fact meant that certain factors within both samples have identical names but they are not to be considered identical factors in terms of their items but only in terms of their attitude direction. It must be noted here that these factors are actually subdimensions of the major categories, dogmatism and alienation and that the combination of these constituent parts comprises the respective major categories. This is to say that these sub-dimensions are the constituent dimensions of the concepts upon which this research is based. 'Deference', 'Intolerance', 'Power-Esteem' and 'Obduracy' are the basic components of dogmatism which in combination comprise the measure of this concept. Likewise 'Cynicism', 'Insecurity' and 'Powerlessness' comprise the components of alienation and also in combination from the measure of this concept. In this research then the major hypotheses emanating from the underlying theory will be tested by indicating the degrees and strengths of any relationships between these constituent dimensions across the two major concepts as from these results

8 See R. Rummel, pp 470-177 on the naming of factors

the degree and strength of any relationship between dogmatism and alienation will hopefully become apparent.

From the factor loadings illustrated earlier and from the fact that correlations among items within groups were higher than those among items between groups, it was posited that there was a possibility that the dimensions isolated here were discrete. However, given the low percent variance explained by the factors and the fact that some items did have several high loadings on several factors and that some correlations between items in different groups were occasionally as high as those within groups, the discreteness of the dimensions was unproven and there seems indeed a possibility that they are not in fact discrete.

It therefore becomes of prime importance to determine whether the factors are truly orthogonal, i.e. uncorrelated, or oblique, i.e. correlated, as this essentially is the basis of this research. Indeed, one can only really prove orthogonality once obliquity has been tested and subsequently not proven,⁹ as only in this manner can the factors be found to be truly orthogonal or unrelated. "If the clusters of relationships are in fact uncorrelated, then oblique rotation will result in orthogonal factors. Therefore the difference between orthogonal and oblique rotation is not in discriminating uncorrelated on correlated factors but in determining whether this distinction is empirical or imposed on the data by model."¹⁰ The point then became to submit the data to oblique rotation

9. See D.S. Cartwright, "A Misapplication of Factor Analysis", American Sociological Review XXX (April 1965), pp. 249-251

10. R. Rummel, p. 476

RESULTS : FINDINGS

This¹¹ resulted in varying correlations between the seven factors of each sample, ranging from a high of .3826 to a low of .0064 in the student sample (Tables IV and V commencing on page) and from a high of .3859 to a low of .0092 in the case of the Council sample.

Within the student sample, this indicated that within the alienation items, cynicism is weakly positively related to powerlessness and inversely negligibly related to insecurity, and that powerlessness is itself moderately positively related to insecurity.

Within the Council sample the same low correlations were apparent within the factors though there were some variations in correlations compared to the student results (see TableV). Again initially concentrating on the alienation items, cynicism, was found to have negligible inverse correlations with insecurity, and powerlessness. Powerlessness was itself found to have a weak positive correlation with insecurity. In the case of the Council then, the found correlations within the alienation factors were extremely weak, negligible in most cases, and must question the obliquity of these factors.

Although the correlation perceived within the alienation items within the student sample ranged from moderate to negligible, they were still generally higher than those found within the dogmatism items. Here deference was found to correlate weakly with intolerance and negligibly with power-esteem and with obduracy. Intolerance itself correlated also weakly with power-esteem and negligibly with obduracy. The latter itself had a weak inverse correlation with power-esteem.

Within the Council as regards the dogmatism items, intolerance was found to have a negligible correlation with power-esteem but a weak

11 Program used was J.B. Carroll, Program for Generalized Analytic Rotation Solution in Factor Analysis.

TABLE III CORRELATIONS BETWEEN FACTORS: STUDENT SAMPLE

F A C T O R S	CYNICISM	DEFERENCE	INTOLERANCE	POWER-ESTEEM	POWERLESSNESS	OBDURACY	INSECURITY
CYNICISM	1.00						
DEFERENCE	0.06	1.00					
INTOLERANCE	0.12	0.12	1.00				
POWER-ESTEEM	0.35	0.06	0.20	1.00			
POWERLESSNESS	0.18	0.04	0.28	0.38	1.00		
OBDURACY	0.15	0.08	0.04	-0.15	0.073	1.00	
INSECURITY	-0.01	0.04	0.01	0.08	0.24	0.08	1.00

TABLE IV CORRELATIONS BETWEEN THE FACTOR: COUNCIL SAMPLE

F A C T O R S	INTOLERANCE	CYNICISM	POWER-ESTEEM	INSECURITY	DEFERENCE	POWERLESSNESS	OBDURACY
INTOLERANCE	1.00						
CYNICISM	0.17	1.00					
POWER-ESTEEM	0.06	-0.02	1.00				
INSECURITY	-0.05	-0.01	-0.06	1.00			
DEFERENCE	0.29	0.40	0.14	-0.29	1.00		
POWERLESSNESS	0.08	-0.02	-0.22	0.14	0.18	1.00	
OBDURACY	0.39	0.53	0.12	-0.14	0.76	-0.10	1.00

correlation with deference and a moderate correlation with obduracy. Deference itself was found to have a strong correlation with obduracy.

However when one comes to consider the question of a relationship across the factors between dogmatism and alienation the patterns of association occasionally are stronger than those within each set of items. Indeed within the student sample cynicism correlates moderately with power-esteem, weakly with intolerance and negligibly with deference and obduracy. Powerlessness, correlates moderately with power-esteem only slightly less strongly with intolerance and correlates negligibly with deference and obduracy. Insecurity is observed to have negligible correlations with all dogmatism factors.

Within the Council sample, across the major concepts cynicism correlates moderately with obduracy and deference and weakly with power-esteem. Insecurity is found to correlate weakly with deference and obduracy and powerlessness is found to be inversely weakly related to power-esteem and obduracy and weakly positively correlated to deference.

CONCLUSIONS

The problem of assessing these results in accordance with the theory is that the overall patterns of relationship within the sub-dimensions of each major concept and between these constituent dimensions across the categories are very weak. This in fact means that the findings may not be significant but merely the result of coincidence. This would tend to be substantiated by the fact that sometimes the correlations between the concepts were in specific cases stronger than those within the concepts. Indeed it becomes necessary to have some criteria by which a relationship may be assessed as proven or not so. For this research, here and in Chapter IV, a correlation of .35 (significant at .005 level) will be considered as significant for any findings among the Student sample and a correlation of .70 (significant at .005 level) will be considered as

significant for the Council. So that given the general findings of the factor analysis it may be advanced that in general, the majority of the correlations between factors within each major concept and between factors across the concepts, were found to be insignificant. Furthermore, so low are certain correlations, that given the fact that there is an extremely low probability of obtaining a 0 reading in the tables, such correlations are in fact indications of no correlation rather than of a weak one.

In general therefore it may be advanced that the alienation factors were not found to interrelate at this stage of the research.

Dogmatism in general manifested similar results, though within the Council sample deference correlated significantly with obduracy but within the Student sample all relationships between the dogmatism factors were insignificant. So that the general conclusion must be similar to that of alienation, that no interrelationship has been conclusively proven among the dogmatism factors.

Given the fact that across the concepts, in the case of the Student sample, power-esteem correlated significantly with cynicism and with powerlessness and in the case of the Council that no significant correlation were found, this cannot be taken as an indication that there is a possible underlying relationship between dogmatism and alienation. Si that hypothesis one of Chapter One is not substantiated by factor analysis; though of course, this does not mean that it is disproven, merely that available evidence cannot definitively solve the question, one way or the other.

As the evidence from this Chapter bearing on hypothesis one is so inconclusive, likewise one cannot make any conclusive statements concerning hypothesis two, at least until more evidence becomes available. However it is possible to make certain postulations here which are relevant for hypothesis two and which emanate directly from the findings of this chapter. As Table IV substantiates, significance aside, the actual correlations between

the two major categories tend to be higher in the case of the Council sample and do in fact imply that Converse's arguments concerning the low salience to students of certain matters, such as political questionnaires do have some empirical substance. However this does leave unanswered one question, which seems particularly important here. Given Converse's arguments, as earlier reiterated, why in fact were there markedly lower results in the cynicism factor in the Council sample than in the student one, results so low as to be almost negligible? Actually this may not in any way really disprove Converse's argument but rather paradoxically tend to uphold it. In the first instance, as they are politicians, cynicism or 'distrust of politicians' questions would presumably have a lower salience for them than for the students so that initially this dimension would not come through so strongly, in so far as they may be inclined to disguise their answers or even knowingly give a misleading response, so as not to cast aspersions on a group of which they are a part. The students, of course would not have any such misgivings about passing judgement on politicians. Secondly, this would be substantiated by the fact, that in the Council sample several cynicism items which loaded highly on an alienation dimension in the student case, appeared within a dogmatism dimension, implying that in fact the answers to such questions were conditioned more by dogmatism than by judgement. If this is in fact the case, it is tentative evidence of the earlier argument of a common basic dogmatic/alienation component, but this will be further considered later.

Following earlier arguments where it was hypothesised that dogmatism will prove to be multidimensional and composed of discrete dimensions, this hypothesis as illustrated earlier, was not substantiated as the evidence for discrete dimensions was not forth coming.

Contrary to another earlier stated hypothesis, so alienation was likewise not proven to be multidimensional and composed of discrete dimensions. Indeed given the earlier evidence against discreteness, when considered in conjunction with the fact that most correlations within dimensions were insignificant for both dogmatism and alienation and that some correlations between the major concepts were higher than those within the concepts, then there seems evidence for concluding that the factor analysis has only isolated one major dimension and not seven, but this feature will receive more attention at a later stage, when the final scalogram measures of analysis are effected.

IV

GUTTMAN SCALOGRAM ANALYSIS

INTRODUCTION

The use of this technique in the analysis of the data is not to be conceived of as merely complimentary to Factor Analysis, even though it is utilised as such in the final analysis. The two approaches were utilised independently of each other in the initial stages of this research, as a means toward obtaining the maximum amount of information from the data as was possible. Their usage independently allowed one to obtain overall first impressions of what the data contained or did not contain. As using one in place of the other or in preference to it may have led to conclusions which would not be substantiated by the findings, so that ultimately information would have been lost.

ANALYSIS

In the first instance Guttman scalogram analysis¹ was used to determine the existence of any underlying dimensions within my data. It must be borne in mind here that the factoring procedure was being undertaken inde-

1. The program utilised was R. Hofstetter, R. Boyd, and D. Van Howelling A Fortran 3400 - 3600 Program for Multiple-Scale Guttman Scalogram Analysis. Mimeo, Department of Government, Indiana University; adaptation for the C.D.C. 6400 McMaster University. It is not the intention here to go into the theory of scaling procedures, the interested reader is referred to Guttman, "A basis for Scaling Quantitative Data", American Sociological Review IX (1944), pp 139-150; S. Stouffer, Measurement and Prediction. Princeton; Princeton University Press: 1950, pp. 46-59; A. Edwards, Techniques of Attitude Scale Construction. New York; Crofts; 1957, pp. 172-243; S. Torgerson, The Theory and Methods of Scaling. New York; Wiley: 1958.

pendent of this, apart from theoretical predictions.

The initial tests were made on three scales. Firstly, on a composite scale which comprised as many as possible of the attitudinal items; secondly on the 40² dogmatism items alone and thirdly on the 30 alienation items. Depending on whether these scales corresponded with acceptable Guttman³ or Menzel⁴ coefficients, one would be able to obtain some indication as to dimensionality within the data and possibly some conceptions as to the possibility of underlying relationships.

Inbuilt limitations of the program⁵ required that the composite scale be reduced to 54 items, so that a further six items with the lowest mean correlation were rejected from the 60 which were to be subjected to factor analysis. The three scales were then tested on a Guttman scalogram program but all three returned unacceptable Guttman coefficients of reproducibility and Menzel coefficients of scalability. The alternative then became to reject these scales outright and assume from this lack of acceptable results, that there are too many underlying dimensions for the data to merely indicate one major underlying relationship or to continue to build scales but rejecting items which were judged not to fit.

2 See Chapter II and Appendix I.

3. L. Guttman, pp. 139-150

4. H. Menzel, "A new Coefficient for Scalogram Analysis", Public Opinion Quarterly XV (1953), pp. 268-280.

5. See note I above.

Using both Yülé's Q and inter-item correlations a further fourteen items were dropped from the overall composite scale.⁶ These being items with the lowest mean readings as either both or one of the above matrices. This resulted therefore in a composite scale of 40 items, consisting of 19 dogmatism and 21 alienation items. These three sets of items were again run as three scales. Again for both samples the results were not within acceptable limits.

This is in fact the type of result which prompted the adoption of the dual approach to this thesis. For essentially this type of result leaves only two alternatives. Firstly either continue to cut down on one's items in the hope of finding a set of items which scale and thus risk arriving at a concept which is not essentially the same concept as one began with. In general there are few arguments against rejecting items in order to achieve an acceptable coefficient, in fact it seems generally acceptable to do so even though Guttman frowns on it. There is a point however which must be considered. It is presumably passable to reject items in a scale which does not owe its very definition to these items, i.e. when one is attempting to create and define a scale through the use of items which hang together, but when this is not the case and one is concerned with rejecting a series of items from a scale which takes its validity from these and other items in the scale, then the problem of validity itself becomes uppermost. Indeed to continually remove items from this type of scale must therefore question the validity of the scale as a measure of what it is intended

6 The items retained here were numbers: 4, 6, 7, 8, 10, 11, 18, 19, 22, 24, 25, 29, 31, 32, 34, 35, 36, 38, 40, 41, 43, 44, 45, 49, 50, 51, 52, 54, 57, 59 -67, 69 (40 in all).

to be.

Secondly, one has the option of totally rejecting the results, noting there is no acceptable degree of reproducibility or scalability, that the scale or scales are not unidimensional and that no underlying relationship exists or can be proven, at least as the results stand. Conclusions which ultimately may in fact be far wrong.

Using both means of analysis independently meant in fact that when the above stage was reached in this research, there was no necessity to reject Guttman analysis for any of the above reasons, as the subsequent stage of the research could actually be to subject the factors which resulted from the factor analysis to scalogram analysis, as a final test of dimensionality and interrelatedness. This procedure would provide a reasonably sophisticated means of obtaining the maximum amount of information as was possible from the data.

In the student sample this first application of scalogram methods to the factors resulted in 5 acceptable quasi-scale⁷ coefficients and 2 non-scalable coefficients⁸ if assessed on Guttman's criterion but with Menzel coefficients varying considerably from a low of .31 to a high of .44.

This indicated that there was possibly more information within these factors than these figures actually indicated, as even the factors which returned non-scalable coefficients of .77 and .78 respectively, had Menzel coefficients equal or greater to certain others of the remaining scales.

Within the Council factors, results were basically similar though four

7. See A. Edwards, p. 197. In essence a quasi-scale was assessed as a scale where the coefficient ranged between .80 and .90.

8. See H. Menzel, p. 280 for the definition of this term as utilised in this research.

of these factors actually exhibited reproducibility coefficients of .90 or higher, and the remainder indicated at least quasi-scale dimensions. However Menzel coefficients were again variable ranging from a low of .27 to a high of 1.00.

SCALES

The point then became to attempt to discover the underlying dimensions within each factor, within each sample. The method of doing this was in fact to reject from each scale those items with a low mean Yule's Q or high error count, or both. Anything with an error of 20 or over, was immediately rejected as being an obvious example of 'badness of fit'. This rejection is not contrary to the earlier arguments on this topic.

Indeed before any items was actually removed from further analysis it was adjudged whether the rejection of this item would change the dimension direction of the factor. Actually as all factors contained items from what was originally the other section of the questionnaire, there appeared in fact room for rejection of items. Indeed ultimately it was noted that the items which were removed were in fact those which intuitively one would consider the least related. So that overall the attitudinal direction of the factors as scales, did not change through this displacement, and the scales, which were the deleted factors were in fact adjudged as the same dimensions as the factors from which they were derived. In actuality, the maximum number of items removed from any scale was two, and this number even then was only taken from the factors which contained more than a dozen items originally, some factors remained as they were, as their coefficients, both Guttman and Menzel, were acceptable. No additional rejection was effected after this stage as no items readily offered themselves for deletion.

In my first sample, the students, the scales were much improved upon previous ones. Only Cynicism, Deference and Powerlessness failed to attain Guttman coefficients of .9 though all obtained such coefficients of at least .82 or better, sufficient to indicate quasi-scales (Table I). However, Deference and Powerlessness attained Menzel coefficients of scalability of only .41 so that the scalability of these two factors is questionable. Cynicism on the other hand had coefficients several points higher than the other two on both standards, (Guttman .88: Menzel .53) so that it seems feasible to assess that the evidence of non-scale types in Cynicism is minimised. Indeed as there is high agreement between the coefficient of reproducibility and Edward's coefficient (.85)⁹ within this factor, which is a necessary condition for unidimensionality, this is further substantiation for the above statement. All remaining factors within the student sample exhibited acceptable Guttman, Menzel and Edward's coefficients and non-excessive marginals i.e. marginals which exhibited at least 10% difference between themselves and the Coefficients of Reproducibility, though most were in excess of this figure. So that given the theories behind each of these coefficients the remaining factors must be assumed here to be unidimensional.

(Tables I and II commencing on page)

Within the City Council the results were again similar (Table II). With Intolerance and Cynicism exhibiting quasi-scale proportions on Guttman criteria and medium to low coefficient were only marginally acceptable (.77 and .79 respectively) so that they must remain questionable on their degrees

9. See A. Edwards, pp. 172-243

TABLE I: STUDENTS SCALE COEFFICIENTS FOR DELETED FACTORS

* Item numbers are item numbers on Questionnaire, see Appendix I.

* * Though Intolerance only retained 3 items, it was retained as a dimension in this research as the marginals indicate that its results are more of significance than coincidence.

C. of Rep. - Coefficient of Reproducibility, M.M.R. - Minimal Marginal Reproducibility, C. of S. - Coefficient of Scalability

FACTORS	<u>C. of Rep.</u>	<u>M.M.R.</u>	<u>C. of S.</u>
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<u>CYNICISM</u>	.88	.76	.53
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ITEMS *

% POSITIVE RESPONSE

43	20
44	16
45	39
49	13
56	13
63	59
64	37
67	44
69	50

<u>DEFERENCE</u>	.83	.71	.41
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2	35
11	49
27	39
34	46
35	79
36	29
37	12
52	50
66	14

TABLE I: CONTINUED

FACTORS	C. of Rep.	M.M.R.	C. of S.	
<u>INTOLERANCE</u> **	.92	.79	.62	
	<u>ITEMS</u>			<u>% POSITIVE RESPONSE</u>
	19			29
	31			12
	47			77
<u>POWER-ESTEEM</u>	.90	.77	.59	
	16			62
	20			27
	22			9
	24			14
	25			16
	29			66
<u>POWERLESSNESS</u>	.84	.69	.41	
	51			74
	54			26
	61			40
	62			74
	65			64
<u>OBDURACY</u>	.90	.75	.61	
	23			44
	30			20
	32			74
	38			66
	68			35

TABLE I: CONTINUED

FACTORS	<u>C. of Rep.</u>	<u>M.M.R.</u>	<u>C. of S.</u>
<u>INSECURITY</u>	.93	.74	.58
	<u>ITEMS</u>		<u>% POSITIVE RESPONSE</u>
	4		53
	6		29
	33		26
	42		20
	50		55
	59		59

TABLE II: COUNCIL SCALE COEFFICIENTS FOR DELETED FACTORS

- * Item numbers are numbers on Questionnaire, see Appendix I.
 * * Though Powerlessness and Oburacy contained less than 4 items each, they were still retained in this research as separate dimensions because their marginals indicate that their results are more a matter of significance than of coincidence.

C. of Rep. - Coefficient of Reproducibility, M.M.R. - Minimal Marginal Reproducibility, C. of S. - Coefficient of Scalability

FACTORS	<u>C. of Rep.</u>	<u>M.M.R.</u>	<u>C. of S.</u>
<u>INTOLERANCE</u>	.86	.75	.44
	<u>ITEMS</u> [*]		<u>% POSITIVE RESPONSE</u>
	9		60
	18		20
	27		40
	29		20
	36		20
	54		10

TABLE II: CONTINUED

FACTORS	<u>C. of Rep. M.M.R. C. of S.</u>		
<u>INTOLERANCE (cont.)</u>			
	<u>ITEMS</u>	<u>% POSITIVE RESPONSE</u>	
	62	50	
	63	40	
	67	30	
	69	30	
<u>CYNICISM</u>	.85	.71	.43
	2	70	
	10	90	
	44	10	
	49	0	
	50	50	
	55	20	
	56	10	
	64	10	
<u>POWER-ESTEEM</u>	.94	.91	.29
	4	70	
	22	0	
	23	30	
	25	10	
	32	20	
	42	0	
	65	60	
	68	10	

TABLE II: CONTINUED

FACTORS	<u>C. of Rep.</u>	<u>M.M.R.</u>	<u>C. of S.</u>
<u>INSECURITY</u>	.93	.74	.57
<u>ITEMS</u>			<u>% POSITIVE RESPONSE</u>
6			10
19			0
24			0
30			0
38			20
41			10
45			30
46			20
59			10
<u>DEFERENCE</u>	.91	.74	.59
21			70
26			40
31			0
34			20
37			0
39			50
51			50
52			10
60			30
66			50
<u>POWERLESSNESS</u> **	1.00	.75	1.00
43			20
8			30

TABLE II: CONTINUED

FACTORS

C. of Rep. M.M.R. C. of S.OBDURACY**

.97

.77

.86

ITEMS% POSITIVE RESPONSE

17

80

28

40

61

0

of dimensionality and scalability. Though it is possible that they illustrate one major dimension each and one minor one, which is the residual item or items from the other major dimension examined within the research.¹⁰ This is postulated in accordance with Edwards' conception of a quasi-scale and here the major dimensions would be the actual scale or factor attitudinal basis, i.e. whether the component is based on dogmatism or alienation, and the minor dimensions would be composed of any residual items, which remained after the initial items deletion, and that were originally subsumed under the other major categories. This is in agreement with the 'component' theory outlined earlier. The remaining factor-scales, except Power-Esteem all exhibited acceptable coefficients for reproducibility and scalability and Minimal Marginal reproducibility¹¹ figures must likewise be here adjudged cumulative. Power-Esteem itself seems an anomaly because it manifests high Guttman and Edwards' coefficients but high marginals and a low Menzel coefficient, so that although it is judged reproducible, its scalability may in fact be the result of coincidence rather than a significant underlying dimensions. However as again there is strong agreement between the Guttman and Edwards' coefficients, one can assume that the underlying direction of the scale is toward unidimensionality and scalability an away from coincidence.

These results indicate then what might have been the folly of merely

10 Note this is consistent with Edwards' definition of a quasi-scale, See A. Edwards, p. 197

11. See L. Guttman, pp. 139-150; Edwards, pp. 172-198; H. Menzel, pp. 268-280 for a definition and explication of this concept.

relying on one method of analysis or not using both independently initially and in a complementary role at a later stage. Either of these two approaches would have ensured that one lost information. Had one merely relied on the information elicited by Guttman analysis initially one would have been inclined to reject the scales, as mentioned earlier. However, using the methods at first independently and then together sufficed to complete the overall picture of what information was contained in my data.

The question however of the definite unidimensional nature of any of the scales except for those of Insecurity and Obduracy must remain undecided due to the fact that the different samples exhibited slight differences in coefficients. Though within their samples certain of the scales were adjudged unidimensional the fact, that, except for the above two, these results were not substantiated from sample to sample must lead to the conclusion that general unidimensionality for these other scales is questionable.

Correlations between the scale scores resulted in high correlations for both samples with a high of .95 and a low of .69 for the student sample (Table III) and a high of .96 and a low of .70 for the Council sample (Table IV).

(Tables III and IV commencing of page 91)

TABLE III: STUDENTS' CORRELATIONS BETWEEN SCALE SCORES

Decimal points omitted.

FACTORS/SCALES	CYNICISM	DEFERENCE	INTOLERANCE	POWER-ESTEEM	POWERLESSNESS	OBDURACY	INSECURITY
CYNICISM	1.00						
DEFERENCE	89	1.00					
INTOLERANCE	87	78	1.00				
POWER-ESTEEM	95	85	87	1.00			
POWERLESSNESS	90	95	84	86	1.00		
OBDURACY	86	69	80	87	71	1.00	
INSECURITY	87	75	89	87	79	91	1.00

TABLE IV: COUNCIL CORRELATIONS BETWEEN SCALE SCORES

Decimal points omitted.

FACTORS/SCALES	INTOLERANCE	CYNICISM	POWER-ESTEEM	INSECURITY	DEFERENCE	POWERLESSNESS	OBDURACY
INTOLERANCE	1.00						
CYNICISM	93	1.00					
POWER-ESTEEM	86	83	1.00				
INSECURITY	94	93	74	1.00			
DEFERENCE	96	93	92	90	1.00		
POWERLESSNESS	88	88	78	84	91	1.00	
OBDURACY	92	91	70	92	85	84	1.00

RESULTS: FINDINGS

Within the alienation dimensions in the Students Cynicism had an extremely high correlation with Powerlessness and a high correlation with Insecurity. Powerlessness itself having a high correlation with Insecurity. For the dogmatism components Deference had high correlations with Intolerance and Power-Esteem and a moderately high correlation with Obduracy. Intolerance itself had a high correlation with both Power-Esteem and Obduracy while Power-Esteem had a high correlation with Obduracy.

Results were generally similar for the Council sample. Within the alienation component, Cynicism was found to have an extremely high correlation with Insecurity and a high correlation with Powerlessness while Powerlessness itself had a high correlation with Insecurity. Within the dogmatism dimensions, Intolerance had a high correlation with Power-Esteem and extremely high correlations with Deference and Obduracy. Power-Esteem was assessed to have an extremely high correlation with deference and a high correlation with Obduracy while Deference had a high correlation itself with Obduracy.

Within the Student sample, the correlations found between the subdivisions of the two concepts were also strong. Cynicism had high correlations with Deference, Intolerance and Obduracy and an extremely high correlation with Power-Esteem. Insecurity had a high correlation with Deference, Intolerance and Power-Esteem and an extremely high correlation with Obduracy. Powerlessness was also found to have an extremely high correlation with Deference, high correlations with Intolerance, and Power-Esteem and a moderately high correlation with Obduracy.

In the Council results were again similar. Cynicism had extremely high correlations with Intolerance, Deference and Obduracy and a high correlation with Power-Esteem. Insecurity had extremely high correlations with Intolerance and Obduracy and high correlations with Power-Esteem and Deference. Powerlessness was found to have high correlations with Intolerance, Power-Esteem and Obduracy and an extremely high correlation with Deference.

CONCLUSIONS

Firstly, it should be noted that all the correlations are in excess of .35 for the Student sample and of .70 for the Council and are all therefore significant. However this does not mean that the original hypotheses of the thesis are substantiated. The very fact that the correlations are in general so high throughout, as high across the concepts as within, creates several problems. Initially there is the problem of response set as they all go in one direction. However if one accepts the evidence presented in Chapter 11 on this problem, then presumably it is agreed that in general this problem is minimised and the extremely high, one direction correlations may, instead be the result of the earlier item deletion, where low loadings were rejected in the analysis. Secondly, and more importantly there is the consideration of whether alienation and dogmatism are in fact two separate concepts. Furthermore bearing in mind the point made earlier concerning the theoretical-empirical distinction, that though one may theoretically consider dogmatism and alienation as separate concepts, as they are here defined empirically it is only on this level that they may here be examined. This is to say that in defining them empirically, they are only subject to

empirical criteria, that their actual independent existence may only be considered empirically. This in essence means that the data alone can substantiate the fact that dogmatism and alienation are two independent concepts. Likewise the existence of any sub-dimensions is also only provable on similar grounds.

Noting that discrete dimensions have not been proven by either Chapter III or IV, that often correlations across the major concepts are higher than within the concepts, that in general the correlations as found in the Scalogram analysis are in one direction and generally extremely high throughout would seem to indicate and this would in fact tend to be substantiated by the amount of variance explained by the individual factors, that one is essentially dealing here with only one dimension. Bearing in mind the earlier theoretical-empirical distinction, these findings illustrate that in this research the two concepts of dogmatism and alienation have not been empirically isolated. As this is the case, this means in fact that it is not therefore possible to pass further judgement on the original hypotheses, as the data do not provide this opportunity. On the available evidence one may conclude that the data tend to point toward one dimension being isolated rather than two or even seven. As this would be the result here, this means that the original hypothesised sub-dimensions are not also isolated and consequently that one cannot conclusively and finally examine the relationship between dogmatism and alienation.

Theoretically one can hypothesis the existence of both dogmatism and alienation and of their possible sub-dimensions, however empirically no evidence is provided here for the independent existence of these concepts so that the examination of the original hypotheses must be terminated, as according to the data dogmatism and alienation do not empirically exist independently of each other, if in fact they do empirically, independently

In essence these results mean that where two major dimensions were hypothesised as existing, only one was seen to be empirically demonstrated and that there is no way of knowing just what this major dimension is, given the fact that it cannot be dogmatism or alienation, at least as they were defined in this thesis. So that, as the concepts of dogmatism and alienation for all intents and purposes seem to have disappeared there is thus no possibility of continuing this research along the lines that were originally posited.

V

CONCLUSION

It was not the intention of this work to provide a definitive theory of the relationships between attitudes but merely to indicate in an explanatory fashion, whether it was possible to indicate such relationships as a referent for later research. Through personal observation, intuitive reasoning and on the basis of existing findings within the literature¹ a relationship was hypothesized to exist between dogmatism and alienation; so that this research therefore, examined the possibility of a relationship between these two concepts, as an initial step toward the attainment of a theory of attitudes and their interrelationships.

RESTATEMENT: THEORY: PROBLEM

Several authors had reported finding a weak relationship between authoritarianism and alienation,² a relationship which needed to be understood if the impact that attitudes such as these have on behaviour is to be discerned. Further substantiation for such a relationship was evidenced by noting that many people who were alienated, also tended to be dogmatic, and vice-versa. Indeed it became feasible to assume that people who were alienated were so because the dogmatism component of their attitudinal make-up obscured their correct perceptions of events in society

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1. See the main theory underlying this research which is advanced in detail in Chapter I.
 2. See the footnotes numbers 8, 10, 16, in Chapter I.

of their role within it and thus contributed to their alienation. It was also feasible to assess that as a result of feeling alienated certain people may have become rigid in their views, intransigent in conversation and arguments and antagonistic to certain features of their existence. A two-way association between the concepts is therefore credible. In fact, it was postulated that so close is the underlying relationship, that there actually exists a dogmatism/alienation component which underpins both concepts. The features of this component are so closely related that in fact they are indivisible, this is to day, that somewhere within dogmatism and alienation is a point where they coalesce into one attitudinal core. As this core manifests itself within society, in response to whatever stimulus, it would manifest itself as either dogmatism or alienation, or both. Unfortunately most of this is pure speculation but at the very least, this thesis attempted to measure the degree of relationship, if any, that exists between dogmatism and alienation.

METHODS: ANALYSIS

The means of testing this relationship was to attempt to isolate the sub-dimensions of these two concepts and note the relationships between these dimensions across the concepts. As alienation factored into Cynicism, Powerlessness and Insecurity sub-dimensions and dogmatism into Deference, Intolerance, Power-Esteem and Obduracy components then by illustrating that these respective components were interrelated within their respective concepts and subsequently indicating that they were also related to the dimensions from the other concepts, this would be sufficient indication of the strength of any underlying relationship between dogmatism

and alientation, provided of course, that these sub-dimensions were shown to be distinct dimensions. Should this not be the case then obviously any determination of a relationship along the above lines would be dubious.

FINDINGS

Within the factor analysis findings, the fact that the percent variance accounted for by each factor was so small, that often correlations between items of di-ferent groups were higher than between items within these groups, that often some items had high loadings on several factors and not just on one, this indicated that the dimensions isolated by the factor analysis were not discrete. Further this seemed to be indeed evidence for positing that essentially only one factor had been found and not seven or even two. This would be substantiated by the fact that correlations between what would be the respective sub-dimensions of dogmatism and alienation were in the main insignificant and that occasionally correlations between the sub-dimensions across the major concepts were higher than within.

In the Scalogram Analysis the fact that extremely high correlations were exhibited between all the dimensions, both within and across, what were hypothesised as the major concepts of dogmatism and alienation, and that often correlations between these factors across the concepts were higher than between the respective sub-dimensions within the major concepts, further substantiated the findings of Chapter lll, that the factors were not discrete dimensions and that only one dimension has been isolated in this research.

Had the present variance accounted for by each factor been relatively high and of roughly the same degree, had correlations between items within groups been higher than between items of different groups, had items only loaded highly on one dimension and lowly on the others, would have been

noted as evidence for discreteness. However, as this was not the case, then discreteness could not be assumed here, indeed given the results as they evolved, according to the evidence, ^{this} is away from discreteness. Indeed in conjunction with the insignificant correlation found between the factors and the extremely high, one way correlations found between all the scale-cores, then it would seem that the evidence is essentially only for one dimension being isolated here and not seven or even two.

CONCLUSIONS

In general in this thesis it is not really possible to note whether a relationship exists between dogmatism and alienation, as empirically only one factor was seen to evolve, where hypothetically it was argued that two major concepts and seven possible sub-dimensions existed. This inessence means that the data illustrated that dogmatism and alienation, as defined for this research, were not found to exist, neither were any possible sub-dimensions isolated.

It is possible to argue then that hypothesis one, that there is a relationship between dogmatism and alienation was not proven to the extent that since it was not possible to show that they were discrete then logically it was not possible to prove any relationship. Likewise, hypothesis two, that the covariance of dogmatism and alienation is stronger in the case of the City Council, must be considered in the same light. To the extent that dogmatism and alienation were not isolated in this research then hypotheses one and two were not proven. However in so far as they were not empirically demonstrated by the data, then it is impossible to here test for a relationship between them, at least along the lines postulated in Chapter One, so that to say that the two above hypotheses were not proven, it not to say that they were disproven, merely to indicate that the available evidence does not allow for any continued consideration

of the problem.

With regard to the dimensions which were hypothesised as existing within the concepts of dogmatism and alienation, the results indicated that none were isolated as separate and distinct dimensions, so that the question of what constitutes dogmatism and alienation cannot also be determined. Though the dimensions of Cynicism, Insecurity and Powerlessness and Deference, Power-Esteem, Obduracy and Intolerance were factored as constituents of alienation and dogmatism respectively, there was no evidence to show that they were discrete dimensions, so that empirically they were shown not to exist. So that hypothesis three, that alienation is multidimensional and composed of discrete dimensions was not substantiated. Likewise hypothesis four, that dogmatism was multidimensional and composed of discrete dimensions, was also not substantiated. Though the degree that they were not substantiated is the fact not that they were conclusively disproven but that available evidence prevented any further consideration of the problem.

What relevance then can one draw for attitudinal research from the results of this thesis? Initially it indicated that one should be sceptical of taking 'accepted' scales without question. The very fact that the dogmatism scale did not factor into one or several distinct dimensions should illustrate that the scale is in need of reassessment and that conceivably it is no longer an accurate measure of what it is intended to be. Hopefully, future research can and will test this contention. Likewise the use of scales such as Srole's Anomia scale were questioned, as Sroles items were distributed among three factors by the factorial procedure and did not, even when scales and analysis was applied, exhibit acceptable scale coefficients.

The use of composite scales as measurement tools likewise requires further explanation. An acceptable scale, i.e., one which will give

acceptable results, will be effectively created only if one's operationalisation of the concept is in strict accordance with its own definitional parameters. This requires judicious item appraisal and item analysis in conjunction with this definition. So that the use of a composite alienation scale here was not entirely successful, though it provided a tool upon which the research could be based and indicated what could possibly have been the basic components of alienation, the very fact that it did not factor unto one or several alienation dimensions, distinct from the dogmatism dimensions, illustrates that there could have been even stricter operationalisation of the basic definition that was effected as it too seems a dubious measure of what it was intended to be.

As Chapters III and IV illustrated, there is a need to use factor and Guttman scalogram analyses as complementary, in an attempt to elicit maximum information from data as only this way by use of such multivariate techniques can the most comprehensive measurement models be produced and tested.

It is unfortunate that given the results as they evolved that no consideration may be made on the basis of this research, concerning a fuller comprehension of behaviour. Had a relationship been found between dogmatism and alienation then the import for behaviour might have been considerable. The very fact that the data did not even indicate the presence of both dogmatism and alienation as separate concepts indicates the tenuous nature of the variables with which we are dealing. So that had a relationship been proven between the two concepts then possibly this may have clarified some of the more obscure aspects of the relationship between attitudes and behaviour. However, the fact that this was not the case and the fact that if anything these results provide even more difficulties for any understanding of attitudes and behaviour, would seem to further complicate an already complex situation.

Hopefully it will be for future research in this area to attempt to clarify the problem area of the relationship between attitudes and then attempt to relate such sknowledge to behaviour, as it would seem that to comprehend behaviour there is a need to understand the motivations, the predispositions related to it. This thesis attempted to move toward that position by developing toward a theory of attitudes and their relationships. The very fact that it was so unsuccessful in accomplishing it avowed aim of discovering a relationship between what were defined as the concepts of dogmatism and alienation, illustrates both the complexity of the problem and the minimal knowledge that we have in this sphere. Indeed, theoretically one may still conceive of two distinct attitudes of dogmatism and alienation, yet empirically in this research they were not even isolated as separate dimensions. It may be for future research to bridge this theoretical-empirical gap, if indeed that is possible, and in doing so complete the task, upon which this thesis was predicated but in which it was not successful.

APPENDIX I

QUESTIONNAIRE

Deck 01

<u>COLUMN</u>	<u>ITEM</u>	<u>QUESTION AND CODE</u>
03	1)	Canada and Russia have nothing in common. 7. I agree very much. 6. I agree on the whole. 5. I agree a little. 3. I disagree a little. 2. I disagree on the whole. 1. I disagree very much.
04	2)	The highest form of government is a democracy and the highest form of democracy is a government run by those who are the most intelligent. 7. I agree very much. 6. I agree on the whole. 5. I agree a little. 3. I disagree a little. 2. I disagree on the whole. 1. I disagree very much.
05	3)	Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups. 7. I agree very much. 6. I agree on the whole. 5. I agree a little. 3. I disagree a little. 2. I disagree on the whole. 1. I disagree very much.

06 4) It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

07 5) Man on his own is a helpless and miserable creature.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

08 6) Fundamentally the world we live in is a pretty lonesome place.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

09 7) Most people just don't give a damn for others.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 10 8) I'd like it if I could find someone who would tell me how
to solve my personal problems.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 11 9) It is only natural for a person to be rather fearful of the
future.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 12 10) There is so much to be done and so little time to do it in.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 13 11) Once I get wound up in a heated discussion I just can't stop.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 14 12) In a discussion I often find it necessary to repeat myself
several times to make sure I am being understood.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 15 13) In a heated discussion I generally become so absorbed in
what I am going to say that I forget to listen to what
others are saying.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 16 14) It is better to be a dead hero than a live coward.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 17 15) While I don't like to admit this even to myself, my secret
ambition is to become a great man, like Einstein, or Beeth-
oven or Shakespeare.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 18 16) The main thing in life is for a person to want to do something important.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 19 17) If given the chance I would do something of great benefit to the world.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 20 18) In the history of mankind there have been probably just a handful of really great thinkers.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 21 19) There are a number of people I have come to hate because of the things they stand for.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much

- 22 20) A man who has not believed in some great cause has not really lived.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 23 21) It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 24 22) A person who gets enthusiastic about too many causes is likely to be a 'pretty-washy' sort of person.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 25 23) Of all the different philosophies which exist in the world there is probably only one which is correct.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 26 24) To compromise with out political opponents is dangerous
because it usually leads to the betrayal of our own side.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 27 25) When it comes to difference of opinion in religion we must
be careful not to compromise with those who believe differ-
ently from the way we do.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 28 26) In times like these, a person must be pretty selfish if he
considers primarily his own happiness.

7. I agree very much.
6. I agree on the whole
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 29 27) The worst crime a person can committ is to attack publicly
the people who believe in the same thing he does.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 30 28) In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than those in the opposing camp.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 31 29) A group which tolerates too much differences of opinion among its own members cannot exist for long.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 32 30) There are two kinds of people in this world, those who are for the truth and those who are against the truth.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 33 31) A person who thinks primarily of his own happiness is beneath contempt.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 34 32) My blood boils whenever a person stubbornly refuses to admit he's wrong.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 35 33) Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 36 34) In this complicated world of ours the only way we can know what is going on is to rely on leaders or experts who can be trusted.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 37 35) It is often desirable to reserve judgement about what's going on until one has had a chance to hear the opinions of those one respects.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 38 36) In the long run the best way to live is to pick friends
and associates whose tastes and beliefs are the same as
one's own.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 39 37) The present is all too often full of unhappiness. It is
only the future that counts.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 40 38) If a man is to accomplish his mission in life it is some-
times necessary to gamble 'all or nothing at all'.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 41 39) Unfortunately a good many people with whom I have discussed
important social and moral problems don't really understand
what is going on.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

42 40) Most people just don't know what is good for them.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

43 41) These days a person does not know who he can depend on.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

44 42) The Canadian authorities are working hard to develop the
country. (R)

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

45 43) Success is more dependent on luck than ability.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

47 45) These days it is difficult to find people you can trust.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

48 46) In spite of what some people say, the situation of the
 average man is getting worse.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

49 47) Money is the most important factor influencing public
 policies.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

50 48) It is not fair to give birth to children when the future
 of the world is so uncertain.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 51 49) There is little use writing to public officials because they are not really interested in the problems of the average man.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 52 50) There are such conflicting ideas on what is right and wrong these days that it is hard to decide what to do.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 53 51) If you don't watch out people will take advantage of you.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 54 52) There are so many people who do things well that it is easy to become discouraged.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 55 53) Things are changing so fast that these days a person does not know what to expect from one day to another.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 56 54) Most people don't realise how much their lives are controlled by plots hatched in secret by others.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 57 55) Religious organisations in Canada have a great effect in making our country a better place to live. (R)

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 58 56) It does not matter which party wins elections as the interests of the little man do not count.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

59 57) Few people are really dedicated to their work.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

60 58) Our country has too many poor people who can do little to
raise their standard of living.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

61 59) Elected officials become tools of special interests no
matter what.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

62 60) It is usually best to tell your superiors what they want to
hear.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 63 61) It is almost impossible for one person to really understand the feelings of others.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 64 62) People will do almost anything if the reward is high enough.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 65 63) The greatest ambition of politician is to be re-elected.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

- 66 64) Local officials lose touch with the people who elect them.

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

67 65) Too many people in our society are just out for themselves
and don't care for anyone else.

- 7. I agree very much.
- 6. I agree on the whole.
- 5. I agree a little.
- 3. I disagree a little.
- 2. I disagree on the whole.
- 1. I disagree very much.

68 66) There is nothing lower than the person who does not feel a
great love, respect and concern for their parents.

- 7. I agree very much.
- 6. I agree on the whole.
- 5. I agree a little.
- 3. I disagree a little.
- 2. I disagree on the whole.
- 1. I disagree very much.

69 67) Most politicians are more interested in themselves than in
the public welfare.

- 7. I agree very much.
- 6. I agree on the whole.
- 5. I agree a little.
- 3. I disagree a little.
- 2. I disagree on the whole.
- 1. I disagree very much.

70 68) Almost anyone in our society can improve his standard of
living if he is willing to work hard, (R)

- 7. I agree very much.
- 6. I agree on the whole.
- 5. I agree a little.
- 3. I disagree a little.
- 2. I disagree on the whole.
- 1. I disagree very much.

71 69) If people knew what was going on in high places it would
 blow the lid off.

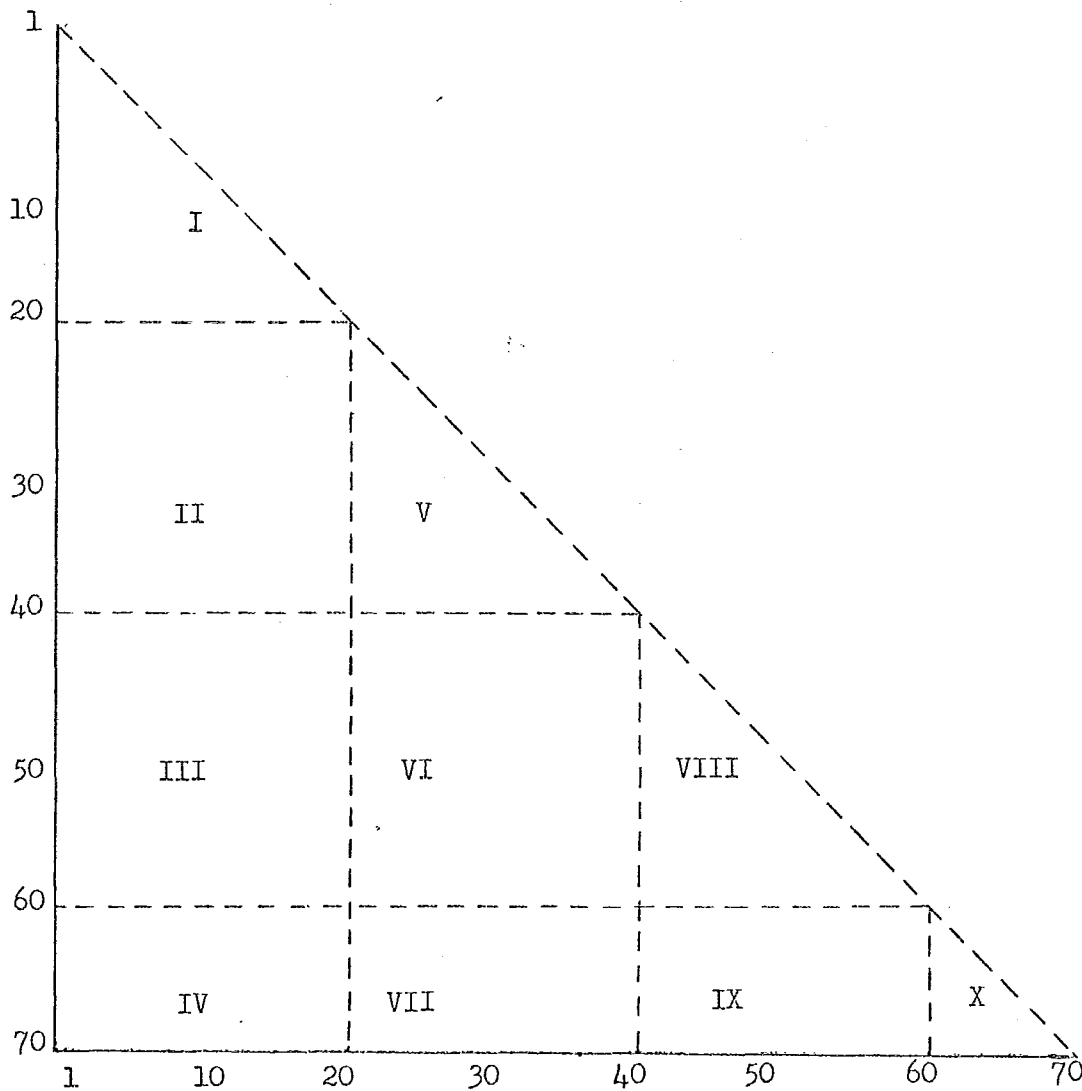
7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

72 70) The decisions of our courts of justice are just as fair to
 a poor man as to a wealthy man. (R)

7. I agree very much.
6. I agree on the whole.
5. I agree a little.
3. I disagree a little.
2. I disagree on the whole.
1. I disagree very much.

(R) -- Reversed for coding purposes.

APPENDIX II

INTER-ITEM CORRELATION MATRIX: STUDENTSSCHEMA

ITEMS CORRESPOND TO ITEMS IN QUESTIONNAIRE

70 items utilised. Each section above corresponds to one of the following 10 pages. Decimal point omitted in tables.

APPENDIX II: SECTION I

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1.00																			
2	07	1.00																		
3	05	15	1.00																	
4	-04	26	19	1.00																
5	11	-02	-03	-09	1.00															
6	-01	07	10	-16	35	1.00														
7	14	03	13	31	24	20	1.00													
8	07	30	06	-06	-09	-02	-06	1.00												
9	-02	15	01	28	-14	-00	17	04	1.00											
10	03	26	-04	-16	08	15	-04	16	02	1.00										
11	12	18	-07	-05	-11	11	02	23	30	31	1.00									
12	-07	14	17	-20	-04	06	-09	-06	-04	16	12	1.00								
13	-07	15	11	-09	22	29	25	29	04	20	23	30	1.00							
14	08	30	21	28	12	-00	14	20	19	30	13	06	06	1.00						
15	-32	-27	26	19	-19	11	04	07	-00	-05	16	20	08	-04	1.00					
16	02	12	-05	09	23	02	33	11	15	10	11	-03	07	-14	17	1.00				
17	-05	04	-10	-28	-10	01	28	07	08	19	12	04	10	-26	-06	-01	1.00			
18	17	17	06	-10	23	28	26	07	-13	-07	-06	-10	13	-10	-10	23	-10	1.00		
19	04	-08	14	11	04	10	26	-10	13	11	02	17	28	10	16	06	-13	21	1.00	
20	-03	27	04	02	02	28	15	17	07	18	21	05	06	15	05	01	10	09	-10	1.00

APPENDIX II: SECTION II

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	02	21	-08	-07	11	27	16	27	10	11	35	-12	04	-04	06	28	10	27	-14	52
22	-01	-07	25	01	23	06	01	-12	03	-14	-14	12	03	-06	07	04	01	08	-21	28
23	-06	-11	-12	-05	10	01	07	-16	18	-02	01	01	-13	00	-20	12	12	05	-09	17
24	06	05	26	10	08	13	13	-18	23	02	-14	08	23	12	-01	10	-12	14	28	14
25	11	-16	-02	-10	14	00	05	-05	-18	-20	07	00	08	07	-02	-03	-26	27	-04	17
26	01	06	-00	-03	-01	-08	06	12	03	20	-17	07	15	-07	-10	-08	28	08	-20	03
27	-17	16	09	14	18	16	19	-05	01	23	12	02	16	15	02	38	-08	10	-02	00
28	13	-07	-00	-05	-02	09	04	12	-00	-11	10	00	-04	-12	-02	25	-14	24	12	-04
29	11	07	10	03	25	02	19	-15	14	-02	-08	-03	06	-05	-06	44	-14	35	11	04
30	-10	-17	-02	-07	-10	-03	-09	-00	14	-04	-14	12	-10	09	07	10	15	-01	-13	-08
31	-11	-08	22	13	13	-10	-01	03	19	15	23	03	18	16	06	05	24	-10	-20	11
32	-04	16	15	-04	05	15	-01	25	14	25	11	16	14	12	11	04	38	-14	24	02
33	-11	03	16	-28	14	07	-03	14	-14	10	14	35	41	-06	11	-01	01	03	-02	08
34	03	35	19	17	07	13	-09	04	-21	13	15	03	19	20	07	07	-10	-04	06	07
35	12	10	-01	-05	13	16	05	28	-09	03	20	-06	12	-16	-04	29	28	17	-12	23
36	-02	16	00	-08	22	19	11	21	-03	18	17	13	39	-07	-05	39	10	20	21	-01
37	26	02	-09	-10	14	25	28	07	04	16	21	05	27	18	-24	-07	03	07	22	-06
38	-06	-11	01	-12	-01	-15	05	15	19	34	27	11	12	24	33	05	20	-36	-01	15
39	21	-00	-15	-03	-08	-03	02	04	09	-09	22	34	03	-07	-08	-19	-03	-01	16	-13
40	01	14	16	03	-00	00	20	02	13	05	26	15	20	08	05	07	03	01	-03	-21

APPENDIX II: SECTION III

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
41	07	19	00	-12	-00	00	21	01	26	04	27	34	45	-12	-09	13	02	10	10	09
42	21	-28	01	-20	16	05	10	01	03	-15	-17	-31	-03	01	-15	-02	-18	05	09	-05
43	15	16	11	10	28	-16	15	11	24	-01	-10	12	08	07	-30	11	-11	15	05	08
44	34	09	07	02	18	10	34	-08	15	17	05	17	14	30	01	12	-18	16	24	-04
45	29	24	05	-10	15	-04	23	16	20	-10	-09	05	26	00	-26	18	-14	15	-11	00
46	-07	03	05	09	10	07	10	11	14	-05	11	-00	01	17	06	28	-07	07	-14	18
47	10	12	15	09	02	-05	26	13	08	-03	-05	-03	14	29	-00	09	-25	01	06	-13
48	27	10	10	25	16	11	29	-14	19	-10	11	13	17	-07	-04	21	03	-12	-02	-06
49	23	05	28	10	16	05	38	02	33	05	-05	-08	-01	16	-09	32	-23	24	29	-05
50	10	10	08	-10	13	32	14	-00	08	-10	16	21	27	-16	-01	10	-04	15	05	06
51	16	08	18	-02	06	05	35	-01	30	-20	06	09	20	-11	-00	28	-07	01	19	09
52	15	27	09	18	27	28	16	27	21	00	33	05	31	15	-08	25	-06	04	-06	13
53	26	05	06	06	13	16	39	06	31	06	19	-12	11	03	01	36	07	09	10	05
54	-22	11	21	-01	04	16	27	12	06	-02	22	14	30	-14	14	31	07	18	26	-13
55	12	-04	00	08	-13	08	09	07	21	-00	-03	-03	24	-13	02	-08	-08	-30	-02	02
56	17	14	22	13	13	-12	40	06	07	01	09	06	23	08	-02	41	-29	25	12	-11
57	-05	00	03	07	-08	-16	15	-07	-15	-15	03	12	17	13	-02	-12	-24	-01	13	-18
58	15	-11	-17	-17	14	-07	-16	07	-01	-01	-03	-03	-08	-02	-03	26	06	-00	-32	10
59	17	10	06	-11	16	20	30	-06	24	05	-00	07	02	-07	-20	30	-10	32	22	-02
60	-03	12	20	03	-06	-23	11	16	17	05	17	12	17	22	-04	17	-11	07	09	-02

APPENDIX II: SECTION IV

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
61	-03	-02	02	09	-35	-19	12	22	35	-16	30	07	10	03	16	11	-02	08	16	10
62	-02	23	14	14	04	07	32	09	37	-26	14	02	15	08	11	14	-04	19	14	24
63	19	21	-10	09	20	-13	17	00	29	20	-15	-02	11	16	-28	18	-04	13	07	-10
64	38	10	-16	14	16	-11	22	19	18	15	11	-28	16	17	-38	21	-03	-04	-25	-10
65	23	20	04	13	-00	-04	46	16	25	-02	14	07	28	07	-04	34	-22	-05	05	-05
66	33	28	25	-00	07	10	34	16	05	26	26	17	12	04	07	28	15	28	04	06
67	19	-05	15	-21	12	-11	16	16	40	-05	04	05	-08	-04	00	32	-14	06	-04	-01
68	-06	-02	00	-08	-01	01	02	31	-10	-09	08	-04	12	-12	07	-01	-11	-02	02	19
69	22	09	12	-10	12	05	10	15	19	-09	11	11	47	-12	-18	07	06	13	07	-18
70	-03	-01	-01	-12	18	-12	17	04	09	-28	02	09	14	02	-22	03	-19	04	07	07

APPENDIX II: SECTION V

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
21	1.00																			
22	03	1.00																		
23	09	05	1.00																	
24	-21	51	-02	1.00																
25	12	33	14	25	1.00															
26	-20	36	09	26	07	1.00														
27	22	-10	22	-06	10	-04	1.00													
28	21	02	21	20	02	-22	17	1.00												
29	-04	09	12	32	07	06	12	12	1.00											
30	-03	22	17	11	07	10	11	27	27	1.00										
31	05	29	15	12	-11	33	33	07	13	25	1.00									
32	01	-24	11	03	-19	-13	18	-16	06	03	18	1.00								
33	11	06	11	07	21	-01	13	02	-04	-08	16	15	1.00							
34	13	-24	02	-14	10	-21	37	02	-20	-22	-13	17	06	1.00						
35	40	03	12	02	09	-28	33	16	31	08	09	12	03	16	1.00					
36	31	-06	06	07	15	-19	49	17	09	-08	-01	06	32	30	49	1.00				
37	24	-08	04	06	26	-10	29	-00	-13	03	14	18	03	07	23	35	1.00			
38	02	05	05	14	-00	03	18	-02	-16	16	-12	25	15	14	13	05	35	1.00		
39	-08	-21	-02	-16	11	-17	-15	01	-06	-06	22	12	06	-09	02	-02	05	17	1.00	
40	08	-03	-07	-06	03	-15	25	15	09	13	-06	16	19	09	18	29	-02	18	46	1.00

APPENDIX II: SECTION VI

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	27	17	03	21	21	25	-15	-06	13	-01	-06	-08	27	-06	09	19	11	-19	09	01
42	-01	-10	-13	-02	09	-30	07	-16	07	-11	-08	-01	05	-16	08	16	23	03	-12	-09
43	13	26	08	14	-06	-07	17	17	13	-00	20	11	00	-07	06	08	23	07	06	04
44	10	-01	33	18	14	-02	08	10	04	-09	-15	09	08	-03	04	25	37	13	12	14
45	10	07	18	16	22	04	09	01	25	-04	-05	-03	23	-10	13	18	12	15	15	17
46	25	12	24	17	33	03	17	21	35	24	14	22	13	10	14	05	23	09	01	18
47	06	-14	-20	-05	14	-30	11	-02	-01	12	-13	-13	13	22	01	10	04	16	-08	30
48	08	01	03	01	-10	-09	09	00	29	-03	06	07	04	03	23	19	01	07	09	43
49	25	19	01	15	00	-27	14	25	09	-09	-11	-08	-04	-06	-03	25	28	-03	-02	20
50	11	10	-06	07	26	-08	15	01	26	02	-13	05	27	02	27	12	23	19	10	06
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52	37	21	-07	11	02	-11	12	05	11	06	21	-14	15	05	22	31	16	-11	01	13
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57	-19	-03	-28	08	13	-11	-30	03	-08	-22	-24	-24	19	-12	-23	03	06	-08	23	15
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59	13	-01	04	10	02	-19	-02	-04	21	-08	-21	17	12	-08	00	03	04	-04	08	16
60	-04	07	-01	18	-04	-13	-06	27	20	04	13	-03	08	-06	05	11	-08	04	-11	16

APPENDIX II: SECTION VII

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
61	00	-11	-02	06	02	-08	12	20	28	19	15	04	-03	-07	18	-07	-04	08	21	11
62	25	21	13	29	22	-22	05	25	21	10	07	31	17	-07	17	01	02	07	21	39
63	-04	02	04	08	-14	21	04	20	28	24	07	10	-04	-22	-20	-05	13	-01	20	24
64	08	-00	10	-02	15	20	34	-01	15	10	21	-03	02	03	12	20	34	05	-04	13
65	11	-08	02	08	17	02	30	-02	20	-03	-02	15	18	15	09	08	23	25	19	30
66	25	20	00	01	11	20	21	-02	24	14	20	24	21	-08	23	14	40	17	09	21
67	19	10	03	18	03	-15	01	03	27	05	02	09	14	-20	14	11	07	04	02	06
68	13	15	-12	-03	-05	-04	-21	-11	-11	-20	-07	-30	04	-13	07	06	09	02	-13	-05
69	-01	10	-12	10	-01	03	17	07	20	04	15	11	26	-04	08	15	26	-12	13	22
70	-06	18	15	24	22	-19	-14	-12	19	-12	01	-18	04	-17	19	14	06	-18	08	-03

APPENDIX II: SECTION VIII

	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
41	1.00																			
42	-27	1.00																		
43	-02	20	1.00																	
44	19	-03	23	1.00																
45	29	36	31	30	1.00															
46	18	-13	08	29	21	1.00														
47	-03	21	19	10	22	-14	1.00													
48	25	-17	06	20	-05	27	05	1.00												
49	05	30	55	44	27	17	26	17	1.00											
50	28	22	16	05	35	25	18	21	12	1.00										
51	31	23	33	15	43	19	45	31	34	52	1.00									
52	34	-11	06	04	17	25	00	22	11	23	10	1.00								
53	12	16	13	23	38	37	26	14	32	55	56	26	1.00							
54	36	-14	01	15	15	24	11	35	16	42	42	18	36	1.00						
55	27	18	04	-04	03	-09	-07	18	12	-07	08	08	-25	-12	1.00					
56	11	04	40	32	40	18	27	06	59	-03	30	24	29	07	-09	1.00				
57	14	-09	07	15	13	06	15	04	15	17	09	20	03	12	-08	43	1.00			
58	09	-00	11	11	08	29	18	07	30	-06	-01	11	-01	-13	14	18	-00	1.00		
59	26	23	23	24	27	09	24	31	45	43	51	06	35	28	-01	18	-07	-06	1.00	
60	13	-06	36	23	23	08	36	02	34	-00	32	06	11	31	-08	47	41	21	-02	1.00

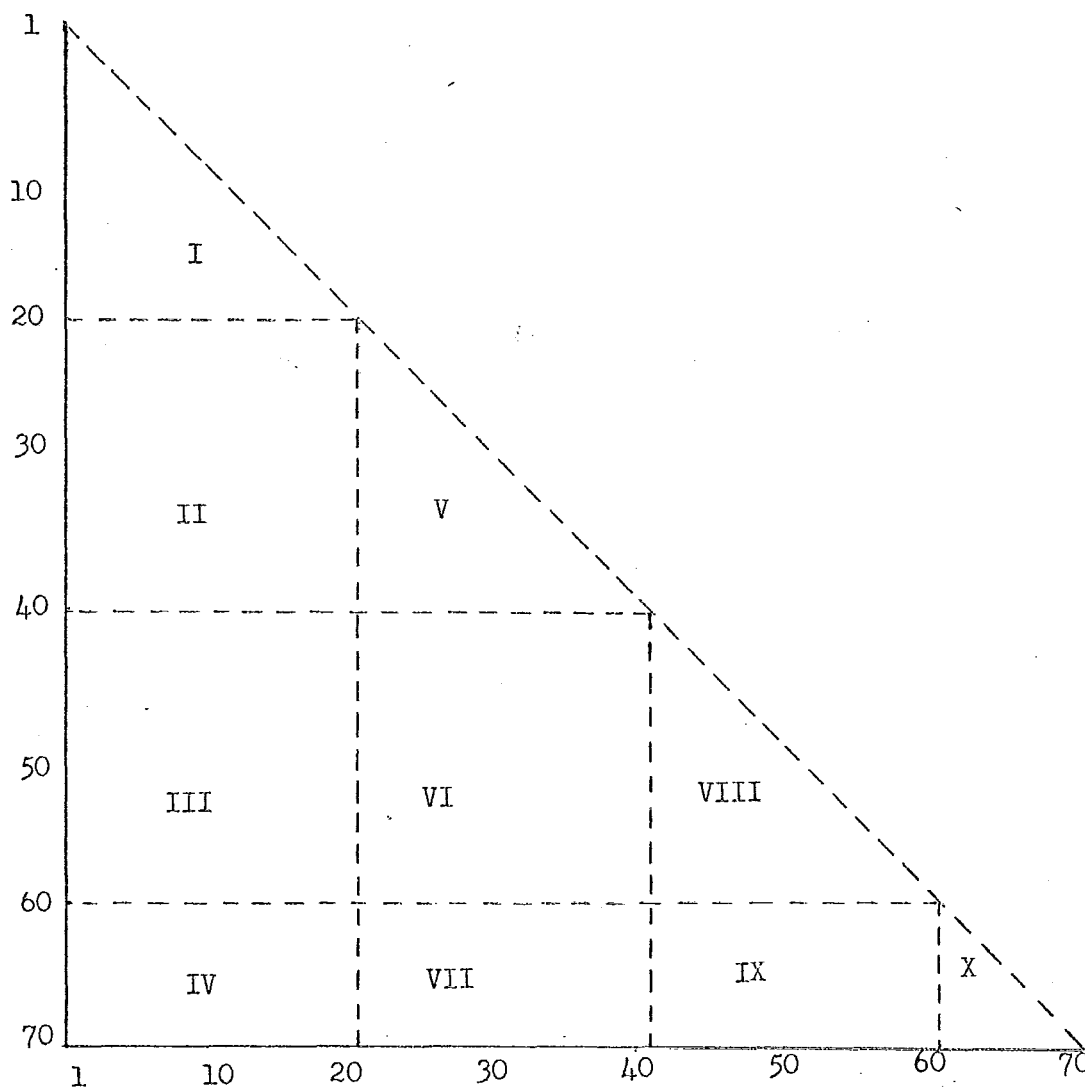
APPENDIX II: SECTION IX

	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	14	-08	16	-12	04	17	18	05	-01	15	24	-12	12	38	-01	-02	02	-06	-10	26
62	11	08	28	11	33	22	23	21	24	21	63	07	35	28	-07	21	-10	-10	32	11
63	02	02	41	14	36	24	03	-06	34	00	14	01	23	-00	03	39	12	09	14	24
64	07	02	24	12	18	39	08	24	18	06	05	23	27	18	08	16	-06	10	-08	09
65	30	09	18	20	40	34	30	34	20	45	56	16	46	42	12	17	-01	-16	41	02
66	21	-16	22	15	05	35	-00	09	25	36	22	21	34	38	-13	20	08	-04	21	07
67	21	35	47	34	46	23	27	08	46	20	44	04	27	25	08	23	-16	21	36	26
68	20	04	09	07	03	04	-07	-02	10	-07	03	13	-27	20	34	11	25	26	-10	28
69	33	10	36	05	31	18	-02	30	25	41	37	23	26	50	24	10	02	-14	26	07
70	22	31	25	08	48	-18	22	04	10	09	36	10	-04	-02	08	26	23	05	12	35

APPENDIX II: SECTION X

	61	62	63	64	65	66	67	68	69	70
61	1.00									
62	39	1.00								
63	01	11	1.00							
64	17	02	31	1.00						
65	27	38	26	45	1.00					
66	19	18	26	27	30	1.00				
67	27	33	10	22	30	17	1.00			
68	09	-13	-04	-03	-05	05	10	1.00		
69	23	27	28	44	53	24	23	-05	1.00	
70	10	19	-13	-12	03	-17	25	26	-02	1.00

APPENDIX III

INTER-ITEM CORRELATION MATRIX: COUNCILSCHEMA

ITEMS CORRESPOND TO ITEMS IN QUESTIONNAIRE

70 items utilised. Each section corresponds to one of the ten following pages.
Decimal points omitted.

APPENDIX III: SECTION I

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1.00																			
2	01	1.00																		
3	-47	14	1.00																	
4	07	04	25	1.00																
5	-24	04	49	-05	1.00															
6	24	32	-28	-20	47	1.00														
7	16	14	-25	-25	23	48	1.00													
8	11	48	18	-46	61	56	30	1.00												
9	60	49	-01	-08	16	32	61	56	1.00											
10	-12	61	37	59	16	04	27	-01	36	1.00										
11	39	13	10	38	27	30	29	40	54	21	1.00									
12	-30	55	40	-41	09	17	28	50	32	22	03	1.00								
13	31	-35	-23	-12	-30	-12	-09	10	01	-50	48	02	1.00							
14	25	68	20	-07	-07	30	41	34	69	45	20	73	-16	1.00						
15	39	18	-63	-25	-15	57	-15	26	-04	-46	07	-18	21	-07	1.00					
16	-26	18	-44	-65	-23	23	30	25	-11	-23	-24	48	27	07	30	1.00				
17	20	-14	-40	-45	34	29	14	33	06	-25	-26	-33	-12	-40	25	20	1.00			
18	-10	20	-12	-83	31	35	61	57	37	-09	-26	49	-18	27	-03	58	54	1.00		
19	62	23	-24	22	11	56	64	25	73	26	72	-01	07	49	21	-21	-17	-01	1.00	
20	13	-20	-54	-16	-09	44	01	27	-13	-39	39	-06	63	-25	72	54	12	-07	17	1.00

APPENDIX III: SECTION II

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	25	24	-76	-67	-29	34	46	23	27	-26	-29	11	-03	16	50	67	48	66	15	30
22	23	-04	08	33	22	-11	09	28	32	23	69	-19	50	-22	-20	-14	16	-16	19	27
23	38	13	-05	50	05	06	35	16	53	39	89	-14	41	10	-09	-21	-20	-28	65	29
24	02	01	-56	-55	14	60	78	30	24	-21	07	14	01	08	32	59	30	64	42	41
25	23	-18	-27	22	14	13	54	09	31	24	59	-20	41	-18	-19	12	22	05	40	34
26	07	17	-50	-26	-31	-10	41	-14	18	24	-43	-04	-26	02	-13	44	49	51	-11	-15
27	22	18	02	-14	46	29	68	61	69	31	55	24	20	21	-24	17	36	51	42	11
28	-31	-22	-18	16	47	30	34	-06	-24	24	01	-37	-25	-51	-12	12	48	14	-02	17
29	-19	-00	-07	-46	10	-04	70	23	32	15	-05	39	07	13	-47	54	29	74	-01	-09
30	31	-11	-32	10	07	41	84	04	47	17	57	01	19	26	-07	07	-14	14	81	20
31	23	12	-48	-27	-18	-11	31	22	38	-13	18	-19	20	-15	18	26	32	30	19	27
32	05	01	-03	32	29	08	29	29	27	24	76	-16	41	-24	-08	01	05	-12	35	45
33	18	-31	-44	-58	-28	-04	15	08	06	-74	03	-05	42	-12	37	28	00	22	15	34
34	-55	29	-02	-28	-17	-20	28	09	-06	25	-17	50	08	06	-23	74	-03	42	-33	16
35	-58	-48	-12	-42	-17	-33	-06	-46	-66	-34	-84	-05	-24	-42	-25	37	21	30	-68	-23
36	-13	07	-02	-44	18	-06	72	33	47	18	04	34	-00	16	-46	39	29	74	09	17
37	-03	-11	-44	38	-37	-21	36	-52	-03	29	12	-40	-02	-23	-16	07	-14	-21	25	11
38	40	-08	-37	-11	24	68	70	34	41	01	56	11	39	20	20	30	20	28	65	49
39	-05	26	-31	00	-10	-11	42	13	30	27	26	-07	08	-11	-06	32	15	22	18	25
40	02	12	12	-28	26	-11	53	40	52	30	13	29	06	14	-52	23	41	62	01	-22

APPENDIX III: SECTION III

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
41	21	12	-30	-48	45	87	67	56	40	-20	23	21	-09	28	44	27	29	51	59	31
42	27	08	14	75	14	-20	-26	-09	17	40	47	-59	-06	-27	-09	-69	-00	-59	22	-08
43	-01	-50	10	40	05	-15	05	-56	-17	-02	00	-49	-31	-19	-27	-65	-32	-40	26	-41
44	35	-55	-22	-29	-12	-24	-47	08	-19	-82	05	-41	64	-54	35	-07	32	-15	-24	34
45	52	-09	-44	-29	03	55	39	34	38	-47	50	-03	39	18	58	08	-04	11	70	51
46	49	31	-14	-22	21	58	29	30	46	15	-16	14	-42	51	23	-08	40	41	33	-27
47	06	58	14	34	-37	-41	01	-05	37	68	12	26	-03	38	-35	04	-24	-09	-01	-22
48	-25	15	12	-78	25	-01	46	49	32	-07	-31	55	-15	23	-30	47	38	92	-20	-27
49	31	-39	-20	-10	-02	-21	-13	22	07	-44	46	-29	81	-48	12	07	28	-09	-03	50
50	62	-38	-41	-16	-09	19	17	21	29	-58	61	-23	77	-11	41	-01	03	-10	51	55
51	-15	-02	44	-56	68	32	13	72	22	-35	14	42	02	15	02	01	15	49	03	-04
52	-33	-12	-66	00	43	-37	08	-02	11	24	-24	07	-55	04	-75	-50	-00	22	-18	-87
53	-46	-48	-13	-24	-17	-38	04	-36	-38	-27	-38	-26	01	-59	-36	21	16	18	-46	-12
54	-58	19	56	-39	16	-33	15	18	04	24	-39	69	-24	29	-67	30	-05	55	-47	-52
55	21	-17	-20	-34	-15	-12	-39	34	-08	-63	23	-03	80	-33	44	30	21	-04	-24	63
56	12	-56	-39	-68	-30	-24	-17	02	-24	-92	-24	-13	58	-42	28	37	30	24	-34	33
57	-28	70	-15	-08	04	37	48	23	26	47	00	35	-47	39	16	38	-11	34	29	11
58	17	05	-18	32	-19	-24	58	-27	-21	-08	-20	-67	-30	-40	35	-46	14	-46	-15	-07
59	26	21	-15	-28	55	88	32	76	34	-20	52	18	19	17	61	19	25	28	51	60
60	-09	26	-61	-21	-22	41	45	-08	-00	-00	-15	00	-28	10	44	46	00	25	31	32

APPENDIX III: SECTION IV

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
61	-02	27	-14	-48	-58	-24	12	09	19	-22	-07	59	36	44	09	54	-40	26	-02	15
62	16	-04	-18	-73	02	07	61	47	52	-34	15	41	33	27	-05	43	16	71	26	08
63	04	-15	-06	-49	-05	-30	49	24	43	-19	12	22	30	06	-35	26	12	54	09	-09
64	10	-59	-57	-51	-39	-21	-24	-15	-41	-90	-25	-34	58	-60	42	39	32	06	-34	49
65	28	-16	-62	04	-02	34	21	14	04	-29	54	-42	49	-40	56	22	19	-13	41	82
66	-23	37	-05	16	-16	-36	14	02	17	44	12	01	-03	-09	-24	21	00	06	-08	05
67	-05	23	20	03	22	-17	45	39	52	42	48	25	21	11	-47	13	07	30	17	-01
68	35	-05	03	34	01	-23	-39	13	15	-16	54	-46	37	-32	23	-47	-06	-50	18	25
69	-06	12	-01	-44	31	22	88	40	55	24	11	45	-08	34	-41	38	25	80	29	-16
70	16	07	-23	62	-43	-31	-21	-40	-11	40	20	-34	26	-22	-07	-02	-06	-52	-06	22

APPENDIX III: SECTION V

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
21	1.00																			
22	-27	1.00																		
23	-18	81	1.00																	
24	72	-16	06	1.00																
25	02	79	77	32	1.00															
26	67	-00	-07	33	29	1.00														
27	16	70	61	36	76	30	1.00													
28	01	28	15	37	58	31	34	1.00												
29	40	25	13	50	53	63	70	32	1.00											
30	18	22	60	65	66	09	51	30	39	1.00										
31	59	38	42	43	37	48	41	05	39	22	1.00									
32	-15	88	87	13	83	-03	67	45	28	45	48	1.00								
33	49	-19	-04	52	-10	-07	-10	-34	08	22	56	-03	1.00							
34	31	14	05	28	28	53	32	23	71	03	33	26	-03	1.00						
35	21	-52	-72	18	-25	37	-37	26	32	-24	-12	-47	15	34	1.00					
36	40	30	23	50	49	59	75	25	95	39	55	35	17	63	19	1.00				
37	18	22	49	31	54	46	10	43	27	52	49	45	11	35	10	29	1.00			
38	23	34	46	60	70	05	63	36	36	78	03	43	04	01	-31	27	11	1.00		
39	41	49	57	40	57	54	51	33	52	33	86	68	20	61	-11	63	71	10	1.00	
40	20	55	31	18	57	55	86	25	86	21	42	41	-14	52	-01	89	09	27	51	1.00

APPENDIX III: SECTION VI

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	49	-23	-01	81	09	-05	33	19	17	55	10	02	35	-16	-13	21	-15	64	-02	01
42	-44	62	63	-46	32	-13	15	17	-36	-03	23	55	-33	-32	-58	-20	31	-17	31	02
43	-36	-28	01	-01	-10	-30	-36	10	-31	32	-19	-14	15	-53	15	-23	32	-14	-22	-41
44	00	25	-05	-17	-04	-28	-11	-27	-25	-30	25	05	52	-36	-01	-21	-30	-08	-15	-11
45	36	-05	27	60	11	-30	13	-21	-13	58	28	15	71	-37	-37	-04	-01	54	01	-23
46	33	-34	-29	14	-20	21	13	-08	-04	05	-27	-48	-26	-40	-16	-05	-44	28	-41	06
47	-01	39	41	-36	22	44	28	-19	26	-09	27	24	-40	49	-31	29	31	-20	49	45
48	47	-08	-28	41	-02	46	17	-01	79	-09	34	-11	23	52	36	82	-20	01	26	72
49	-03	76	49	-03	54	-09	41	03	15	05	49	63	34	03	-24	18	05	24	33	32
50	14	36	47	30	37	-32	24	-21	-07	47	36	38	66	-35	-40	-02	02	52	07	-06
51	-05	-09	-22	22	-23	-47	24	-17	10	-05	-09	-07	30	-17	-07	19	-68	10	-28	15
52	-34	-10	-20	-22	-22	-00	09	01	23	-13	-10	-18	-15	-09	25	36	-13	-42	-09	35
53	17	03	-12	21	15	39	-03	29	47	-03	49	14	41	46	68	49	51	-33	49	27
54	-03	-12	-34	-08	-16	27	22	-09	63	-24	-12	-22	-20	61	42	59	-24	-26	03	58
55	11	42	12	-09	09	-22	09	-29	-08	-30	34	28	42	05	-19	-08	-30	05	09	04
56	38	-07	-29	22	-09	03	-13	-26	14	-16	35	-14	77	02	40	11	-15	03	-02	01
57	48	-23	10	53	-02	34	13	18	23	26	35	12	03	38	-06	31	39	03	56	05
58	-01	-08	-08	-36	-36	-02	-49	-10	-65	-48	27	-11	06	-42	-11	-49	13	-63	08	-44
59	21	12	19	50	16	-37	37	14	-10	33	02	28	18	-24	-48	-06	-36	64	-07	-07
60	68	-45	-06	75	-03	35	-14	22	10	39	37	-05	39	26	19	12	52	15	42	-25

APPENDIX III: SECTION VII

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
61	-44	-23	-06	22	-23	13	-07	-63	28	03	35	-18	58	48	08	28	03	-12	24	07
62	54	07	12	62	21	23	52	-22	67	41	56	13	69	30	05	74	-01	34	35	54
63	35	29	26	39	34	34	54	-12	74	33	68	30	57	42	12	84	24	12	56	69
64	39	-04	-23	23	-01	07	-23	-08	02	-15	38	-05	71	02	41	-03	04	-02	06	-15
65	29	44	57	51	57	-04	25	36	-03	47	56	68	44	00	-30	01	47	49	52	-10
66	13	47	47	05	39	50	36	21	42	03	70	57	-03	67	-08	52	62	-21	91	48
67	01	76	67	12	68	31	84	21	69	32	55	75	-08	56	-29	78	32	24	74	85
68	-26	56	54	-32	13	-40	04	-22	-44	-11	45	51	26	36	-59	-24	07	-20	27	-13
69	40	18	20	62	48	50	78	29	92	56	34	26	10	50	12	84	18	49	44	81
70	-16	56	50	-37	51	31	09	23	-03	-01	13	44	-45	25	22	-11	52	04	38	11

APPENDIX III: SECTION VIII

	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
41	1.00																			
42	-39	1.00																		
43	04	21	1.00																	
44	-12	09	-10	1.00																
45	74	-16	19	30	1.00															
46	49	-21	-10	-22	14	1.00														
47	-56	35	-41	-36	-50	-12	1.00													
48	28	-51	-36	-09	-09	17	07	1.00												
49	-15	31	-29	77	22	-44	01	-02	1.00											
50	36	06	08	65	82	-12	-34	-18	69	1.00										
51	54	-33	-06	23	36	18	-51	51	08	21	1.00									
52	-13	09	43	-20	-37	05	00	45	-28	-41	38	1.00								
53	-27	-08	21	17	-23	-62	-03	37	24	-08	-11	32	1.00							
54	-19	-45	-31	-34	-55	-03	31	77	-24	-56	31	57	29	1.00						
55	-12	01	-55	83	25	-34	-06	01	83	59	20	-48	05	-19	1.00					
56	05	-41	-15	81	33	-24	-40	29	57	54	25	-19	46	-03	70	1.00				
57	37	-10	-12	-69	09	05	27	24	-49	-35	-08	-07	03	12	-41	-43	1.00			
58	-32	61	24	29	-09	-08	03	-43	01	-08	-31	00	10	-51	07	-00	00	1.00		
59	82	-11	-23	11	69	34	-48	01	15	47	57	-38	-52	-35	26	01	18	-22	1.00	
60	50	-28	13	-39	39	03	-14	05	-39	-03	-21	-32	18	-24	-31	-04	79	10	19	1.00

APPENDIX III: SECTION IX

	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	-01	-51	-32	04	25	-23	29	38	03	18	05	-20	17	33	29	41	28	-25	-14	28
62	47	-45	-18	19	50	02	-07	74	31	47	49	13	31	33	25	53	14	-47	23	17
63	10	-17	-08	19	21	-26	17	70	43	34	27	31	59	41	22	47	06	-32	-12	03
64	-01	-29	-11	79	31	-34	-41	06	58	53	01	-38	49	-25	69	94	-37	15	-01	10
65	33	28	-02	33	60	-34	-21	-31	58	67	-13	-61	13	-69	43	25	15	15	49	41
66	-36	40	-28	-23	-33	-50	71	22	23	-22	-37	04	48	21	05	-16	50	18	-33	22
67	-09	30	-33	-15	-14	-30	58	45	44	06	05	21	27	39	12	-14	21	-33	-03	-17
68	-24	75	08	58	26	-41	09	-39	64	52	02	-09	01	-51	53	15	-23	59	11	-26
69	45	-34	-16	-37	10	19	14	78	-01	-00	29	32	25	54	-25	03	35	-66	14	18
70	-62	50	-24	-05	-42	-31	64	-49	31	-08	-84	-43	01	-26	13	-26	-09	19	-38	-15

APPENDIX III: SECTION X

	61	62	63	64	65	66	67	68	69	70
61	1.00									
62	60	1.00								
63	52	89	1.00							
64	29	32	29	1.00						
65	-05	16	13	44	1.00					
66	23	13	43	-09	24	1.00				
67	14	45	67	-23	18	73	1.00			
68	-08	-06	10	20	49	28	21	1.00		
69	20	73	70	-19	-03	27	65	-43	1.00	
70	-16	-47	-21	-05	25	50	29	23	-25	1.00

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