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SMALL TASK-ORIENTED GROUPS

A systems analysis

A thesis presented in partial fulfilment of
the requirements for the degree of
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INTRODUCTION

"Where two or more people are gathered together in order to engage in social interaction - there is a social system".
(Anon.)

The question of why it is that people come together in systems of interaction and how these systems persist as viable social arrangements is one which has been taken up by social philosophers and sociological theorists as far back as Hobbes. Subsequently Spencer, Durkheim, and such contemporary figures as Homans, Merton and Parsons have also taken issue with this problem. The present thesis shares a similar concern with the problem and derives its stimulus from the way in which sociologists have attempted to formulate adequate explanatory theories.

The thesis exhibits a convergence in the interests of the two authors - on the one hand, an interest in the application of Parsonian theory to small group phenomena, and on the other, the use of 'systems theory' in the explanation of social interaction in educational settings. The specific focus of attention is on those groups which have the properties of being small and task-oriented. Such groups are ubiquitous in educational contexts. At the most general level the thesis uses Parsons' voluntaristic theory of social action as the frame of reference from which a theory of small task-oriented groups can be derived. The thesis is therefore an expedition into the realms of sociological theory and an exploration of the way in which Parsons' theory in particular can be applied to an empirical situation. Elements of a general systems theory have been employed to further limit the scope of the investigation by focussing only on the internal dynamic of small task-oriented groups, rather than the way in which they adapt to their surrounding environments, thus enabling such groups to be conceptualised as discrete social systems in their own right.

The investigation reported in this thesis consists of a series of related steps which systematically link the abstract theory to a concrete empirical situation.

Chapter 1 is a brief exposition of Parsons' frame of reference and the elements of his theory of social action that are used in this study--namely the four functional problem and the pattern variable schemes. These two schemes are discussed in turn as they provide the theoretical basis of a research model which is capable of describing

and explaining the processes and conditions under which small task-oriented groups come into existence and persist over time. In Chapter 2 the research model is constructed by harnessing these two conceptual schemes in a manner that allows specification of a limited set of relationships between the behaviour of individual actors and the state of the social system of which they are members. Chapter 2 also provides a detailed statement of the scope of the research problem and definitions of the operational categories that are used in the analysis of on-going interaction in task-oriented groups. Chapter 3 provides the operational links between the research model and 'the real world' by specifying the empirical conditions under which the relationship hypothesised in the model are to be tested. The results of the investigation are presented in Chapter 4. The final chapter of the thesis presents a discussion of the conclusions to be drawn from the findings: an evaluation of the theoretical strategy and the methodology employed, and a commentary on the theoretical importance of the study.

Chapter 1

PARSONS' THEORY OF SOCIAL ACTION

This thesis sets out to show how Parsons' voluntaristic theory of social action can be used to explain the genesis and persistence of task oriented groups, when they are conceptualised as systems of social action. The first chapter accordingly discusses those elements of Parsons' theory which are to be employed in the conceptual framework to describe and explain the processes and conditions under which social action occurs.

Acceptance of Parsons' theoretical position carries with it an acceptance of several assumptions. A statement of these assumptions at the outset is important because they underpin Parsons' theory of social action which in its turn provides the theoretical basis for this thesis. The assumptions are:

- 1) Members of social groups are conceptualised as actors¹ who, by the decisions they make, are capable of exercising some influence over the social situation of which they are part.
- 2) To this extent, social action is both voluntary and instrumentally-adaptive (i.e. actors are able to choose among the means available to achieve their desired goals).
- 3) However, social action can only occur when instrumentally-adaptive behaviour is regulated by norms of the group which in their turn are seen as governing the selection and application of means in the attainment of ends.
- 4) Norms as rules of procedure play a major part in establishing the pattern of role relationships in any given social system.

The concept of social system is a basic one in sociological analysis (and in Parsons' theory) because it encapsulates the idea of the patterning and structure of social interaction, providing the theoretical boundaries within which social action can be analyzed. Some early models of social system theory (Bertalanffy, 1932; Miller, 1965) emphasized the structural components of systems and their tendency to maintain a 'static equilibrium'. Later developments in systems

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1. For Parsons the term actor is a theoretical construct. Turner (1962) develops this idea when he says: "The role dimension refers to types of actors... While people tend to be given stable classification according to the major roles that they play, the specific referent for the term 'role' is a type of actor rather than a type of person."

theory (Rappaport, 1957; Berrien, 1968; Buckley, 1968) emphasised the dynamic features and processes of social systems. The focus in Parsons' work is on both structure and process. He develops a dynamic social system model which is theoretically capable of explaining the processes of Genesis, Maintenance and Adaptation that occur within any social system. Hence:

"... the unit of all social systems is the human individual as actor, as an entity which has the basic characteristics of striving towards the attainment of 'goals', or 'reacting' emotionally or affectively towards objects and events, and of, to a greater or lesser degree, cognitively knowing or understanding his situation, his goals and himself. Action is in this frame of reference, inherently structured on a 'normative', 'teleological' or possibly better, a 'voluntaristic' system of 'co-ordinates' or axes." (Parsons, 1954, 228)

Interaction between components of a system is structured when there is a discernible and definitive patterning and stability of relations between these components. Thus in social systems, where the components are individual actors, the structure of the system consists of the institutionalised patterns of norms and values which govern the behaviour of individual actors. As the assumptions listed earlier indicated, the normative patterns serve as regulators of social action. The maintenance of normative patterns within a social system thus becomes a basic reference point for analyzing the equilibrium of the system. The concept of structure entails the idea of system stability. Parsons invokes the idea of equilibrium in his analysis of the social system in its stable state. Equilibrium is then

"a concept defining the relations... between analytically formulated relations of variables... and empirical inter-dependencies of operationally identifiable components... It states that, given the concept of an empirical system, there are in fact empirical conditions of its stability - whether this stability be 'static' or a 'moving stability in change'." ¹ (Parsons, in Black, 1960, 337)

Even though social phenomena are on-going and adaptive, being able to hold features of the social system constant allows Parsons to construct a theory which will explain the structure of social systems. Parsons is concerned both with the means whereby equilibrium of the system is achieved and the conditions which bring about change. Thus the ability to distinguish between conditions which contribute to stability or those which move the system away from a 'stable state' makes systematic empirical analysis possible by providing a reference point for that

1. Here Parsons recognizes that the legitimation of his theory rests on the identification of its empirical referents.

analysis. It follows therefore, that

"The statement that everything empirical is subject to change may be metaphysically correct; but this is often translated into the scientifically untenable doctrine condemning as invalid the heuristic assumption that any reference point is structurally given, on the grounds that such an assumption would permit the investigator to deny the fluidity of ultimate reality."
(Parson, in Demerath, 1967, 194)

Parsons does concede that the structural approach by itself is insufficient to explain social process within the context of a stable social system. The apparent contradiction between the notion of stability and process is resolved when

"...the concepts of 'structure' and 'process' (are) seen as exhibiting (both) the static and dynamic aspects of phenomena. In some phenomena the static aspect may appear more significant, while in others the dynamic aspect may seem decisive; actually they should be viewed together, each as a manifestation of the other. Structure, however enduring, exists in terms of process, and process, no matter how slowly or rapidly it operates, always moves through structure. Structure and process are correlative, not opposing, aspects of phenomena." (Turner, cited in Miller, 1965)

The central problem that Parsons confronts is that of effecting a synthesis of these two general concepts, structure and process, into a single voluntaristic theory of social action. The elements which make up Parsons' theory of social action are two conceptual schemes which he calls respectively, the Four Functional Problems and the Pattern Variables.

The concept of structure and the notion of system stability is accommodated within the four functional problem scheme, whilst the concept of process is accommodated by the pattern variables scheme which allows for the theoretical specification of choices open to actors, placing them in the situation of exercising some influence over the social system of which they are part. Because these aspects of Parsons' theory are used in the research model presented in Chapter 2, the remainder of this chapter discusses the two conceptual schemes, briefly shows the way in which Parsons incorporates them into a theoretical paradigm for explaining social action, and provides a justification of the adoption of Parsons' terminology.

The Four Functional Problems

If a social system is either to remain stable or undergo an orderly process of developmental change, it has been argued that certain functional prerequisites must be met (Bennett & Tumin, 1948; Aberle et al,

1950; Parsons, 1951). It is generally agreed that these can be simply stated as:

- 1) There must be some means of replacing members of the social system who leave or die.
- 2) Goods and services must be produced and distributed to support the social system.
- 3) There must be provision for maintaining order and containing conflict, both internally and externally.
- 4) Human replacements must be trained to become participating members of the social system.
- 5) There must be procedures for dealing with emotional crises, for harmonising the goals of individuals with the values of society; and of maintaining a sense of social purpose.

Parsons chose to translate such functional prerequisites¹ into a set of problems which any and every social system must resolve in order to survive. Full development of the idea of functional problems emerged from Parsons' collaboration with Bales & Shils.² Bales' early work on interaction process analysis had identified four functional 'problems' that small groups had to contend with in order to become and remain viable social arrangements. Bales labelled these problems as: adaptive, instrumental, expressive and integrative. However, Parsons renames these and establishes a new convention for the naming of the four functional problems which then feature in his theoretical paradigm of social systems. These are the functional problems of Adaptation, Goal-attainment, Integration and Latency. Each of these problems, as well as identifying the concomitant processes of system development,

1. Parsons' first statements on the functional problems of social systems were in the form of a discussion of the functional prerequisites of social systems in The Social System (chapter 2, specifically 26-36) and the Structural Imperatives of a Given Social System (chapter 5, 167-180) and later in chapter 11.
2. The Working Papers is a collection of exploratory articles in which seminal ideas from The Social System and Parsons' earlier works are worked out in collaboration with Bales & Shils. The configuration of the pattern variables scheme is worked out with Shils and discussed in conjunction with Bales' work on interaction process analysis of small groups (chapter 3). Chapter 5 provides a synthesis of the two conceptual schemes and specifies the way in which these schemes are to be used in a general theory of action capable of explaining social action at any level of complexity.

delineates an important feature of the structure of social systems. They are versatile enough to be conceptualised respectively as problems, processes, sub-systems and phases of action.¹ Each problem is treated in turn below:

Adaptation. Stated as a system problem, Adaptation refers to the way in which system members rationally manipulate means for the attainment of ends. When conceptualised as a process Adaptation refers to the mobilising of means for goal-attainment and the allocation of roles to actors within the system. As a sub-system Adaptation is concerned with meeting the exigencies which result from the interaction of the system with its external environment. The activity of accommodation and adaptation to the embedding environment by the system can be designated as a phase of action for the system.

Goal-attainment. Stated as a system problem Goal-attainment refers to the way in which the action system is kept moving steadily towards its goals (in whatever manner these are determined, either relative to the system as a whole, or to individual actors in the system). When conceptualised as a process Goal-attainment refers to the way in which individuals are motivated to perform in specific situations. The Goal-attainment sub-system designates the ends or priorities for the system as a whole, whilst the activity of attaining these ends can be seen as a phase of action for the system.

Integration. Stated as a system problem Integration refers to the problem of holding system members in line, of creating and maintaining solidarity despite the emotional strains involved in the Goal-attainment phase and in the manner of sharing contingent rewards. As Morse points out "there are commitments to the system that hold it together even when

1. When it is said that the system has a problem, reference is being made to an area of activity that has to be provided for and coped with, e.g. a society needing to allocate scarce resources is posed with the problem of providing a mechanism for such an allocation (compatible with the norms and values of that society). The term process refers to the mechanisms (means) whereby functional problems are dealt with as part of the total societal process, e.g. the way in which resources are allocated in a society. When a society is viewed as a system, then functional problems can be identified as sub-systems of the system, e.g. the Economy as a sub-system can be differentiated from the sub-system of Polity. Analysis of a system in terms of its component sub-systems provides explanation of social structure. When a dynamic analysis of social systems is given, then sub-systems become phases of action. These distinctions provide four analogous terms for the description of social phenomena at different levels of analysis.

it fails for a time to perform satisfactorily." (Morse, in Black, 1960, 117). When conceptualised as a process Integration refers to establishing and maintaining appropriate emotional and social relationships among those directly involved in attaining goals. As a sub-system Integration is concerned with the mutual adjustment of units (these can be either members of the system or sub-systems of the system as a whole), and where these adjustments 'contribute' to the effective functioning of the system as a whole. The activity of adjustment, the development of a sense of solidarity between members and the creation of a sense of collective identity among members which contributes to the persistence of the group over time are all features of the phase of action of Integration.

Latency. The system problem of Latency has two aspects - pattern-maintenance which is the problem of maintaining the stability of institutionalised cultural patterns (where the culture of the system is an emergent property of the interaction between system members) and tension management which is the problem of coping with the personal conflicts of group members or their deviance from system norms. When conceptualised as process Latency refers to the way in which actors' commitment to act in accordance with cultural patterns and norms is encouraged, and to the way in which tension between members is reduced or contained. As a sub-system Latency is a period of system quiescence between successive cycles of goal-attainment which allows for the reaffirmation of the norms and values established for the system. As a phase of action Latency links successive phases of goal-attainment activity because

"attainment of ultimate goals is a necessary condition for meeting unit needs, for conducting and enjoying the activities of latency. But latent interludes, in which system business is in abeyance, are the ultimate justification for submitting to the discipline required by social goal-seeking activity." (Morse, in Black, 1960, 115-6)

Parsons postulates that there is a determinate¹ relationship between the four functional problems. The adaptive and goal-attainment sub-systems together constitute the task-orientation² area of instrumental activity, exemplifying the means-ends relationship. This is what Parsons means when he says that any system of action is instrumentally-adaptive. The integrative and latency sub-systems together constitute the social-

1. Here 'determinate' refers to the logical ordering of the four functional problems within Parsons' paradigm.
2. See 'Working Papers' in The Theory of Action, chapter 3. Also Bales (ASR, 15:2, 257, April 1950).

emotional area of expressive activity, exemplifying the way in which the activities of system members are integrated and controlled. Thus the two major areas of 'task performance' and 'system maintenance' are characterizing features of any social system and these together allow for the persistence of the system over time.

In attempting to explain the inter-relationship of the structural components of social systems, Parsons constructed a paradigm in which the sub-system components were arranged in a functional sequence. A simplified diagram of the relationship between the four functional problems is given in Figure 1. The paradigm in Figure 1 (the L-I-G-A model) states a relationship of dependency between each of the four problems in sequence. In order for system equilibrium to be achieved it is postulated that each system problem has to be resolved in turn. Accordingly, resolution of the adaptive problem is the necessary condition for resolving the Goal-attainment problem, resolution of the Goal-attainment problem becomes a necessary condition for resolving the problem of Integration which in turn becomes the necessary condition for the resolution of the problem of Latency. Together resolution of the four functional problems provides both the necessary and sufficient conditions for system equilibrium preparing the system for movement into the next cycle of instrumental activity.

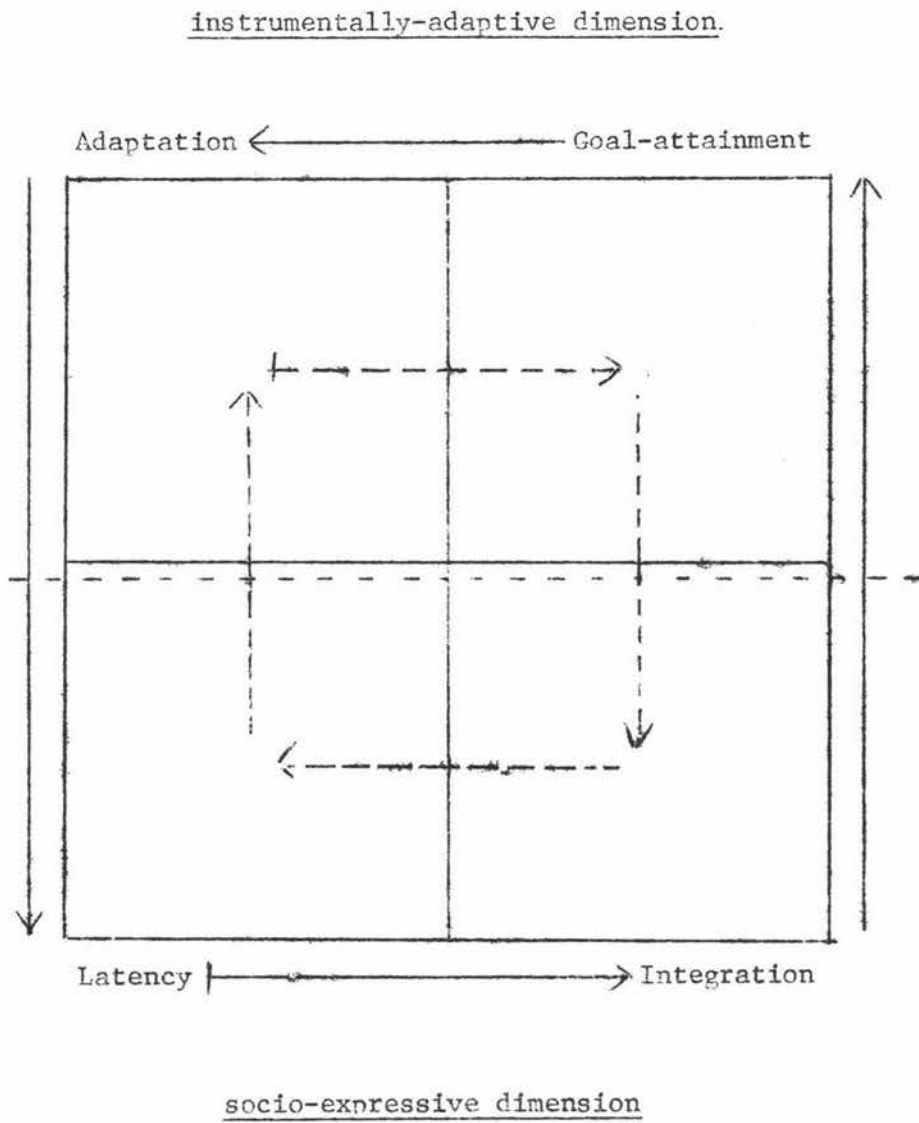
Two major theoretical consequences follow from the arrangement of the four problems in a functional sequence. Firstly, resolution of the system problems in the order specified is necessary if the system is to be maintained. Secondly, as symbolic culture emerges from the interaction between members in the system, so the pattern-maintenance function of the Latency sub-system reinforces the institutionalised patterns which normatively control social action within the system and regulate the selection and application of means in the attainment of ends.

The Pattern Variables

The pattern variables describe the process element of social action and complement the four functional problems in the research model. The pattern variables themselves are categories which describe the way in which actors classify other actors and relate to them in social situations. They nominate the 'dilemmas of choice' which actors face in any social situation. The pattern variables scheme is based on the assumption that the world of social action can be dichotomised

Figure 1

The L-I-G-A paradigm of the four functional problems



Legend: → direction of normative control
- - → direction of functional dependency.

on two major dimensions - cognition and cathexis¹ - dimensions which are the parent categories for the eight specific pattern variables. Derivation of the pattern variables from the parent categories is shown in Figure 2.

Parsons assumes that a person cannot interact with others unless he has some awareness or understanding of the situation and the relational demands that this situation will impose upon him. A description of any concrete social act must, in a sense, encompass the idea of social action as an 'amalgam' of both cognitive and cathectic elements. However, to say that in any concrete social situation actors cannot be described as separately cognitively assessing the situation and then reacting to others in the situation, is to say that the distinction between the cognitive and cathectic dimension cannot be regarded as a 'radical distinction of kind'. Nonetheless this is not to deny that at the level of analytical abstraction, it is both necessary and theoretically desirable to distinguish between the situational and relational aspects of social phenomena.

The discussion of the pattern variable scheme that follows, falls into two parts: First, the analytic distinction between the cognitive and cathectic dimensions is made explicit and the pattern variables of each dimension discussed separately; second, the way in which the pattern variables are related to one another is established, emphasising the idea that social interaction cannot be explained simply as a one-dimensional phenomenon.

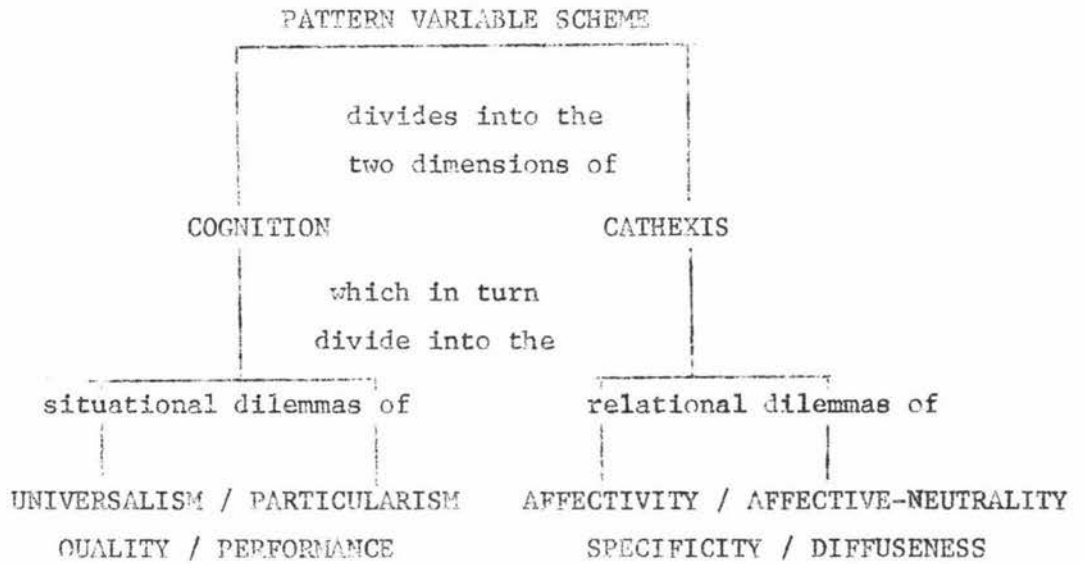
The Pattern Variables distinguished

The cognitive dimension provides theoretical categories for describing the way in which an actor classifies and evaluates the situation before engaging in social exchange with others. This dimension provides a set of categories for describing the way in which the actor

1. Parsons' bifurcation of social action into these two general categories reflects the influence of Weber, who established the significance of the concept of 'Verstehen', and of Freud, whose terminology he has adapted for sociological analysis and whose direct influence is most clearly seen in the development of ideas expressed in Social Structure and Personality (Parsons, 1964) e.g. Cathexis is a translation and adaptation of the Freudian concept of 'Besetzung' - "the concentration or accumulation of mental energy in a particular channel." O.E.D.

Figure 2

Derivation of the pattern variable scheme



answers the questions "What is the situation¹ and what are the individuals in it?". On the other hand, the cathectic dimension provides theoretical categories for describing the way in which an actor relates to other actors in the social situation. The term cathexis is used by Parsons to refer to the way in which an actor forms attachments or aversions to other actors. In turn, this dimension provides a means of describing the way in which an actor answers the question of what the other actor(s) in the situation mean to him (the actor) in an emotional sense.

The cognitive dimension

The cognitive dimension sub-divides into two pairs of bi-polar situational dilemmas called respectively Universalism / Particularism and Quality / Performance.

Universalism / Particularism. The universalism / particularism categories allow for the description of actors as confronted with the problem of classifying other actors according to either their generalising qualities or their special relationship to the actor. A universalistic classification entails the recognition of actors as members of a class, as possessing a common attribute which differentiates one class from another. A particularistic classification, by contrast, recognizes the special relationship between actors, emphasising that the significant attribute that actors have is their personal relationship to each other.

Thus: "Universalism is the classing of (actors) together and conversely discriminating them, by virtue of properties they have in common which are significant independently of any specific relation of the (actor) to ego".²

(Parsons, 1954, 31)

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1. This conception of the 'definition of the situation' is not original to Parsons. A seminal definition advanced by W.I. Thomas: "If men define situations as real, they are real in their consequences" - it is an integral part of Weber's analysis of social action, cf. "Action is social in so far as, by virtue of the subjective meaning attached to it by the acting individual(s), it takes account of the behaviour of others and is thereby oriented in its course." (Parsons, ed. Max Weber: The Theory of Social and Economic Organisation). MacIver in his work on Social Causation invokes a similar concept of 'dynamic assessments' in the understanding of human action. A full discussion of this is given by Coser and Rosenberg, Sociological Theory, Macmillan, (1957), 207-46.
 2. In order to make explicit the point of reference of the pattern variables, Parsons invokes the convention of designating the term ego to the actor(s) seen to make the choices, and the term alter to those actors about whom the decision is made. This convention has been continued in this thesis.

whereas particularism is denoted by:

"the common belongingness of (actors) in a special relational context." (Parsons, 1954, 81)

Quality / Performance. The quality / performance categories allow for the description of actors as confronted with the problem of whether actors will classify other actors in terms of what they are or what they can do. There is built into this dilemma an implicit conceptualisation of social action as being goal-directed. This does not mean that 'goals' determine the action in some predetermined manner, but states rather, that recognition of goals has some directive influence over an actor's evaluation of the situation. As Parsons states:

"Orientation to the actor's performance means that the focus is on his achievement of certain goals or expressive performances and that expectations are oriented to his 'effectiveness' or 'success' in achieving them." (Parsons, 1951, 62)

Parsons defines the quality side of the dilemma thus:

"All actors have attributes, they not only do this or that, but they are such and such. They have attributes of sex, age, intelligence, physical characteristics, statuses in relational systems, e.g. collectivity memberships. The focus of orientation then may be what the object (actor) is in this sense, e.g. that he is ego's father, that he is a physician, or that he is over six feet tall. Such attributes or quality-complexes may be conditions of a variety of performances for physical or social reasons, but even so the orientation focus may still be the quality as such. This may be the criterion for differentiation of treatment and of expectations of his behaviour.

This distinction has become current in the sociological literature in Linton's terms of achieved and ascribed status. Achievement oriented roles are those which place the accent on the performance of the incumbent, ascribed roles, on his qualities or attributes independently of specific expected performances." (1951, 62)

A further point needs to be made about the analytic demarcation of Quality and Performance. Theoretical separation of Quality and Performance into discrete categories depends on the recognition that human action is dynamic rather than static. The classification of an actor in terms of Performance-potential may be appropriate at a given point in the movement towards goal-attainment. However, the goal(s) once achieved may then become incorporated into the attributes of the actor. As a new attribute it now allows, along with all the other attributes of the actor, a classification on the criterion of Quality. To understand this is to recognize the temporal nature of social action and the dynamic relation between Quality and Performance. Parsons makes this point explicit when he says:

"... it is important to emphasize that performance capacities are attributes which may function as ascriptive criteria. Even though, as is frequently the case, past performance serves as the empirical criterion, still persons regarded as having the trait in question, or having it in the requisite degree, are classified together, and belonging to this class may be taken as the criterion of status-ascription, independently of any specific expected performances. Indeed every performance, once it has been accomplished, becomes in its consequences an aspect of a given situation and the person who has done it has the attribute of being the one who did. This is the basis of certain dynamic relations between achievement and ascription." (1951, 93)

The cathectic dimension

Like cognition, the cathectic dimension divides into two pairs of relational dilemmas but this time dilemmas which are concerned with the scope and valency of one actor's interest in another, and which define the relational demands that are likely to be made of him in the given social situation. These dilemmas are:

Specificity / Diffuseness

Affectivity / Affective-neutrality.

Specificity / Diffuseness. The Specificity / Diffuseness categories delineate the 'scope' of an actor's significance to ego. That is, they define the legitimate role expectations one actor has for another because of an agreed upon definition of the situation.

"The important point to remember is that a pattern variable in the present context defines role-expectations, that is rights and obligations vis a vis others, and hence the structuring of sanctions. Therefore a 'specific' role is one in which obligations are expected to be confined to the specifically defined relational content, while in a 'diffuse' role the expectation is that no claim to obligation arising out of a contingency situation will be a priori irrelevant." (1951, 88)

This means that in a specific relationship the scope of interaction between actors is dependent upon the legitimate demands of the situation expressed as a consequence of the prior assessment of alter in relation to the achievement of stipulated tasks. A diffuse relationship between actors extends the rights and obligations of actors to one another beyond the context of the task situation. The scope of interaction is limited only in so far as actors relate to one another as 'persons' rather than as 'performers'. Just as the category of diffuseness describes the all-inclusiveness of actors' relationships to one another, so specificity describes the exclusiveness of actor relationships because of the demands of the situation, that is, the way in which actors

relate is defined by the exclusion of their attributes as 'persons' which are not relevant to the role relationship demanded of a performance. situation.

Affectivity / Affective-Neutrality. The Affectivity / Affective-Neutrality categories allow for the description of actors as confronted with the problem of the giving and withholding of gratification to other actors. As Parsons says:

"No actor can subsist without gratifications, while at the same time no action system can be organised or integrated without the renunciation of some gratifications which are available in the given situation. The polarity of affectivity/neutrality formulates the patterning of ... action with respect to ... (actors) with whom an actor interacts in a role, and in its relevance to the structure of the expectations of his action in that role." (1951, 60)

Actors are able to exercise some control over other actors' performances through the act of giving or withholding of affectivity since, to use Parsons' descriptive colloquialism - affectivity constitutes the permission to 'go ahead' - the green light for overt action, while the neutral case is the signal to hold up and wait. The concept of neutrality contains the idea of withholding judgement on action and in contrast to the giving of 'affect' where affect is given a positive or negative valency, e.g. the showing of approval or disapproval. Thus Affective/Neutrality is not synonymous with a condition of indifference, but rather denotes 'tension' within the system.

Integrating the cognitive and cathectic dimensions

By themselves, each pattern variable goes only part way in describing the behaviour of actors in social situations because in any social situation the conditions that allow action to occur call for both cognitive appraisal of the situation and cathectic orientation to actors in the situation. This more dynamic conception of social action arose on the one hand from Parsons' concept of 'actor' as referring to human beings as personalities in roles (1967, 193) and his "realisation that the pattern variables are deeply involved in what has here been called the mutual symbolic organisation of action components. The requirements for stability of such organisation are such that there must be particular relations between the attitudinal and situational components of a system of action." (1954, 69).

Parsons specifies how the cognitive and cathectic dimensions are to be integrated by stipulating the temporal ordering of the

components of social action--the order in which events occur. To Parsons the cognitive evaluation of a situation always precedes the cathectic orientation of actors in the situation. To this end the actor is conceptualised as (first) standing off from the situation in order to make some assessment of it qua actor prior to making a subjective commitment to other actors in the situation. This does not mean that the actor always consciously and deliberately makes this distinction; rather the distinction becomes internalised into the symbolic reference system of the actor.

When Parsons spells out the relationship of the analytical distinction between cognition and cathexis as it occurs in social action, he makes the following points:

- 1) Every overt performance of an actor in the process of interaction is in one aspect an expressive symbol and all action, whether verbal or not, involves the 'speaking' of a symbolic language - which conveys both cognitive and expressive meanings;
- 2) The distinction between cognitive and cathectic symbols cannot be regarded as a radical distinction of kind. Every symbol has both cognitive and expressive meanings and refers to both situational objects and events as well as 'expressing' the attitudes of an actor or actors;
- 3) The interaction process cannot be stabilised unless a symbolic reference system (involving both cognitive and cathectic dimensions) is built up by the participants. It is this patterning of the symbolic references which constitutes the 'structure' of a system of action in the strictest sense;
- 4) Internalisation of a symbolic reference system comes about through the process of socialization, such that the actor comes to value the system patterns and to be committed to their maintenance.

It is clear then that an actor's possession of a symbolic reference system is a prerequisite for communication since it stipulates the patterning of communication between actors. Symbols can be both verbal and non-verbal. They must however, be in the form of a shared language--a set of symbolically understood signals. Symbols acquire meaning from the context in which they are used, and are the mechanism whereby the culture of the group becomes established and is maintained. To the observer operating within the Parsonian frame of reference in social

interaction, it is the communication between actors, their assessment of a situation and their commitment to actors in the situation which provide the focus of theoretical interest. It follows then that only when the pattern variables are seen to be linked across the dimensions of cognition and cathexis that the pattern variable scheme can provide a category system adequate for describing the way in which roles are played by actors in social situations.

Like the four functional problems scheme however, the pattern variable scheme in isolation does not produce a theoretical system of propositions or laws; but it does allow for the possibility of such a development. The pattern variables do provide a basis for describing social action but in order for them to be useful in explanation and prediction, they have to be functionally related to a set of postulates, from which theorems (hypotheses) can be generated. To this end they have to be used as a set of categories for a sociological theory.

However, it is within Parsons' voluntaristic theory that the four functional problems and the pattern variables can be theoretically linked, for the purpose of explaining social action. Because his voluntaristic theory is to be used for that purpose in the present study, the final task of this chapter is to explain briefly why Parsons embarked upon the construction of a general theory of social action and how he has used the two conceptual schemes of the functional problems and the pattern variables in developing this theory.

The over-riding theme of Parsons' work has been his recognition of the necessity to develop an empirical-theoretical system capable of explaining social action¹ at any level of complexity - ranging from social action as it occurs in a dyad to the society at large, in all its complexity. Parsons viewed social action as occurring in 'systems' where inter-related patterns of interaction are affected both by

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1. "Action is thus viewed as a process occurring between two structural parts of a system - actor and situation. In carrying out analysis at any level of the total action system, the concept 'actor' is extended to define not only individual personalities in roles but other types of acting units - collectivities, behavioural organisms, and cultural systems. Since the term actor is used here to refer to any such acting unit, I attempt to avoid.... psychological reference, for example 'motivation', attributed to actors as individuals. Thus 'actor' can refer to a business firm in interaction with a household, or, at the cultural level, the implementation of empirical beliefs interacting with the implementation of evaluative beliefs." (1967, 194)

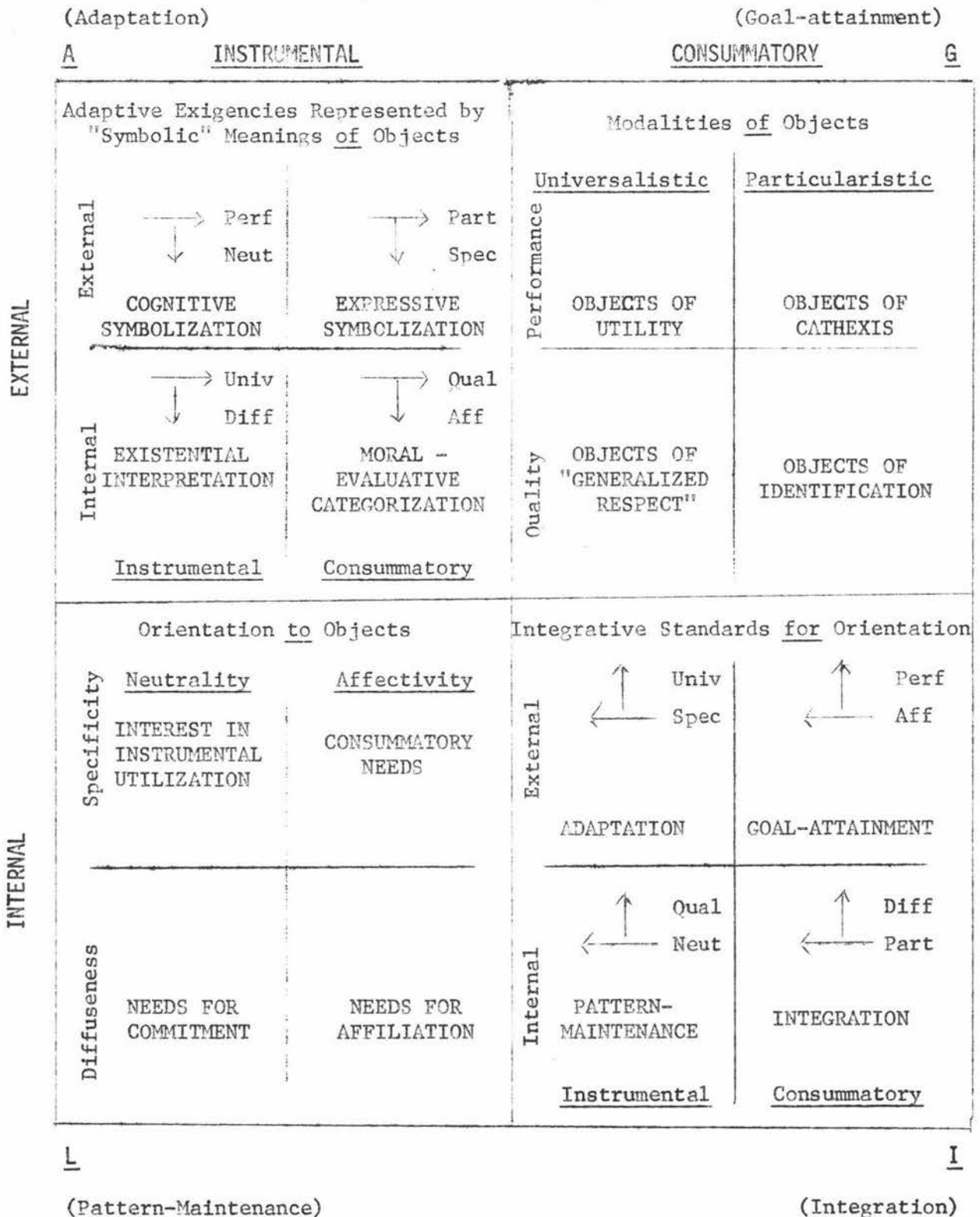
variables that operated within the system itself and from outside the system, in such a way that a change in one part of the system is felt throughout. Parsons summarises the voluntaristic theory of action in a paradigm--the Components of Action Systems¹--using the idea of 'system' as the central concept. Before the paradigm is presented however, attention is drawn to some of its general theoretical features. The paradigm was constructed as a model of the theory where the four functional problems constitute the sub-systems of the total action system. (The paradigm is presented in Figure 3, page 18). At the level of role interaction each sub-system is characterised by a set of pattern variables, in specific combinations. These he reconstitutes as categories for describing the role-relationships deemed to be functional for the resolution of each system problem.

In the paradigm, the categories of each conceptual scheme are given a distinct theoretical function. On the one hand, the four functional problems are "a set of categories for the direct observation and classification of social interaction" (1954,63). The empirical referent of these categories is the social system per se. Each functional problem describes the condition or state of the system at any point in time. On the other hand, the pattern variables are "a set of categories for the classification of the dilemmas of choice in action" (ibid). The empirical referent of these categories is the individual actor. The pattern variables provide a description of the way in which an actor both classifies and relates to other actors in a social situation. The two conceptual schemes are then used as the categories for a theoretical system which contains "sets of rules and procedures that state how these categories may be used analytically. These in turn lead to theorems - (propositions that admit of logical as distinct from empirical proof) - which state a set of determinate relationships among the categories and in so doing, outline a theory of action. The theory then, is a set of logical relationships among categories used to classify empirical phenomena and, in empirical reference, attempts to account for whatever may be the degree of uniformity and stability of such phenomena"

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1. First published in ASR, 25:4, August 1960, pages 467-83, and later reprinted in Parsons, 1967.

Figure 3

The components of action systems



(Parsons, 1967, 194).¹

The paradigm of Components of Action Systems covers two purposes for the present study. Firstly it brings together all the elements of the voluntaristic theory into a fully elaborated theoretical model² and secondly, provides a point of departure for the construction of an empirically referenced research model which is capable of being operationalised in order to link the theory with concrete interaction occurring in small task oriented groups.

Briefly stated, the paradigm is a general model of the social system where each of the four functional problems is conceptualised as a sub-system of the system of action. Parsons conceptualises each of these sub-systems as an open 'system' in its own right; and since all social systems are confronted with the four functional problems, in turn each sub-system (as a system) is divided into four sub-systems. In other words, the paradigm comprises four major cells, each consisting of a set of four cells, making sixteen in all. Each of the four major cells delineates an important feature of the structure of the action system. The relationships between actors are dependent upon the particular functional problem with which they are confronted. The pattern variables

1. Parsons sees the role of the theorist as requiring the use of the analytical distinctions drawn at the theoretical level to explain phenomena in the 'real' world. He characterises his own position as that of analytical realist - "that at least some of the general concepts of science are not fictional but adequately 'grasp' aspects of the objective external world" (1937,130). Concepts refer "not to concrete phenomena but to elements in them which are analytically separable from other elements". Parsons is therefore not committed to the view that his categories are completely descriptive of any particular action or event or class of actions or events. He selects out those aspects of phenomena which are appropriate only to his particular frame of reference (action) and therefore explicable in terms of it. At the descriptive level, Parsons assumes there is an external world or an empirical reality which exists independently of the observer, and which is therefore capable of description. At the analytical level categories are set up which have a functional relation to the empirical world and which only refer to selected aspects of the real world.
2. Criticism has been levelled at Parsons' formulations of the relations between the four functional problems and the pattern variables as set out in the Working Papers, especially by Dubin (1960). Although a full discussion of the debate between Dubin and Parsons is inappropriate in this thesis, it is important to note that the outcome of the debate was a theoretically refined and elaborated restatement of the relationship between the two schemes, in the form of the paradigm, presented here as Figure 3. Full theoretical elaboration of the paradigm is given in the Pattern Variables Revisited (in Parsons, 1967).

provide the situational and relational categories which describe the behaviour of actors in the working out of each system problem. Because there are sixteen cells in the paradigm, there are also sixteen ways in which the pattern variables are bonded,¹ characterising the nature of social interaction as it occurs in each of the four cells of each sub-system.

As the problem which confronts the action system changes, the configuration of the pattern variables changes. Therefore, the way in which the pattern variables are paired depends on both the definition of the situation and the logic of the relationship between the pattern variables. This logic is inherent in the pattern variable scheme--"For each type of system problem there is one and only one appropriate orientation posture and only one way of categorising (actors) involved in solving the system problem." (Dubin, in Parsons, 1967, 532). Hence the paradigm sets out a determinate number of ways in which different configurations of the pattern variables are related to each of the four system problems.

The paradigm purports to provide a means for analysing social action at any level of complexity. However, the full potential of the voluntaristic theory of action has never been realised, because, as Parsons has admitted, the operational links between the theory and empirical research have not been spelt out. He recognised that because of the high level of generality of the theory "it is unlikely that (any proposition formulated at such a level) can be empirically verified at the usual operational levels. Such verification would require specification to lower levels, for example, the conditions of small experimental groups as a sub-type of social system". (1967, 218).

One of the objectives of the present thesis is to take Parsons at his word as having provided a general theory which is capable of specification to lower levels. The preceding discussion has attempted to state systematically those elements of Parsons' theory of social action which can be used for the construction of a theoretical model that will permit sociological analysis of a particular empirical situation.

Summary

To recapitulate, the features that have been identified as endemic to the theory discussed in this chapter, and which are used in the construction of the research model for this study are summarised as:

1. The rules for the location and rotation of the pattern variables in each cell are set out in the Pattern Variables Revisited (199-207).

- 1) Social action is voluntary and individuals are active agents capable of choice.
- 2) Social action is organised in systems and these systems are instrumentally-adaptive.
- 3) Action as process is both dynamic and structured.
- 4) Social action is symbolic and normatively controlled.
- 5) The concept of role is basic to the analysis of social action.
- 6) Any system of action is confronted by four system problems (LIGA) which must be met if the system is to persist.
- 7) The four functional problems can be viewed respectively as: problems, processes, sub-systems, and phases of action.
- 8) The pattern variable scheme provides a set of mutually exclusive and exhaustive categories for describing the choices of actors in social situations.

The next chapter is concerned with discussing how the integration of all these features into an empirical theory permits the construction of a model for generating theorems capable of being tested.

Chapter 2

SETTING UP THE MODEL

Chapter 1 discussed Parsons' voluntaristic theory of action and the way in which explanation of the structure and process of social action is achieved by inter-relating the two conceptual schemes; the four functional problems and the pattern variables. The purpose of this chapter is to show how Parsons' conceptual framework is to be utilised in modified form, to explain social action in a specific, empirical context - the small task-oriented group.

Background to the study

A great deal of the day-to-day interaction between people in society occurs within the context of small task-oriented groups. There is a whole range of small groups, all with a mandate to accomplish certain tasks - for example, committees, discussion groups, tutorials, reading groups of young children in school, drama groups, football teams, etc. Most of the research that has been done on small groups has differentiated between them in terms of the content of the activity in which they are engaged. The present study attempts to formulate a research model capable of looking at any type of task-oriented group, where the focus of interest is on the task-orientation of interaction rather than on the study of specified areas of activity. To this extent, the research model to be postulated is content free.

The problem for the research study arose from the recognition that some groups do successfully accomplish what they set out to achieve, while other groups fail to achieve their goals. The former often become firmly established over time, the latter tend either to disband or to divert their activities away from tasks to social activities. Such a state of affairs poses the problem of accounting for factors operating within small task-oriented groups which permit or disrupt the processes of task-achievement.

The small group focus. The small group concept, central to the study, is defined in accordance with Bales' modification of the concept of primary group:

"... any number of persons engaged in interaction with one another in a single face-to-face meeting or a series of meetings, in which each member receives some impression or perception of each other member distinct enough so that he can, either at the time or in

later questioning, give some reaction to each of the others as individual persons, even though it be only to recall that the other was present."

The advantage of this definition is that it defines the small group in terms of the interaction that can occur between group members without stipulating an arbitrary number of members as the defining characteristic. The definition is therefore sufficiently flexible to admit a multiplicity of groups which, although they vary in the nature of their activities, still qualify as small groups. The designation 'task-oriented' differentiates groups of people who have congregated in order to work collectively on some specified task(s) from those groups whose members have congregated for the purpose of enjoying some social activity.

This task-orientation therefore differentiates between groups which are, in Parsons' terms, primarily instrumentally-adaptive, and those which are primarily socio-expressive. To this extent, the model by postulating a general theory of small task-oriented groups (but not a general theory for all types of groups) limits the scope of the problem under study. The other limiting factors for the study is that attention is focussed on the forces operating within the group, and that the group is conceptualised as being divorced from its embedding environment. The theory to be presented of the small task-oriented group uses the idea of social system as its central concept. When the group is seen as divorced from its environment the distinction is being made, as for any social system, between what counts as part of the group and what is outside it.

In all task-oriented groups there are criteria for selecting the members of the group, which serve to differentiate one group from another in the process of group formation. The criteria of selection also provide both an identity for the group and a means whereby the boundary of the group can be defined; e.g. "The boundary of a committee is the set of constraints that prevents some of its internal communications from being made available to its parent body." (Berrien, 1968, 21). Divorcing the group from its environment accentuates the boundary of the group and allows the internal processes of the group to be studied independently of the forces which impinge upon the group from outside it. The social system of the small group is said to be 'closed' when the relationship between the system and its environment is assumed to be non-problematic. This is not to say that there is no interchange

between the system and its environment, but rather, for the purpose of analysis, such interchanges are ignored:

"Open systems are those which accept and respond to inputs (stimuli, energy, information and so on), and closed systems are those which are assumed to function 'within themselves'... we are compelled to view all 'real' systems as open, recognising that the degree of openness may vary among systems... For the analysis of certain aspects of a system's behaviour, it is sometimes helpful to assume a system to be closed." (Berrien, 1968, 15-16).

Given an exclusive focus on the internal mechanisms which operate within small task-oriented groups, the capacity of the system to persist over time is related to (1) the extent to which groups can achieve the tasks they are expected to perform, and (2) the satisfactions individuals experience as a consequence of their interactions within the system (Berrien, 1968). This present study recognises that when small groups are viewed as a 'sub-type of social system' they can be conceptualised as discrete social systems in their own right. Then according to the theoretical framework established in Chapter 1, small groups as closed systems of social action are confronted by:

- 1) the problems of the selection of inputs into the system and the establishment of a common definition of the situation,
- 2) the problems of establishing system priorities and of getting group members engaged in the tasks for which they have come together,
- 3) the problems of bringing about commitment of members to the group and establishing a group identity, and
- 4) the problems of providing mechanisms for maintenance and stability in the relationships between members of the group.

In the empirical situation of the social system of small task-oriented groups the four functional problem categories can be used to describe the structural components of the group. For open systems, Adaptation is the primary functional problem that the system has to resolve. When an open system is confronted with the problem of Adaptation, it has to balance the flow of inputs and outputs across the system boundary. It also has to adapt to the constantly changing demands that the environment imposes. Because inputs from the environment are mediated through the Adaptive sub-system, the problem of Adaptation is to provide for the allocation of roles to system members and the means for task-achievement. Necessarily for closed systems the definition

of Adaptation has to be modified, since the direction of flow between the environment and the system is only one-way; that is, actors coming into the system bring with them various aspects and experiences of the environment. Once the group has been formed, whatever happens to it (as a closed system) thereafter is a result of the interaction between actors in the system, rather than a consequence of exchanges between the system and its environment.

In order for a small group to become a viable social system the complexity of inputs has to be 'filtered' so that a common definition of the situation can be established amongst members and agreement reached on those aspects of the environment that will provide the means for achieving the tasks that have been established in the mandate for the group.

In a closed system therefore, the paramount problem is not so much one of ongoing adaptation as one of Genesis - that is, the problem of system formation itself. In specific terms the problem of Genesis is concerned with: first, how the norms which will govern the behaviour of actors in the group are established--these norms set up the bounds of legitimate interaction in the form of routines and procedures for the group; second, Genesis is concerned with the way in which specific tasks are defined--involving either prescription or negotiation between system members--under the general mandate.

In this study then, a closed system is differentiated from an open system by the reformulating of Adaptation as the system problem of Genesis. However, like an open system, the closed system is still confronted by the system problems of Goal-attainment, Integration and Latency. Each problem focusses attention on a different aspect of the structure of the social system under scrutiny. Goal-attainment is concerned with the motivational problem of engaging system members in task activities, the organisation and direction of group activities through the giving or withholding of rewards, so that tasks are accomplished and the goals set are achieved. Integration as a system problem is concerned with the establishment of group solidarity. Because attention is focussed on the post-task features of group interaction, this sub-system serves to provide intrinsic rewards to system members and to relate members to one another so that they each come to value their membership of the group. Latency as a system problem is concerned with

the consolidation of group experiences and the temporary suspension of task activities, at the same time re-affirming the normative patterns of the group which provide for the maintenance and continuation of the group. Resolution of the problems of Latency is brought about by providing opportunities for group members to relax from task activities and to prepare for new or further tasks which will engage the group.

Just as the four functional problems are used in this study as a set of categories to describe the structure of a social system, the pattern variables are used as a set of categories to describe social process. The theoretical bonding of each of the cognitive pattern variables with one and only one of the cathartic variables provides in part an explanation of process in the closed system, by stipulating the situational and relational role-definitions, which govern the behaviour of individual actors in each phase of system activity. Explanation is completed when it is shown how particular pattern variable bonds are theoretically harnessed to each of the four functional problems. The two conceptual schemes are harnessed together in this way in order to construct a research model which will allow for the explanation of system development and the on-going process of interaction between group members which occurs within small task-oriented groups.

The model is presented first by explaining how each of the pattern variable bonds is harnessed to each of the four functional problems and second, in the form of a diagram which summarises the general theory of small task-oriented groups presented in this chapter. The model is then used to generate hypotheses which can be tested in the empirical situation.

The Harnessing of the Pattern Variables to the Four Functional Problems

GENESIS: Universalism / Affective-neutrality and Performance / Specificity

At the point of Genesis of a social system, members will have no conception (or at best, an ill-defined one) of what is expected of them as actors. That is, they have no explicitly stated and agreed upon definition of the roles they will play in the group. Actors bring into the system common normative patterns from the environment and therefore possess 'generalised' expectations for interaction that are common to all (potential) system members. This provides a framework from the

general culture within which communication between actors can occur and provides too the possibility of establishing a definition of the situation in terms of which the particular social system becomes differentiated from its surroundings. The Genesis problem is therefore two-fold: that of establishing a specific definition for the group which will provide a basis on which role expectations of group members may be consolidated, and that of differentiating between the group and its environment, setting a boundary around the group, so that it can have an identity over and above that of its surroundings. These two facets of the problem are interdependent.

Because initially the actual definition of the particular situation still remains unstated, a situation of 'tension' is created. Thus in the primary phase of system Genesis, part of the problem is that the anticipated *raison d'être* of the system be stated in behavioural terms. The second phase of system Genesis is to stipulate those expectations and behaviours which are deemed to be legitimate within the context of the group. This is a problem of defining the system boundary. As in physical or biological systems, a boundary is that region which separates one system from another. However, unlike these systems, the boundary of the social system need not be conceptualised in physical terms.

According to Berrien (1968, 14-15) "a boundary possesses the property of filtering both kind and rate of flow of inputs and outputs to and from the system". The 'filtering' function of the system is to stipulate how much of the general environment can be brought into the specific situation of this interaction system.

The category of universalism allows the observer to describe actors' initial definition of the situation, i.e. to classify the way in which actors relate to other actors in terms of attributes which are seen to be task- (and situation) relevant. By 'filtering out', in the process of interaction, information about members which may be irrelevant, e.g. attributes such as age, sex, or status which may result in particularistic relations between some system members (and which thus have to be over-ridden) the normative force of the criterion of selection which has brought members of the group together is made explicit. In this way, Universalism as a system norm, acting as a boundary filter, permits only certain inputs to flow into the system,

in turn specifying the expectations and behaviours which are legitimate in that system. As a result, uncertainty between actors is reduced and 'tension' contained. Until the specific goals for the system are set, motivational or performance energy has to be held in check. System formation in the primary phase is partly dependent on "attention to the potentialities of performance" (Parsons, 1967, 204-5), and requires that actors 'see' each other only in terms of task-relevant attributes. Thus the situational pattern variable of Universalism is bonded to the relational variable of Affective-neutrality, which stipulates that overt action must be held in check until tasks for the group are fully set.

Since members of the group have come together for some specific purpose, there are certain performance expectations of all members. The assessment of members on the criterion of Performance stipulates the roles that actors may be called upon to play and differentiates between the various performance roles of members. An evaluation on the criterion of Performance requires from members an orientation of Specificity. This means that goals are meaningful to actors only in terms of what they are in fact doing. An actor relates to other actors in terms of anticipated performances (that is, in anticipation of Goal-attainment). In this way, the scope of interaction is delineated and in terms of the specificity of role-orientation, legitimacy of performance-expectations is established.

To sum up, the initial phase of group interaction as one of system Genesis is characterised by an initial classification of actors in terms of the criterion of Universalism, resulting in the relational attitude of Affective-neutrality. Once a common definition for the system has been established, the next move in the Genesis phase requires the setting of tasks for the group. Thereupon the pattern variables of Performance and Specificity come into play to stipulate and restrict the demands that can be legitimately made of actors at this stage.

GOAL-ATTAINMENT: Performance / Specificity and Particularism / Affectivity

The task setting activity which occurs in Genesis changes to the activity of task achievement in the system state of Goal-attainment - where the pairing of Performance with Specificity is therefore still warranted in this phase of system activity. Transition from Genesis to Goal-attainment is consolidated when actors redefine their interest in other actors in

Particularistic terms and relate to them Affectively. In this second phase of the system, the basis of actors' interest in each other is still specific, relative to the achievement of goals. But Goal-attainment also involves intrinsically gratifying activity. Because the notion of 'reward' is built into the notion of performance, actors come to understand that gaining rewards is contingent upon both their actions and the actions of others. Where actors are conceptualised as ego and alter, as active agents in the Goal-attainment process, tacit recognition is given to the power that each actor has over the other to influence performance through the giving or withholding of rewards. This is what Parsons means when he says that social interaction is 'doubly contingent'. The idea of double contingency is important because it encompasses the idea of people, as active agents in social situations, who, by the actions they take, are capable of influencing the course of social interaction.

In turn, because the occurrence of social interaction depends on the reciprocal response of others, then the outcome of a specific social act is only probable, never certain. The norm of reciprocity is therefore "a concrete and special mechanism involved in the maintenance of any Stable Social System" (Gouldner in Biddle & Thomas, 1966, p. 142).

The reciprocity of social interaction is most clearly demonstrated in the activity of Goal-attainment where social relationships explained in these terms manifest the probabilistic nature of interaction (Berrien, 1968, 48-74). Actors, alternatively taking the parts of ego and alter, make hypotheses about the expectations of 'the other'.

"On the one hand there are the expectations which concern and in part set standards for the behaviour of the actor, ego, who is taken as the point of reference; these are his 'role expectations'. On the other hand, from his point of view there is a set of expectations relative to the contingently probable reactions of others (alters) - these will be called 'sanctions', which in turn may be sub-divided into positive and negative according to whether they are felt by ego to be gratification promoting or depriving. The relation between role-expectations and sanctions then is clearly reciprocal. What are sanctions to ego are role-expectations to alter and vice versa." (Parsons, 1951, 38)

Parsons demonstrates the importance of 'double-contingency' to the pattern variable scheme when he says:

"The expectation is not defined "Being what I am, alter's treatment of me must take one of the following alternatives" but "Depending on which of several alternatives open to me I take, I will set

alter a problem to which he will react in terms of the alternative system of his own which is oriented to my action." It is this involvement in the fundamental paradigm of interaction which makes the pattern variable of ascriptive-achievement so crucial to the whole theory of action." (Parsons, 1951, 94)

Thus

"Action itself, as involving expectations... is oriented to the future. The assessment of "how long it will take" and "when is the proper time" are inherently parts of any action problem. In relation to the structuring of action, perhaps the most important relevance of these considerations is to the proliferation of instrumental orientations in systems. The more complex the instrumental system the more are goals, which as goals are meaningful in the present, capable of attainment only in the more or less distant future. An instrumentally elaborated social system is one in which orientations are to a high degree 'time extended'. Its members cannot simply live 'for the moment'. In particular, the significance of alter for ego clearly has a highly important time dimension." (Parsons, 1951, 92)

The persistence of interaction over time is functionally related to the exchange of sanctions and their differential distribution relative to individual actors.

Such a condition clearly obtains in the classroom situation. The extent to which the giving of rewards is temporally close or distant to performances, is related to the teacher's exercise of discretion in the allocation of tasks and in the provision of opportunities for gaining reward. The extent to which gratifications can be deferred is a function of the 'interest span' of pupils. For some children, sustained effort over a period of time (even encompassing a time span of several years) is possible; for others, motivation to perform is contingent upon frequent and more or less immediate rewards. The teacher, acting as an agent of discretion¹, stipulates the scope of the pupils' role performance.

To sum up then, in the development of the system, the Goal-attainment phase is characterised initially by a period when actors favour Performance as a basis for classifying each other. This classification results in a relational attitude of Specificity. Because the process of Goal-attainment provides the rationale for the further classification of actors in Particularistic terms, the result is a release of tension into action and a change in orientation from Affective-neutrality to Affectivity.

1. Fraser, G.S. (1967), unpublished Ph.D. thesis, Missouri University, Columbia.

INTEGRATION: Particularism / Affectivity and Quality / Diffuseness

In the L-I-G-A model presented in Chapter 1, the two phases of Genesis (Adaptation in the LIGA model) and Goal-attainment, make up the instrumentally adaptive dimension of system activity. However, once goals have been achieved, the system moves not only into a different phase - Integration - but also into a different dimension, as the instrumentality of the relations between members of the system gives way to socio-expressive relations. In the socio-expressive dimension, the focus of interest moves away from tasks or goals, and the activities necessary for their attainment, to the members of the group themselves. While the phase of Goal-attainment provided for the rewarding of on-task behaviours, the Integration phase brings into play the intrinsic rewards for group members. Members gain intrinsic rewards from having achieved their goals and from having been part of the group through which such achievement was made possible, forming therefore as a by-product, a generalised affective attachment to each other. The meaning of integration is partly summarised by such terms as 'esprit de corps', 'solidarity', 'cohesion', 'Gemeinschaft' and the like. Although the Particularism / Affectivity bond established in the Goal-attainment phase specifies part of the role-expectations for Integration, because actors have now achieved their tasks and now have the attributes of 'being those who have achieved', Integration requires that the prior evaluation of actors in terms of Performance give way to one of Quality:

"It is alter in his diffuse quality as a system member rather than as an incumbent of a specific status or performer of a specific role to whom ego is attached." (Parsons, 1953, 187)

Redefinition of actors' relations to one another in terms of their qualities entails the extension of the scope of interaction as well. The relational orientation of Specificity (appropriate in the task situation) gives way to an orientation of Diffuseness, as actors are 'cathected' to one another as 'persons' in the broader context of the primary group.

The system phase of Integration is crucial to the persistence of the group over time. Unless the problem of adjustment of members to each other, and the establishment of a sense of belonging to the group be accomplished and valued, on completion of tasks in the Goal-attainment phase (or in the event of goals not being achieved), there is little reason for members to stay together any longer. There is a need, as

Morse has said, for "commitments to the system... (which will) hold it together even when it fails for a time to perform satisfactorily". (Morse, op.cit.) Getting members committed to the group, rather than just to the performance of tasks provides the stimulus needed to move the group into either a new cycle of activity or to return to the tasks which they have failed to accomplish and which therefore need to be stated in different terms.

To sum up, in the development of the system, the phase of Integration is characterised initially by a period when actors assess each other in particularistic terms. Such an assessment results in a relational attitude of Affectivity. Because there is a change in emphasis from task-directed behaviour to group-related behaviour, the role definitions of members in the group also change from those of Performance / Specificity to those of Quality / Diffuseness.

LATENCY: Quality / Diffuseness and Universalism / Affective-neutrality

As well as focussing on the integration of members into the group and on the emergence of a group identity, the socio-expressive dimension of social systems also focusses on the problem of the management of tension between actors within the system and the maintenance of the norms that have been built up through interaction. Just as the pattern variables of Quality and Diffuseness describe the way in which the role relationships between actors are changed from the Performance / Specificity relations of the Goal-attainment phase to the wider relations of the Integration phase, so the pattern variable pair bond of Quality-Diffuseness in the Latency phase describes the occurrence of expressive non-task related activities where the focus of attention is on the diversity of actors' interests. During the phase of Latency actors are able to enjoy a relaxation of task demands, and are able to re-assert the norms and values that both formed the original base for the group and which have emerged through the process of interaction, in the various phases of action through which the system has passed. The pattern maintenance function of Latency enables the system to continue during this period of quiescence, prior to the establishment of a new cycle of activity. Re-assertion of the normative patterns is also important to contain tension within the individual members themselves. To this extent then, the Latency phase provides both a recapitulation of what has happened to the group and 'looks forward' to what will be

demand of members in a new cycle of activity. Preparation for this new cycle of task-activity presupposes a re-classification of actors in universalistic rather than particularistic terms. Since the system is in a state of quiescence, motivational or performance energy again has to be held in check. The re-establishment of the pattern variable bond of Universalism / Affective-neutrality provides the situational and relational definitions required.

Latency serves to bridge the gap between successive cycles of task activity. By defining the role-relations of system members in terms of Quality / Diffuseness and Universalism / Affective-neutrality, it links together the two dimensions of socio-expressive and instrumentally-adaptive activity, thus combining the normative patterns which hold the group qua group together and those that will govern the classification of members when new tasks are set for the group.

Diagram of the harnessing

A preliminary presentation of the pair-bonding of the pattern variables and the way in which they are harnessed to the four functional problems in the model is displayed in Figure 4 below.

Figure 4

The closed system of task-oriented groups

<p>GENESIS</p> <p>Universalism / Affective-neutrality Performance / Specificity</p>	<p>GOAL-ATTAINMENT</p> <p>Performance / Specificity Particularism / Affectivity</p>
<p>LATENCY</p> <p>Quality / Diffuseness Universalism / Affective-neutrality</p>	<p>INTEGRATION</p> <p>Particularism / Affectivity Quality / Diffuseness</p>

The way in which the pattern variable bonds and the four functional problems were harnessed together in Figure 4 is essentially static. In order to establish the empirical condition for providing a dynamic analysis of the on-going interaction in task-oriented groups, the two

abstract category schemes of the four functional problems and the pattern variables have to be translated into two other sets of empirically referenced categories (derived from the theory). For this 'gearing-down' process, the operational categories take on the status of a set of rules of transformation (Rudner, 1966). They allow for transition from the abstract theoretical context to the empirical context. In turn the sets of observational rules which define behaviours as 'belonging to' the operational categories provide the final link with the empirical world.

The functional problems operationally defined

Genesis is a nominal category describing the group conditions as characterised by the actors' acceptance of a mandate for group action; the stipulation of norms governing the behaviour of actors; and a definition of individual and group tasks.

Goal-attainment is a nominal category describing the group condition as characterised by actors' completion and/or achievement of individual and group tasks.

Integration is a nominal category describing the group condition as characterised by actors' awareness of their commitment to each other and their identity as a group.

Latency is a nominal category describing the group condition as characterised by actors' acceptance of norms which stabilise the group and provide for its continuity.

The pattern variables operationally defined

It has already been established (in Chapter 1, p. 9) that the pattern variables can be analytically separated. When they are used as separate categories however, they are inadequate to provide a complete description of any concrete social action. It is only when each of the cognitive pattern variables is bonded with a cathectic variable that the two variables in conjunction provide a means of describing social behaviour. For this study then, the pattern variable bonds established in the discussion of the 'harnessing' become categories that are to be used to describe concrete social action. In order to translate the pattern variables into operational categories the pattern variable scheme has been modified by giving each pattern variable bond a new designation and an empirical definition.

In line with this modification, the pattern variable bonds will be hereafter referred to as the modified pattern variables. The stipulative definition of each modified pattern variable spells out the relation of meaning which is seen to exist between the cognitive and cathectic components which comprise each modified pattern variable category.

The modified pattern variable categories

Equity is the nominal category encompassing the Universalism / Affective-neutrality bond where:

Universalism nominates actors' behaviour as indicating their classing together of actors according to an objectively recognisable standard(s) or generalised property(s), and where

Affective-neutrality nominates actors' behaviour as indicating their exercise of restraint over emotional commitment to other actors.

Contract is the nominal category encompassing the Performance / Specificity bond where:

Performance nominates actors' behaviour as indicating their expectations of how other actors are to perform, or a classification of them in terms of what they can do/are to do/ are doing, and where

Specificity nominates actors' behaviour as indicating acknowledgement or recognition of the limitations imposed on their relationship with actors.

Partiality is the nominal category encompassing the Particularism / Affectivity bond where:

Particularism nominates actors' behaviour as indicating their classification of other actors according to a subjective or personal standard emphasising the special relationship of actors to themselves, and where

Affectivity nominates actors' behaviour as indicating a positive or negative sanctioning of other actors' behaviours.

Association is the nominal category encompassing the Quality / Diffuseness bond where:

Quality nominates actors' behaviour as indicating their expectations of actors in terms of attributes ascribed to them, or a classification of them in terms of what they have done or achieved, and where,

Diffuseness nominates actors' behaviour as indicating their

acknowledgement of recognition of the inclusiveness of their relationship to other actors.

The Research Model

The two conceptual schemes of the four functional problems and the modified pattern variables have been incorporated into Model I which is set out in Figure 5 below.

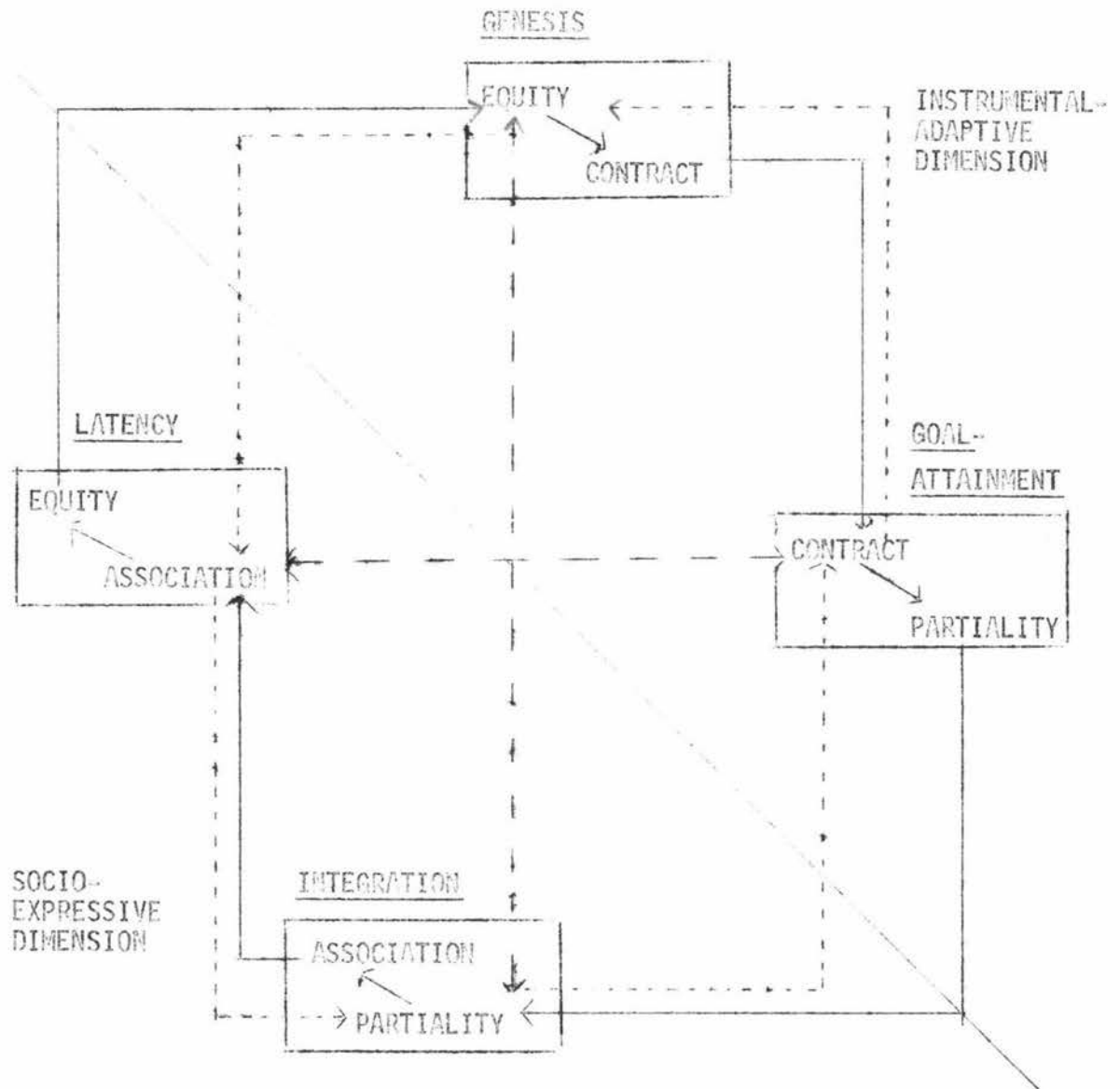
Model I summarises the preceding theoretical discussion and translates the static account of the relationship between the two conceptual schemes into a morphogenic systems model which permits the dynamic analysis of social interaction, and system development within a closed social system. The model is divided into two dimensions: First, the instrumental-adaptive dimension, containing the Genesis and Goal-attainment phases of action; and second, the socio-expressive dimension containing the Integration and Latency phases of action. The modified pattern variables designated in each cell are ideal-typic 1 of each phase of action.

Although Model I has not been formulated in this way by Parsons himself, it is a logical extension of Parsons' paradigm of the Components of Action Systems. The model is both consistent with Parsons' theoretical formulation of the action system, and goes beyond it by providing a means of explaining structure and process in a closed social system. Figure 6 has been constructed in an attempt to demonstrate how Model I owes its origin to Parsonian theory, but also introduces a variation of its own. In the figure, two cells have been included from Parsons' paradigm, one from the instrumental-adaptive dimension--Goal-attainment, and one from the socio-expressive dimension--Latency. The Goal-attainment cell represents the rational aspects of the action system because it contains the cognitive pattern variables which provide for the classification of actors. The Latency cell of the paradigm complements the Goal-attainment cell because it represents the expressive aspect of the action system, in terms of the cathectic pattern variables which govern actors' relations to one another.

The effects of superimposing the two cells, one on top of the other, are (1) to match the sub-systems of each cell, providing the definition of each sub-system of the new system, e.g. Integration is summarised under the rubrics of 'objects of identification' and 'needs for affiliation', which is consistent with the definition of Integration given in this present study; (2) to bring about the pairing of the

Figure 5

MODEL I of the theory of small task-oriented groups

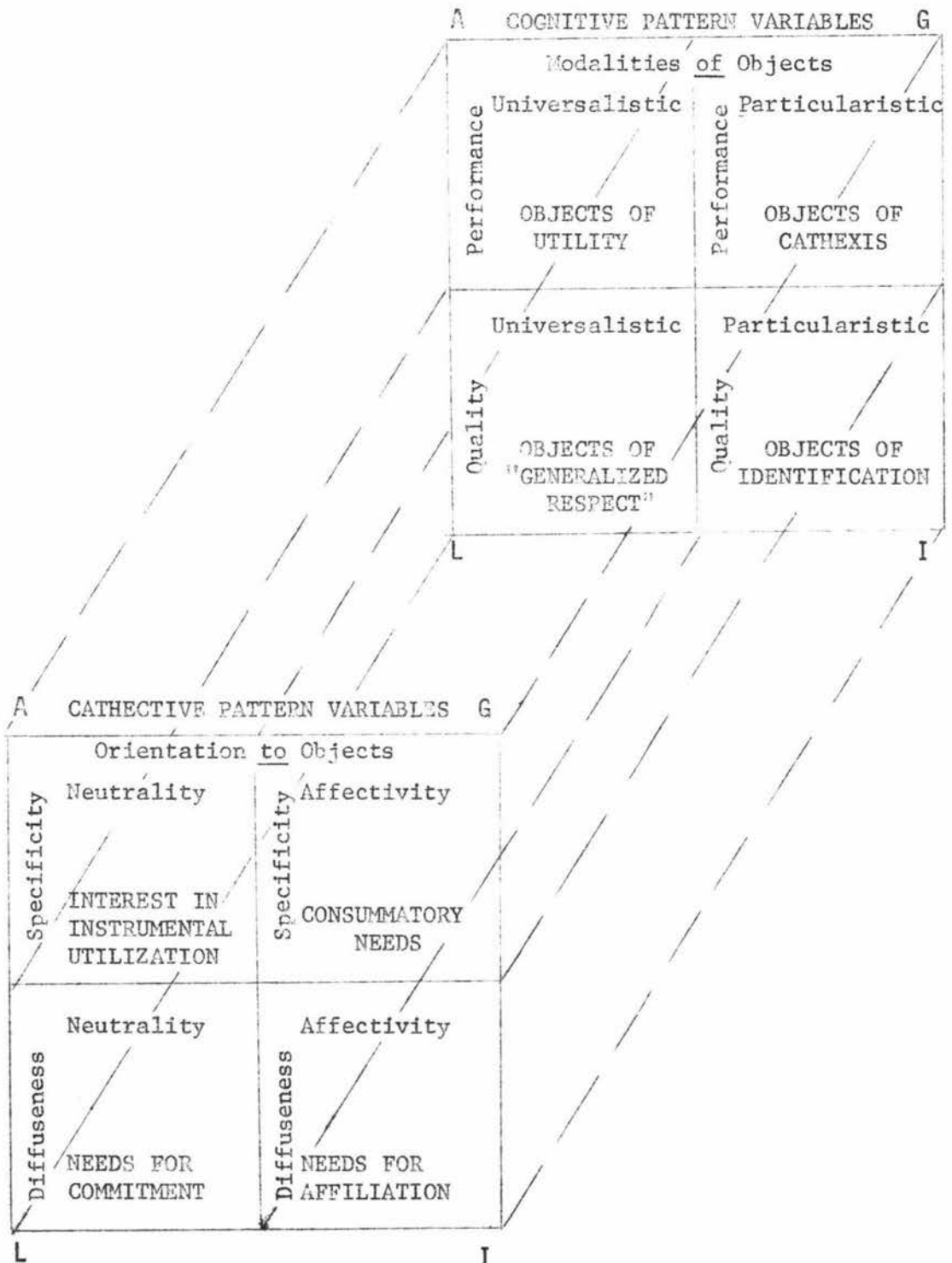


KEY

- Phases of Action
- Functional transitions
- Regressive transitions
- Dysfunctional transitions

Figure 6

Mapping of the pattern variables for a closed system
conceptualised on the four functional problems*



* Derived from Figure 1. The Components of Action Systems, in Parsons, 1967, 198.

cognitive and cathectic pattern variables as set out in Model I, in such a way that any alternative pairings are denied. As a consequence, the pairings given constitute determinate bonds - that is, each cognitive pattern variable is paired with one and only one corresponding cathectic variable.

Within the Model the modified pattern variable categories are paired in a specified way, such that no two categories which are theoretically incompatible ever occur together within the same cell. Figure 7 maps out the theoretical relationship between the four categories.

Figure 7

The logic of the relationship between
the modified pattern variables

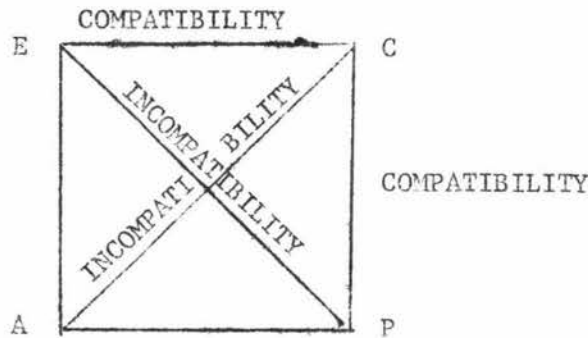


Figure 7 (a) exemplifies the logic of the relations between the modified pattern variables but does not imply that the relationship between the categories is a logical one, (b) is consistent with the assumptions and rules of procedure set up by Parsons in the Pattern Variables Revisited (1967). In short, a relationship of incompatibility refers to the mutual exclusiveness of the categories and their non-occurrence in the same cell at the same time. A relationship of compatibility refers to the mutual exclusiveness of categories and the empirical necessity of their occurrence in the same cell at the same time.

In Model I the configuration of interconnecting paths between each of the four cells follows the configuration set out in Figure 7. Where the outside lines in Figure 7 link those categories which are theoretically compatible with each other, so the unbroken and dotted lines in the model serve the same purpose. Where the diagonal lines

in Figure 7 link those categories which are theoretically opposite or incompatible with each other, so the broken lines in the model connect the same categories.

The three theoretically possible ways in which movement between phases of action can occur are represented in the model by the three sets of connecting lines between each cell. Each line traces the consequences of actors' behaviour on the state of the system. The model accordingly enables prediction of the effects of actor behaviour (as described by the modified pattern variable categories) on the state of the system (as described by the four functional problem categories).

In order to provide a label for the condition of actor behaviour that is observed in the empirical situation the term ego-state will be used, and because the behaviour of individual actors occurs over time, then identifiable occurrences of such behaviours will be designated episodes.¹ Hence an ego state episode consists of any individual actor's behaviour which can be identified as 'belonging to' any one of the modified pattern variable categories. Similarly, the convention group state will be used to nominate the condition of the group per se and because the condition of the group is also seen to change over time, then identifiable occurrences of group interaction will be designated sequences. Hence a group state sequence is any interaction within the group that can be identified as 'belonging to' any one of the four functional problem categories.

When a movement occurs within the social system in the form of a change from one group state to another or from one ego state to another, such changes will be recorded in the model as transitions. Since there are two sets of categories employed in the model, two distinct types of transitions can be identified:

- 1) An ego state transition is a movement from one (modified pattern variable) ego state to another.
- 2) A group state transition is a movement from one (functional problem) group state to another.

In turn the model traces out three types of ego state transitions which are hypothesised to bring about a movement from one group state to another. They are:

-
1. The operational definitions of episode and sequence are given later in Chapter 3, p. 52.

Types of transitions

(1) Functional transitions: In the model the unbroken lines trace out pathways between those modified pattern variable categories that are compatible with each other (as defined on p. 39). The transitions involved have been given the name 'functional transitions' because they are specified to occur in the sequence stipulated in the preceding discussion. The transitions theoretically have the effect of (i) bringing about problem resolution for each phase of action, and (ii) therefore moving the system towards a state of 'dynamic equilibrium'. This concept of equilibrium encapsulates two features of the system-- on the one hand, the idea of system stability and the conditions to achieve it, and on the other, the idea of the continuous adaptation. Equilibrium as it is used here refers to the cyclical resolution of system problems, where each cycle in the developmental spiral is more complex than the last.¹

(2) Regressive transitions: In the model the dotted lines trace out pathways between those modified pattern variables that are compatible with each other, but where the direction of the pathways is opposite to that specified for the unbroken lines. These are called 'regressive transitions' because theoretically they have the effect of holding up system problem resolution by returning the system to a prior phase of action. For example, Equity is theoretically compatible with Association, but a transition from Equity to Association reverses the direction of system development from Genesis to Latency. This has the effect of delaying system problem resolution by forming a negative loop in system development. Nonetheless, a regressive transition does allow for the possibility of system recovery from a state of partial system break-down.

(3) Dysfunctional transitions: In the model the broken lines trace out pathways between those modified pattern variable categories that are incompatible with each other. These are called 'dysfunctional transitions' because the pathways between categories are contradictory to the sequence specified in the case of functional transitions, for example, Equity is the theoretical opposite of Partiality and Contract is the theoretical opposite of Association. Such a condition prevents system problem resolution, because the transition moves the system into the opposite dimension.² Equity followed by Partiality changes the

1. See Chapter 1, p.2.

2. See Figure 5, page 37 above.

definition of the system as being in the Instrumental-adaptive mode to that of being in the Socio-expressive mode. This is theoretically dysfunctional for the system because the break in the sequence of movement between phases of action and the change in direction of system development means that the state of system equilibrium is never achieved and system break-down is likely to occur.

Hypotheses

The theoretical discussion leading up to the presentation of Model I assumed that if a social system "is to constitute a persistent order or to undergo an orderly process of developmental change, certain functional prerequisites must be met" (Parsons, 1951, p. 27).¹ On the one hand, each of the four functional problem categories describes a different feature of the way in which social interaction is stably maintained; on the other hand, the modified pattern variable categories describe the behaviour of individual actors who contribute to the on-going interaction that occurs within the 'interaction system'. Because interaction can only occur however, as a consequence of the actions of individual actors who are members of the interaction system, then the consistent behaviour of members themselves determines the direction and rate of interaction. Any explanation that is given of the internal dynamic of the social system must therefore take into account both the interaction between system members and the actions of individual members of the system - where such action inevitably has some effect either on maintaining or changing the character of the interaction that is seen to occur.

Given that the development of a social system is extended over time, there are certain conditions then which theoretically must be met if the social system is to 'constitute a persistent order'. From Model I a set of hypotheses can be generated that state the conditions under which the structure of the social system is maintained, by stipulating four theoretically possible relationships that can occur between group state and ego state.

The hypotheses are:

(1) Structure hypotheses

- 2.1 The group state of GENESIS is more likely to occur when there is an accompanying predominant occurrence of the ego state EQUITY rather than any other ego state.

1. "An orderly process in this sense is contrasted with the disintegration of a system. Disintegration in this sense means disappearance of the boundaries of the system relative to its environment." (Parsons, 1951)

- 2.2 The group state of GOAL-ATTAINMENT is more likely to occur when there is an accompanying predominant occurrence of the ego state CONTRACT rather than any other ego state.
- 2.3 The group state of INTEGRATION is more likely to occur when there is an accompanying predominant occurrence of the ego state PARTIALITY rather than any other ego state.
- 2.4 The group state of LATENCY is more likely to occur when there is an accompanying predominant occurrence of the ego state ASSOCIATION rather than any other ego state.

When a variation or change in the behaviour of actors is seen to occur, it is highly likely that such a change will have an effect on the interaction between individuals within the social system. From Model I a further set of hypotheses can be generated that state the conditions under which the structure of a system is changed. From Figure 8 it can be seen that there are twelve theoretically different ways in which changes in group state are related to transitions between ego states.

Figure 8

Hypothesised relationships between ego state transitions
and group state transitions

Ego state transitions	GENESIS	GOAL- ATTAINMENT	INTEGRATION	LATENCY
Equity / Contract		→		
Equity / Partiality		→	→	
Equity / Association		→	→	→
Contract / Equity	←			
Contract / Partiality		→	→	
Contract / Association		→	→	→
Partiality / Equity	←	→	→	
Partiality / Contract	←	→	→	
Partiality / Association		→	→	→
Association / Equity	←	→	→	→
Association / Contract	←	→	→	→
Association / Partiality		→	→	→

(2) Process hypotheses. Each of the relationships stipulated in Figure 8 can be formulated as an hypothesis capable of being tested empirically. The twelve hypotheses are that:

- 1.01 A group state transition from GENESIS to GOAL-ATTAINMENT is more likely to occur following an ego state transition from EQUITY to CONTRACT rather than any other ego state transition.
- 1.02 A group state transition from GENESIS to INTEGRATION is more likely to occur following an ego state transition from EQUITY to PARTIALITY rather than any other ego state transition.
- 1.03 A group state transition from GENESIS to LATENCY is more likely to occur following an ego state transition from EQUITY to ASSOCIATION rather than any other ego state transition.
- 1.04 A group state transition from GOAL-ATTAINMENT to INTEGRATION is more likely to occur following an ego state transition from CONTRACT to PARTIALITY rather than any other ego state transition.
- 1.05 A group state transition from GOAL-ATTAINMENT to LATENCY is more likely to occur following an ego state transition from CONTRACT to ASSOCIATION rather than any other ego state transition.
- 1.06 A group state transition from GOAL-ATTAINMENT to GENESIS is more likely to occur following an ego state transition from CONTRACT to EQUITY rather than any other ego state transition.
- 1.07 A group state transition from INTEGRATION to LATENCY is more likely to occur following an ego state transition from PARTIALITY to ASSOCIATION rather than any other ego state transition.
- 1.08 A group state transition from INTEGRATION to GENESIS is more likely to occur following an ego state transition from PARTIALITY to EQUITY rather than any other ego state transition.
- 1.09 A group state transition from INTEGRATION to GOAL-ATTAINMENT is more likely to occur following an ego state transition from PARTIALITY to CONTRACT rather than any other ego state transition.
- 1.10 A group state transition from LATENCY to GENESIS is more likely to occur following an ego state transition from ASSOCIATION to EQUITY rather than any other ego state transition.
- 1.11 A group state transition from LATENCY to GOAL-ATTAINMENT is more likely to occur following an ego state transition from ASSOCIATION to CONTRACT rather than any other ego state transition.
- 1.12 A group state transition from LATENCY to INTEGRATION is more likely to occur following an ego state transition from ASSOCIATION to PARTIALITY rather than any other ego state transition.

Having formulated Model I and generated two sets of hypotheses adequate to test the relationships postulated in the model, the next step in this study is to discuss the research design which was devised to provide the operational links between the theory and the concrete situation of small task-oriented groups.

Chapter 3

RESEARCH DESIGN

The model set out in Chapter 2, Figure 5, provided a deductive paradigm which permitted the hypotheses stated at the end of that chapter to be generated. That model specified two sets of categories, the four functional problems and the modified pattern variables which, for the empirical exercise, are to be given the status of dependent and independent variables. The present chapter is concerned with the production of a research design capable of manipulating these variables in order to test the hypotheses empirically.

The problem central to the research design itself was to devise a situation that would allow for the testing of the relationships hypothesised between the behaviour of individual actors and the state of the group of which they are members. Two alternative methods of investigation could have been used, first controlled experimentation under laboratory conditions after the fashion of Bales, and more recently Fisek's (1969) study of the evolution of power and prestige in task oriented discussion groups¹ and second, field observations in the tradition of Smith and Geoffrey (1968), Bellack et al (1966), Flanders (1960), Parakh (1969), and others whose work was directly related to education.

The technique of field observation was chosen for this study firstly because experimental 'artificiality' could be minimized, secondly because of the availability of high-quality video-recording equipment, which gives the advantage of obtaining a complete and detailed visual and audio record of group interaction equal to that obtainable under laboratory conditions, and thirdly, the exploratory nature of the research called for the progressive development and modification of coding procedures - a condition that could not be achieved in a controlled experimental situation. For this latter reason in particular, an important part of the research was to provide an adequate operationalisation of the theoretical categories. For the purposes of the study then,

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1. Fisek, M.H. (1969) 'The evolution of status structures and interaction in task oriented discussion groups' - Ph.D. Thesis, Stanford University ABSTRACT. In this study, data was collected from 73 three-person discussion groups, set up specifically for the purpose of the investigation.

there was a need for a task-oriented group whose life span could be fully scrutinised.

Commitment to a field study and the necessity to obtain a short-lived task-oriented group involved a series of tasks. They were:

- 1) selection of a research group.
- 2) design of a programme of observation using the video-tape,
- 3) design of a means for recording the observational data,
- 4) construction of two sets of codes to translate the four functional problem and the modified pattern variable categories into operational categories.
- 5) coding of the data and establishing acceptable levels of reliability between coders,
- 6) presentation of the nominal data for computer tabulation,
- 7) analysis of results.

These tasks are stages in the operationalisation of the model and the first six are discussed in detail below. The last, the analysis of the results obtained, is discussed in the next chapter.

1) Selecting the group

The first step in the research exercise was to select the group which was to be used for the recording of the final data. In order to meet the demands set by the investigation the group had to be task-oriented and capable of being conceptualised as a closed system. This meant that it had to be a group which had come together for a specified (and relatively brief) life-space to engage in stipulated tasks.

Several operational limitations had also to be met. The group needed to be sufficiently small to permit the detailed recording of both verbal and non-verbal signals generated by individual actors in group interaction. A trial recording session indicated that the size of the group should not exceed twenty members. Even a group of this size posed some problems for achieving the required clarity of recording.

Opportunity for gaining access to a newly formed task-oriented group was provided when a vacation course brought together the extra-mural members of a Diploma of Education class. These students, who were meeting for the first time as a class, were to discuss the Sociology of the School as part of their course requirements. The complete life-span of the group totalled five hours - that is, five sessions on three consecutive days. Attendance at separate sessions ranged between seventeen

and twenty students.

2) Programme of observation

A number of problems had to be overcome in preparation for the final research study. Firstly, lack of expertise on the part of the investigators required that they become familiar with the filming techniques of video-recording in order to use the video equipment most effectively. Secondly, some preliminary data were required to provide material which could be used in the construction of the codes. Therefore a preliminary recording was taken of sessions of an on-going class in the University's Department of Education. This exercise provided the investigators with information about the recording equipment which would enable them to recognise some of the technical problems which had to be overcome before recording the final data. The data collected in this preliminary recording proved suitable also for use in the early development of the observation codes.

The programme of observation for the research study called for a record of the complete life-span of the group; that is, a video-tape record of the formal programme of the class' activities - set out in the course timetable as three formal discussion sessions, a test and an evaluation session. In addition, the class programme included several tutorial sessions where smaller groups of students would meet. These tutorial sessions were not included in the recording programme, which only used the full group sessions as the source of data. Because the group was to be conceptualised as a closed system, the term 'life span' excludes all informal meetings between group members.

A room was allocated to this class for the duration of its programme, allowing the recording equipment to be set up. In accordance with the requirements of the lecturer in charge of the class, seats and tables were arranged in a box formation. This arrangement also permitted a full observation of the group. The two cameras were placed in opposite corners of the room to give front face views of the entire group. Three microphones were hung from the ceiling at points around the box in order to pick up the verbal interaction. Two 500 watt lamps were centrally placed above the group to augment the available lighting - curtains were used to diffuse direct sunlight.

Microphone and camera settings were established in the room prior to recording. Few adjustments were necessary during the actual process of recording, though greater clarity of audio signals was achieved

through the additional use of the automatic gain control. Full technical details of the video-tape system used are given in Appendix C.

3) Recording the observed data

Operation of both the cameras and the microphones was remotely controlled through the control console which was set up outside the classroom and included a variety of video and audio equipment. Included in the control console is an effects generator which allows signals from the two cameras to be combined into one composite image for recording. By placing the cameras in opposite corners of the room, and by using the 'split-screen' technique, a composite, front-face record of the entire group was produced. The control console also includes three programme monitors, one for each of the cameras and one for the combined image of the effects generator - permitting the independent monitoring of the inputs from both cameras. The two audio channels of the recording console provide control over the audio in-puts which are to be recorded in conjunction with the visual image. Monitoring of all signals - visual and audio - was done in the presence of two operators. One of them was an electronics engineer who was responsible for the technical out-put of sound and visual image. One or other of the investigators supervised the selection of data that were to be recorded. The composite image on the final out-put screen was recorded on the video-tape, providing a permanent record of the six group sessions.

Several steps were necessary in the processing of data to translate the audio-visual records into a form suitable for measurement and tabulation. From the primary data of the video-tape records, typed transcripts were prepared which then served as secondary data. In order to obtain an accurate record of verbal interaction the transcripts were proof-read against the tapes and fifty-second time intervals inserted in the text to provide location signals for subsequent coding. Because of the difficulty of hearing every spoken word (due to confusion of speech or inaudibility) a perfect transcription was not achieved. The margin of error was estimated at five percent.¹ One major difficulty in making these transcripts was to avoid the tendency to 'interpret' colloquial or non-grammatical forms of speech. Familiarity on the part of the transcribers with the technical sociological terms and references used by the group facilitated the high level of accuracy in the transcript.

1. About forty-five hours were spent in producing the transcripts of the five taped hours.

4) Constructing the codes

The next task was to translate the primary and secondary data into codes amenable to analysis and computation - respectively the four functional problems which describe the state of the group, and the modified pattern variables which describe the behaviour of individual actors. The four functional problems and the modified pattern variables each required a code of their own. Both are dealt with below.

Code I: The four functional problems - GROUP STATE

The basic problem in devising this code was to restate the four functional problem categories so that identification of sequences of group interaction in explicit behavioural terms might follow. To assist the search for behavioural indicators of each of the group states, the detailed anthology of observational instruments edited by Simon & Boyer (1970) was canvassed. Despite the recent date of this publication, the search revealed that few observational studies have been concerned with identifying group state per se. As a consequence, operational content for the categories was produced mainly by the process of 'unpacking' the theoretical definitions - i.e. translation of the original abstract ideas into simple concrete terms. The problem was to encapsulate the complexity of each theoretical definition at the empirical level. For example, GENESIS taken theoretically as:

"actors' acceptance of a mandate for action for the group which stipulates the norms which govern the behaviour of actors, and provides a definition of individual and group tasks"

was reformulated at the empirical level by providing a statement of the general focus of the category and its components under four signal headings: Settling down / Procedural / Task-setting / Negotiation behaviours. For example:

CATEGORY 5 (GENESIS) -- focusses attention on the setting up of the group, the establishment of rules and procedures under which the group will operate and the setting up of tasks for the group.

Procedural signals - indicating actors' use of commonly accepted conventions and the establishment of specific rules and routines for this group by:

Signs of deference to others- apologies for lateness, coming
in very quietly, on tip-toes; addressing by title,
Introductions/roll call,
Filling in forms/name cards etc.
Passing around papers,

Being quiet when others are speaking

General concurrence with procedural routines - noting down arrangements

Verbal responses given to suggestions/requests/demands about administrative arrangements for the group - "aha"/"OK" etc.

Non-verbal responses given to suggestions/requests/demands about administrative arrangements for the group - nods, silence, hand gestures.

Requests for further information about routines - times of meetings, length of test etc.

Representative expressing concurrence of group on procedures."

The examples for each signal, in each category, were in part compiled from observations taken in the preparatory recording session, and in part from a search of the relevant literature and from the personal experience of the investigators. Each of the four categories for Code I was elaborated as in the example given above. (Code I and its categories are to be found in Appendix A.)

Code II: The modified pattern variables - EGO STATE

Code II was set up in a way similar to Code I. The modified pattern variable categories had to be translated into concrete terms which would allow for the description and identification of episodes of individual actors' behaviour. For this code, fairly extensive use was made of the anthology by Simon and Boyer (ibid). Items from several observational studies provided some content for the categories in the form of examples of actor behaviours. Use was made of episodes of behaviour taken from the preparatory video-tape record which provided examples of individual actors' behaviour appropriate for the categories of this code and assisted in the process of extension and refinement of the code. For example, the category CONTRACT which is the composite category of Performance-Specificity (see Page 35) is operationally re-defined in the code as focussing attention on

"how individual actors participate in and signal their expectations of how others are to join in the tasks of the group."

This statement provides the organising principle for the category which in turn contains a list of examples of the different ways in which actors' behaviours can be identified as belonging to the category.

Some examples from Category 2 (CONTRACT) are:

"Giving instructions/directions to actors on what to do/how to proceed - e.g. "I want three groups"/"Discuss the questions on page 3 before going on to any others..."

"Ascertaining that actors have information/equipment necessary to do the task - e.g. "Can you all see the board?"/"Are we all ready to go ahead then?"/"Do you fully understand the problem?"/"Are there enough chairs?"

A similar procedure was followed in the case of the other three categories of Code II. The full code is given in Appendix B.

5) Coding the data

The next task involved viewing the video-tapes and identifying and recording the incidents to which the code categories applied. Three coders were used. Each coder was given the task of learning the codes and instructions for coding.¹ The procedure difficulties for coding were discussed in an initial training session in order to check that coders fully understood what was required of them when coding and each coder independently coded the tapes selected for establishing inter-scorer reliability. Code I was applied first.

Code I: In order to translate the primary data (the video record) and the secondary data (the transcripts) into code categories, the coders had to follow a set of programmatic steps. The first step required coders to read the transcript of the selected tape and identify 'sequences' of group interaction (sequence being defined as a series of signals and responses occurring between actors which can be identified as belonging to an identifiable category in Code I). The second step was to view the tape to confirm the identification of each change in group state. The third required the coder to identify the category to which each sequence of group interaction belonged and record the category number for each sequence on the coding sheet. As a fourth but related step, the coders had to identify the times at which each change in group state occurred, by entering the time count number on the coding sheet.

Code II: Code II was concerned with analysing the behaviour of individual actors. The administration of Code II basically followed the pattern established for Code I. Coders were required to identify 'episodes' of actor behaviours (an episode being any verbal signal in the form of a sentence, part-sentence or protracted speech, spoken by an individual actor and which could be identified as belonging to the same category in Code II). Unlike the procedure used for Code I, where whole tapes were coded at a time, for Code II tapes were divided into fifteen-minute segments, numbered and arranged in random order (see Table 1, Appendix B).

1. Full instructions for the administration of Codes I and II are provided in the manuals for the codes in Appendices A and B.

This procedure was used to ensure that the sequence of categories coded was not contaminated by the coders' prior knowledge of the process of interaction. The coding procedures themselves were similar to those for Code I. In step one, coders were required to read the transcript for the selected fifteen-minute tape segment and identify each 'episode' of actor behaviours. In step two, coders were to view the segment of tape to confirm the identification of each change in actor behaviour. In step three, they were to identify the category to which each episode belonged, and record the category number for each episode on the appropriate coding sheet. In the fourth step, the times at which each change occurred were to be noted and the time count number entered on the coding sheet.

This process of coding¹ transformed the primary and secondary data for the two codes into two independently recorded sets of figures. These figures provided, in the case of Code I, a record of the instances of category change in group state, and of the duration of each sequence of group interaction measured in seconds elapsed between category changes. In the case of Code II the figures provided a record of the instances of category change in individual actors' behaviours, and the duration of each episode of behaviour indicated by the recording of time count numbers. These data were then transferred from the coding sheets on to the General Purpose Card Punching forms (C.U.5) in preparation for computer analysis.

Inter-coder reliability scores

Inter-coder reliability for Code I was calculated using the formula adapted from Biddle & Adams (1967)² as a proportion of agreement

1. It is estimated that the time taken to administer both codes was in the region of 120 hours.
2. Biddle & Adams (1967, 202-203): Formula:
$$R = \frac{A - (\frac{1}{N-1} \cdot D)}{A + D}$$
 where A

equals number of occasions on which each pair of coders was in agreement, D equals number of occasions on which each pair of coders was in disagreement, N equals number of tolerated coding categories. (Note the addition of a correctional factor $(\frac{1}{N-1})$ that was added because two coders with no reliability would still tend to agree with one another $\frac{1}{N}$ proportion of the cases by chance alone. This correction permits the computed portion of agreement to diminish to zero if the coding is random).

between scores.

Table 3.1.

Inter-coder reliability scores for Code I

	Tape Numbers	Coders A/B	Coders A/C	Coders B/C
a) for individual tapes:	1	.73	.65	.59
	2	.73	.93	.93
	3	.70	.56	.56
	4	1.00	.91	.91
	5	.79	1.00	.79
	6	.88	.59	.59
b) for all tapes		.78	.76	.69

The initial reliability scores obtained for Tapes 6 and 1 between coders A and C, and B and C produced reliability figures of .59 and .65. The margin of error implied was unacceptable. Consequently a coding convention that resolved coding discrepancies by discussion and agreement on the criteria judged to be appropriate for any disputed sequences of interaction was developed. Although this procedure no longer permitted coders to code completely independently, it did provide scope for eliminating coder differences. Specifically, it was decided that coders should independently code all six tapes prior to the final discussion of of results. In this way, even the smallest margin of error was eliminated between coders, permitting the presentation of one set of data for subsequent analysis.

Inter-coder reliability scores for Code II were computed for three trial segments of tape. The problem of establishing sufficiently high inter-coder reliability scores led to the use of only one pair of coders whose reliability scores were consistently high in this trial. The problem of the margin of error and the possible contamination effects for later analysis, using results obtained from independent coding, was resolved in the same manner as for Code I.

Thereafter the two coders independently coded each of the segments of tape in Table 1 (Appendix B). The following inter-coder reliability scores were obtained:

Table 3.2.

Inter-coder reliability scores for Code II

Tape Numbers	Coders A/B
1	.69
2	.76
3	.84
4	.91
5	.70
6	.83

The reliability scores for both codes were satisfactorily high. There is however, indication that further refinement of the coding categories is needed to reduce fluctuations in inter-coder reliability scores, between tapes.

6) Computer tabulation

Two special tabulation programmes were written in Fortran IV and processed on the IBM 1130 computer to produce the required information. In order to process the information derived from the primary and secondary data, the sequential category numbers for Codes I and II were transcribed from the coding sheets, for each code, on to the General Purpose Card Punching Forms (CU 5) providing a complete record of all episodes and sequences of interaction for the six sessions.

From this information, four sets of data were computed for each session.

- 1) The number and average duration of ego state episodes and the number of transitions between categories on the ego state code;
- 2) The number and average duration of sequences of group interaction, and the number of transitions between categories on the group state code;
- 3) The incidence of co-occurrence between ego state transitions and group states; and
- 4) a visual record of the data from both codes in graph form, giving both the duration and number of incidents of episodes of individual actors' behaviour and sequences of group state.

The full report of findings is given in Chapter 4.

Chapter 4

PRESENTATION OF FINDINGS

This chapter is concerned with presenting results of the analysis of the coded data. Specifically it provides a general description of variations in ego state and group state over the total life span of the group. With this general base line established, it provides second, an account of the findings of each of the six separate sessions. Finally it puts the hypotheses of Chapter 2 to test by examining the relationship between ego state and group state.

Group life span: An overview

In all, the group qua group was in existence for a total of four hours, forty-eight minutes. During this time observations yielded 468 episodes of individual actors' behaviour and 104 sequences of group interaction. Predictably the number of episodes recorded was greater than the number of sequences, since Code II (ego state) categorises the behaviours of individual actors in much greater detail than Code I (group state) which focusses on interaction between group members or the group as a whole. The incidence and duration of categories for both codes is dealt with below:

Ego State. A summary of the number and average duration of ego states for the life span of the group is presented in Tables 4.1 and 4.2 below.

Information about the number and distribution of episodes of individual actors' behaviour recorded for each ego state category is presented in Table 4.1.

Table 4.1

Ego state episodes - distribution: group life span

Category	No. of episodes	% distribution
Equity	98	21
Contract	143	31
Partiality	63	13
Association	164	35
Total	468	100

During the life span of the group two-thirds of the total number of

episodes were fairly evenly distributed between the ego state categories of Association and Contract (35% and 31% respectively). Of the remainder, 21% of the episodes occurred in Equity and 13% in Partiality. As instance records, these alone do not provide information on the actual amount of time spent in each category. Table 4.2 presents figures for the duration of time spent in each category expressed both in time units and as a percentage of the total life span of the group.

Table 4:2

Ego state episodes - duration: group life span

Category	Duration in time units ¹	% life span
Equity	47.5	14.0
Contract	233.38	67.0
Partiality	8.13	3.0
Association	55.0	16.0
Total	344.01	100.0

From Table 4.3 it can be seen that there is a marked difference in the distribution of time spent in each category. Whereas in Table 4.2 two-thirds of the episodes were distributed between Association and Contract, in Table 4.2, two-thirds of the time was spent in Contract alone (67%). The rest of the time was distributed fairly evenly between Association and Equity (16% and 14% respectively), leaving a very small proportion of the life span spent in Partiality (3%).

When these two tables are taken in conjunction with one another, it can be seen that it is both the number of episodes and the amount of time spent in each ego state which provide evidence of the predominance of any one category. Further evidence of the dominance of Contract in the life span of the group is given when the overall average times spent in each ego state are compared. The average time spent in Contract is 1.63 time units, in Equity 0.48 time units, in Association 0.33 time units with only the average of 0.13 of a time unit spent in Integration.

1. All figures on duration are presented in time units, where 1 time unit equals 50 seconds. This convention is used because it allows a comparison to be made between the figures on duration presented in the tables and the time dimension of the profiles. The profile for each session consists of two 4-band continuous graphs of the on-going process of interaction for each session. They are presented later in the discussion of the hypotheses.

The tables presented above do not provide information on patterns of movement between ego states. Table 4.3 gives details of the dynamic features of individual actors' behaviour - i.e. the number of transitions between ego state categories.

Table 4.3.

Ego state transitions: group life span

	% Equity	% Contract	% Partiality	% Association	% Total
Equity	-	7.1	1.7	12.4	21.2
Contract	5.3	-	6.6	18.6	30.5
Partiality	1.9	7.5	-	4.0	13.4
Association	13.7	16.1	5.1	-	34.9
Total	20.9	30.7	13.4	35.0	100.0

Table 4.3 shows how the distribution of episodes between the ego state categories can be stated as transitions from one category to another. From Table 4.3. it can be seen that the highest number of transitions occurs between Contract and Association (18.6%), Association and Contract (16.1%), Association and Equity (13.7%) and Equity and Association (12.4%), emphasising the high percentage of movement in and out of the ego state of Association (69.9%). This figure compares with transitions in and out of Equity (42.1%), Contract (61.2%) and Partiality (26.8%). Comparison of the total percentage figures on the horizontal axes - that is, the percentage of movement into each of the four ego state categories - with the total percentage figures on the vertical axes - that is, the percentage of movement out of each of the four ego state categories - indicates, because these are closely matched, that there is a pattern of oscillation between the categories, rather than a step progression through the categories.

On the basis of the ego state findings alone, the main conclusion that can be drawn about the life span of the group is the dominance of Contract. Over two-thirds of the life span of the group are spent in Contract, even though the number of transitions in and out of Contract is smaller than for Association.

Group state. A summary of the number and average duration of group state sequences for the life span of the group is presented in the tables below: Information about the number and distribution of

sequences of group interaction recorded for each group state category is presented in Table 4.4.

Table 4:4

Group state sequences - distribution: group life span

Category	No. of sequences	% distribution
Genesis	27	26
Goal-attainment	26	25
Integration	3	3
Latency	48	46
Total	104	100

During the life span of the group just under half of the total number of sequences of group interaction occur in the state of Latency (46%). Of the remaining 54%, there is an equal distribution of sequences between the group state categories of Genesis and Goal-attainment (26% and 25% respectively) and 3% in Integration. Table 4.5. presents figures for the duration of time spent in each category, expressed both in time units and as a percentage of the total life span of the group.

Table 4:5

Group state sequences - duration: group life span

Category	Duration in time units	% life span
Genesis	71.25	21.0
Goal-attainment	221.5	64.75
Integration	5.25	1.25
Latency	47.0	13.0
Total	345.0 *	100.0

* Note the discrepancy of 1 time unit between group state total time units and ego state time units which is due to the fact that in two of the coding sessions, coding for Code I recorded a 25 second earlier time count than for Code II.

From Table 4.5 it can be seen that there is a marked difference between the lengths of time spent in each category. Whereas in Table 4.4. just under half of the sequences were spent in Latency, from Table 4.5 it can be seen that close to two-thirds of the life span of the group is spent in Goal-attainment alone (64%), the remaining one-third of the time is disproportionately distributed between Genesis (21%), Latency (13%), and leaving a very small proportion of the life span spent in

Integration (1.25%).

Evidence of the dominance of Goal-attainment is given when the over-all average times spent in any one group state are compared. The average time spent in Goal-attainment is 8.52 time units, in Genesis 2.63 time units, Integration 1.75 time units and 0.97 time units for Latency.

Details of the dynamic change of group interaction - i.e. the total number of transitions between group states is given in Table 4.6 below:

Table 4:6
Group state transitions: Group life span

	% Genesis	% Goal-attainment	% Integration	% Latency	% Total
Genesis	-	7.6	0.9	20.1	28.6
Goal-attainment	0.9	-	0.0	24.4	25.3
Integration	0.9	0.0	-	1.9	2.8
Latency	24.4	17.0	1.9	-	43.3
Total	26.2	24.6	2.8	46.4	100.0

Table 4.6 restates the distribution of sequences between the group state categories, as transitions from one category to another. There it can be seen that the highest number of transitions is shared between Goal-attainment / Latency and Latency / Genesis (both register 24.4%). These are followed by Genesis / Latency (20.1%) and Latency / Goal-attainment (17.0%) transitions. Comparison of the total percentage figures on the horizontal axis - that is, the percentage of movement into each of the four group state categories - with the total percentage figures on the vertical axis - that is, the percentage of movement out of each of the four group state categories - indicates that there is some oscillation between the categories (e.g. Latency / Genesis and Genesis / Latency, and Integration / Genesis and Genesis / Integration). The occurrence of some discrepant scores also (Genesis / Goal-attainment 7.6 and Goal-attainment / Genesis 0.9) gives some evidence of a step progression through the categories.

The main conclusion that can be drawn from the preceding discussion of the group state findings alone is that the significant feature of group state is the dominance of Goal-attainment for a much greater length of time than for any other group state category. Just under two thirds of the life span of the group is spent in Goal-attainment, even though the incidence of Transitions in and out of

Goal-attainment is not the highest and is, in fact, considerably smaller than for Latency.

Relating ego state to group state

The information given so far has been confined to a presentation of figures for each code separately. Given that one of the purposes of the investigation is to examine the relationship existing between individual actor behaviours (ego state) and group interaction (group state), the final step in this overview of the life span of the group calls for the presentation of a summary of the co-occurrence of ego state transitions and group states and the duration of ego state episodes co-occurring within each group state.

Table 4.7 presents a summary of the co-occurrence of ego state transitions and group states.

Table 4.7

Summary of co-occurrence of ego state transitions and group states

Ego state transitions	Group States				No. of Transitions
	Cenesis	Goal- Attainment	Integration	Latency	
Equity/Contract	16	7	0	10	33
Equity/Partiality	6	0	0	2	8
Equity/Association	33	1	1	23	58
Contract/Equity	14	5	0	6	25
Contract/Partiality	4	24	0	3	31
Contract/Association	13	39	0	35	87
Partiality/Equity	6	0	0	3	9
Partiality/Contract	5	24	0	6	35
Partiality/Association	0	5	6	8	19
Association/Equity	37	1	1	25	64
Association/Contract	15	42	0	18	75
Association/Partiality	0	6	5	13	24
Total No. of transitions	149	154	13	147	468
Total % of transitions	32%	33%	3%	32%	100%

Table 4.7 presents a set of findings which can be read in two different ways -horizontally to show the distribution of each of the twelve ego

state transitions across the four group states, and vertically to show the distribution of ego state transitions within each group state.

Distribution of transitions across the group states. Featured in Table 4:7 is the common occurrence of some ego state transitions with two or more group state categories. The most noticeable example is the co-occurrence of some ego state transitions with three group state categories, viz. Contract / Association (87 transitions) with (i) Genesis - 13 transitions, (ii) Goal-attainment - 39 transitions, and (iii) Latency - 35 transitions. Ego state transitions between Association / Contract follow a similar pattern, though transitions between these two categories occur less frequently (75 transitions) with 15 transitions occurring with Genesis, 42 with Goal-attainment, and 18 with Latency. Of the 64 ego state Association / Equity transitions, 37 occur with group state Genesis and 25 with Latency. This pattern is mirrored in the distribution of Equity / Association transitions, 33 occurring with Genesis, and 23 with Latency out of a total of 58 transitions.

Distribution of transitions within each group state. Ego state transitions that co-occur with each group state determine the composition of each group state. Thus the major transitions for Genesis are: Equity / Association, Association / Equity and Equity / Contract. For Goal-attainment they are: Contract / Partiality, Partiality / Contract, Contract / Association and Association / Contract. For Integration they are: Partiality / Association and Association / Partiality. For Latency they are: Contract / Association, Association / Equity and Equity / Association. From these selected sets of illustrations and from the figures of the full table it can be seen that there is a considerable co-occurrence of some ego state transitions with more than one group state. Since the life span of the group lasted nearly five hours, it is possible that the co-occurrence of specified ego state transitions with different group states can be explained in developmental terms - i.e. that whilst in the overview there is an apparent conflict of co-occurrences of some specified ego state transitions with more than one group state, so a more detailed analysis of the separate stages of group development might provide some explanation of this apparent conflict.

One of the major contentions of the present thesis is that for each of the twelve specified ego state transitions there is an hypothesised relationship with one and only one group state. Consequently the

occurrence of a number of ego state transitions with more than one group state, shown in Table 4:7, raises the problem of reconciling these findings with the relationships hypothesised in the model.

Table 4:8 gives information on the duration of ego state episodes co-occurring with each of the four group states.

Table 4:8

Ego state / group state co-occurrences -
expressed as a percentage of the duration of each group state:
Group life span

Group States					
Ego states	% Genesis	% Goal-attainment	% Integration	% Latency	
Equity	55.0	0.1	4.0	24.0	
Contract	22.3	96.5	0.0	15.0	
Partiality	0.7	1.2	13.0	3.0	
Association	22.0	2.2	83.0	58.0	
Total	100.0	100.0	100.0	100.0	
Time Units :	71.25	221.5	5.25	47.0	345

From Table 4:8 it can be seen that of all the time spent in each group state there is a predominant co-occurrence of one ego state, thus 55% of the time spent in Genesis co-occurs with ego state Equity, 96% of Goal-attainment co-occurs with Contract, 58% of Latency co-occurs with Association, 83% of the group state of Integration co-occurs with Association also, though this percentage figure is misleading since the actual amount of time that Association co-occurs with Integration is very small compared with the amount of time co-occurring with Latency (4.38 and 27.26 time units respectively.)

The remainder of this chapter is concerned with presenting the findings first in the form of a brief comparison of the six sessions and second, as a detailed account of the findings for each session. The latter serves the purpose of relating the findings presented in Tables 4:7 and 4:8 to the sessional context from which they were derived and allows for a detailed discussion of the features of each session -

- 1) the distribution of ego states and group states within each session,
- 2) the patterns of transitions between states,

- 3) the amount of time spent in both ego states and group states,
- 4) the relationship between ego state distribution and duration and group state.

Comparing the six sessions

During the life span of the group, 468 episodes of individual actors' behaviour (Code II) and 104 sequences of group interaction (Code I) were recorded, giving figures of 1.37 time units as the average time spent in any ego state episode and 4.80 time units as the average time spent in any group state sequence. Inter-session comparisons of ego state and group state are discussed in turn below.

Ego state. Figures for the number and average duration of ego state episodes for each session are given in Table 4:9.

Table 4:9

Ego state episodes - number and average duration:
Inter-session comparison

Session	Number of episodes	Average duration of ego state episodes
1	177	0.42
2	105	0.48
3	34	1.62
4	53	0.92
5	17	4.34
6	82	0.46
Total	468	0.73

The number of ego state episodes occurring in any session ranges from 17 to 177 and the average duration of episodes in any session ranges from 0.42 time units to 4.34 time units.

Table 4:10

Ego state episodes - distribution: Expressed as percentage of total number of episodes for each session; Inter-session comparison

Ego state Categories					
Session	% Equity	% Contract	% Partiality	% Association	Total
1	34.0	23.0	7.0	36.0	177
2	13.0	35.0	17.0	35.0	105
3	11.0	39.0	14.0	36.0	34
4	15.0	44.0	13.0	28.0	53
5	30.0	35.0	5.0	30.0	17
6	8.0	31.0	23.0	38.0	82
Total	21.0	31.0	13.0	35.0	468

From Table 4:10 it can be seen that the distribution of ego state episodes between Equity and Association on the main part in Session 1, gives way to a distribution of episodes between Contract and Association in Sessions 2 and 3. Session 4 has a greater proportion of its episodes in Contract than any other session (44%). Session 5 is noticeable for its small total number of episodes - (only 17 in comparison with the 177 episodes of Session 1) though distribution of episodes in Session 5 is fairly even across Equity, Contract and Association. Session 6 has a fairly even distribution between Contract and Association, as in Sessions 2 and 3, but the 23% occurrence of Partiality is the highest occurrence of this category for all the sessions.

The distribution table alone gives insufficient evidence however, of the features of each session, since it is both the number of ego state episodes and the time spent in each episode which provides evidence of the predominance of any one category, for any session. Information from Table 4:11, giving the percentage of time spent in each ego state complements the information on distribution of ego state episodes.

Table 4:11

Ego state episodes - duration: Expressed as
percentage of duration of each session:
Inter-session comparison

Session	Ego state categories				No. of time units for session
	% Equity	% Contract	% Partiality	% Association	
1	47.0	19.0	2.0	32.0	75.5
2	9.0	73.5	3.0	14.5	52.0
3	3.5	92.0	1.0	3.5	55.0
4	1.5	81.0	5.0	12.5	49.5
5	2.7	95.1	0.2	2.0	75.0
6	8.0	50.0	4.0	38.0	37.0
Total	14.0	67.0	3.0	16.0	344.0

The figures given of the duration of ego state episodes make explicit the predominance of Equity rather than Association in Session 1, for, though a comparable number of episodes was recorded for these two categories, the amount of time spent in each was different. Of the total time for this session, 47% was spent in Equity in contrast to the 32% spent in Association. The significance of relating number of episodes and duration is further exemplified in Session 2 where 70% of the total number of episodes of that session is equally distributed between Contract and Association, but 73.5% of the time is seen to be spent in Contract rather than Association (14.5% only). The incompleteness of mere enumeration is shown in each session, for example, in Session 3 where 39% of the total number of episodes occur in Contract and 36% in Association, 92% of the duration of the session is spent in Contract, leaving only 3.5% of the time spent in Association. In Session 5, the 30% - 35% distribution of episodes between Contract and Association contrasts markedly with the 95% : .2% ratio of time spent in these two states respectively. From these figures the pattern of ego state episodes that emerges is reflected in the totals for Tables 4:10 and 4:11 where 67% of the life span of the group is spent in Contract though only 31% of the total number of episodes occur in this category. This contrasts with the 16% of the life span spent in Association, although 35% of the total number of episodes occurs in this category.

Group state. Figures of the number and average duration of group state sequences for each session are given in Table 4:12.

Table 4:12

Group state sequences - number and average duration
of sequences: Inter-session comparison

Session	Number of sequences	Average duration of sequences
1	43	1.74
2	19	2.56
3	7	7.86
4	13	3.78
5	7	10.44
6	15	2.38
Total	104	3.31

The number of group state sequences ranges from 7 to 43 and the average time spent in any sequence ranges from 1.74 to 10.44 time units.

Table 4:13

Group state sequences - distribution: Expressed as percentage
of total number of sequences for each session:
Inter-session comparison

Group State Categories					
Session	% Genesis	% Goal-attainment	% Integration	% Latency	No. of sequences
1	45.0	4.0	2.5	48.5	43
2	5.0	47.5	0.0	47.5	19
3	15.0	42.5	0.0	42.5	7
4	7.0	46.5	0.0	46.5	13
5	28.5	28.5	0.0	43.0	7
6	20.0	27.0	13.0	40.0	15
Total	26.0	25.0	3.0	46.0	104

From Table 4:13 it can be seen that the almost equal distribution of group states between Genesis and Latency in Session 1 gives way to a distribution of sequences between Goal-attainment and Latency for

Sessions 2, 3 and 4, with high numbers of sequences being recorded for each of these categories (ranging from 42.5% to 47.5%), in contrast to the total absence of sequences in Integration. In Session 5 there is a further absence of Integration but distribution of sequences is seen to be between Genesis and Goal-attainment (28.5% each) and Latency (43%). This balance of sequences is repeated in Session 6, but this session differs from the others because of the marked occurrence of Integration, albeit only 13.0%.

Information on the average duration of group state sequences is given in Table 4:14.

Table 4:14

Group state sequences - duration: Expressed as percentage of duration of each session: Inter-session comparison

Group state Categories					
Session	% Genesis	% Goal-attainment	% Integration	% Latency	No of time units for session
1	76.0	2.0	0.5	21.5	75.5
2	6.0	76.0	0.0	18.0	52.0
3	8.0	89.0	0.0	3.0	55.5
4	3.0	90.0	0.0	7.0	50.0
5	4.0	94.0	0.0	2.0	75.0
6	5.0	44.0	13.0	38.0	37.0
Total	21.0	64.5	1.5	13.0	345.0*

* The discrepancy of 1 time unit between group state, total time units and ego state time units is due to the fact that in two sessions coding for Code I started 25 seconds earlier than for Code II

Table 4:14 shows that 64% of the total life span of the group is spent in the state of Goal-attainment, 21% in Genesis, 13% in Latency and only 1.5% in Integration. This contrasts with the figures given in Table 4:13, which shows that of the total number of sequences of group state, 46% occur in Latency, as opposed to the 26%, 25% and 3% distribution of sequences between Genesis, Goal-attainment and Integration respectively. Time spent in Goal-attainment is seen to predominate in all sessions except Session 1, where 76% of the total span of that session is spent in the state of Genesis. As demonstrated with the figures for the number and distribution of ego states, the figures showing the duration of group states have to be read in conjunction with the figures

showing the distribution of sequences of group states, as the distribution figures alone provide incomplete indication of the dominance of any one category. The relationship between ego state and group state is established in the discussion of findings for each session, which follows below.

The findings relating to the distribution and duration of both ego state episodes and group state sequences, the frequency of transitions between states, the co-occurrence of ego state transitions with group state, and the duration of ego state episodes co-occurring with each group state, are discussed in turn for each of the six sessions.

The six sessions

Session 1: Session 1 lasted 63 minutes. During this time 177 episodes of individual actors' behaviour (Code II) and 43 sequences of group interaction (Code I) were recorded. Each set of findings relating to ego state and group state are discussed in turn below.

Ego state. The distribution of ego state episodes and the duration of each episode are given in Tables 4:15:1 and 4:15:2.

Table 4:15:1

Ego state episodes - distribution: Session 1

Category	No. of episodes	% distribution
Equity	61	34
Contract	39	23
Partiality	13	7
Association	64	36
Total	177	100

Table 4:15:2

Ego state episodes - duration: Session 1

Category	Duration in time units	% session
Equity	35.0	47
Contract	14.5	19
Partiality	2.0	2
Association	24.0	32
Total	75.5	100

From Tables 4:15:1 and 4:15:2 it can be seen that 34% of the total number of episodes occurred in the Equity ego state and there accounted for 47% of the duration of this session. Of the remainder, 36% were Association episodes accounting for 32% of the duration; 23% were Contract episodes and 7% Partiality which accounted for 19% and 2% of the duration respectively.

Information on the patterns of movement between ego states is given in Table 4:15:3.

Table 4:15:3

Ego state transitions: Session 1.					No. of transitions
	Equity	Contract	Partiality	Association	
Equity	-	16	4	41	61
Contract	15	-	4	20	39
Partiality	6	4	-	3	13
Association	40	19	5	-	64
Total	61	39	13	64	177

Table 4:15:3 shows that the highest number of transitions were recorded between Equity / Association (41) and Association / Equity (40). The next most frequent transitions were between Contract / Association (20) and Association / Contract (19). Of the remaining transitions, 31 occurred between the states of Equity and Contract (Equity / Contract 16, Contract / Equity 15), while the remaining 26 transitions were distributed in small numbers across the remaining ego states.

The symmetry of movement between any two pairs of category changes indicates an oscillation between ego states rather than a progression through the categories. Evidence of this oscillation is clearly given in the profile for Session 1 (see page 111).¹ The overall average time spent in any one ego state was 0.42 time units. This figure, together with the large number of episodes, indicates that there was a high rate of change between ego states. The frequency of transitions and the oscillations observed between Equity and Association were the distinctive characteristics of ego state in Session 1.

1. The profiles of each session are presented later in this chapter when the hypotheses are put to test. They provide much of the substantive evidence used in the discussion of the hypotheses and are therefore placed so the reader can refer to them more readily at that stage.

Group state. The figures showing the distribution of sequences and the time spent in each group state sequence for this session are given in Tables 4:15:4 and 4:15:5.

Table 4:15:4

Group state sequences - distribution: Session 1

Category	No. of sequences	% distribution
Genesis	19	45.0
Goal-attainment	2	4.0
Integration	1	2.5
Latency	21	48.5
Total	43	100.0

Table 4:15:5

Group state sequences - duration: Session 1

Category	Duration in time units	% session
Genesis	56.75	76.0
Goal-attainment	2.0	2.0
Integration	0.25	0.5
Latency	16.5	21.5
Total	75.5	100.0

From Tables 4:15:4 and 4:15:5 it can be seen that 45% of the total number of sequences occurred in the state of Genesis and that these accounted for three-quarters of the time spent in this session (76%); 48.5% of the sequences occurred in the state of Latency, but these accounted for only 21.5% of the duration; the remaining sequences were divided between Goal-attainment (4%) and Integration (2.5%) and accounted for the remaining 2.5% of time spent in this session. From this it can be concluded that Genesis was the dominant group state of Session 1. This is significant because Genesis was only dominant in the first session, as shown in the inter-session comparisons given in Table 4:13.

Information on the patterns of movement between group states is given in Table 4:15:6.

Table 4:15:6

Group state transitions: Session 1.

	Genesis	Goal-attainment	Integration	Latency	No. of transitions
Genesis	-	1	1	18	20
Goal-attainment	0	-	0	2	2
Integration	0	0	-	1	1
Latency	19	1	0	-	20
Total	19	2	1	21	43

From Table 4:15:6 it can be seen that all but six of the transitions between group states co-occurred between Genesis / Latency (18) and Latency / Genesis (19). These figures give evidence of oscillation between these two group states. These oscillations can be interpreted as a negative looping between the states of Genesis and Latency. Visual evidence of the patterns of oscillation are given in the profile for group state (see page 111) for Session 1.

The distinctive characteristics of group state in Session 1 were the number of oscillations between categories Genesis and Latency, and the high number (i.e. compared with the other 5 sessions) of changes in group state that were recorded. During this session the overall average duration of each group state was 1.74 time units. This figure together with the high number of sequences indicates that there was a high rate of change between group states. The frequency of transitions and the oscillations observed between Genesis and Latency were the distinctive characteristics of Session 1.

Relating ego state to group state. From the preceding discussion it would seem that the pattern of activity recorded by the ego state categories was similar to that recorded by the group state categories, as there tended to be a balance in the number of incidents of episodes-sequences between two states in both codes, with however, a disproportionate amount of time spent in one state rather than the other. The final step in the presentation of findings for Session 1 is to give a statement of the relationship seen to exist between ego states and group states by providing figures of (i) the co-occurrence of ego state transitions and group states, and (ii) the duration of ego state episodes that co-occurred with each group state. These are presented in Tables 4:15:7 and 4.15:8 below.

Table 4:15:7

Co-occurrence of ego state transitions and group states: Session 1.

Ego state transitions	Genesis	Goal- attainment	Integration	Latency	No. of transitions
Equity/Contract	12	0	0	4	16
Equity/Partiality	4	0	0	0	4
Equity/Association	30	0	0	11	41
Contract/Equity	11	0	0	4	15
Contract/Partiality	3	0	0	1	4
Contract/Association	9	3	0	8	20
Partiality/Equity	6	0	0	0	6
Partiality/Contract	3	0	0	1	4
Partiality/Association	0	0	1	2	3
Association/Equity	34	0	0	6	40
Association/Contract	9	3	0	7	19
Association/Partiality	0	0	0	5	5
Total	121	6	1	49	177

Of the 177 ego state transitions which occurred in Session 1, 121 co-occurred with the group state of Genesis, while only 49 co-occurred with Latency. The notable feature of the distribution of transitions in Genesis was the co-occurrence of Association / Equity (34) and Equity / Association (30), and to a lesser extent the transitions of Equity / Contract and Contract / Equity (12 and 11 respectively), and Contract / Association and Association / Contract (9 each). These all provide evidence of oscillation between ego states. The group state of Latency is characterised by transitions from Equity / Association (11), Contract / Association (8) and Association / Contract (7). Thus there is evidence of the overlapping of some transitions in the two states of Genesis and Latency. The remaining notable feature of Session 1 was the very small number of transitions that co-occurred in Goal-attainment (6) and Integration (1).

Table 4:15:8 gives information on the duration of ego state episodes co-occurring with each of the four group states.

Table 4:15:8

Ego state / group state co-occurrences - expressed as a percentage of the duration of each group state:

Session 1 (75.5 time units)

Ego states	% Genesis	% Goal-attainment	% Integration	% Latency
Equity	59	0	0	27
Contract	16	65	0	14
Partiality	1	0	34	7
Association	24	35	66	52
Total	100	100	100	100
Duration in time units	56.75	2.0	0.25	16.5

From Table 4:15:8 it can be seen that of all the time spent in each group state there was a predominant co-occurrence of one ego state, thus 59% of the time spent in Genesis co-occurred with the ego state Equity, 65% of Goal-attainment co-occurred with Contract, 52% of Latency co-occurred with Association, 66% of the group state of Integration co-occurred with Association; though this percentage figure is misleading since the actual amount of time that Association co-occurred with Integration was very small compared with the amount of time that Association co-occurred with Latency.

The profile (given on p.111 in the discussion of the hypotheses) allows a visual examination to be made of the relationship between ego states and group states.

Session 2

Session 2 lasted 44 minutes. During this time, 105 episodes of individual actors' behaviour (Code II) and 19 sequences of group interaction (Code I) were recorded. Each set of findings relating to ego state and group state are discussed in turn below.

Ego state. The distribution of ego state episodes and the duration of each episode are given in Tables 4:16:1 and 4:16:2.

Table 4:16:1

Ego state episodes - distribution: Session 2

Category	No of episodes	% distribution
Equity	13	13
Contract	37	35
Partiality	18	17
Association	37	35
Total	105	100

Table 4:16:2

Ego state episodes - duration: Session 2

Category	Duration in time units	% session
Equity	4.75	9.0
Contract	38.25	73.5
Partiality	1.5	3.0
Association	7.5	14.5
Total	52.0	100.0

From Tables 4:16:1 and 4:16:2 it can be seen that 70% of the total number of episodes that occurred were equally distributed between the ego states of Contract and Association, where Contract accounted for 73.5% of the duration of this session and Association accounted for 14.5% of the time. Of the remainder, 17% were episodes of Partiality, accounting for 3% of the duration and 13% were Equity episodes which accounted for 9% of the time.

Information on the patterns of movement between ego states is given in Table 4:16:3.

Table 4:16:3

Ego state transitions: Session 2.

	Equity	Contract	Partiality	Association	No. of transitions
Equity	-	2	1	10	13
Contract	3	-	11	23	37
Partiality	0	14	-	4	18
Association	10	21	6	-	37
Total	13	37	18	37	105

Table 4:16:3 shows that the highest number of transitions were recorded between Contract / Association and Association / Contract (44 of the 105 transitions). The next most frequent transitions were between Contract / Partiality and Partiality / Contract (25), Equity / Association and Association / Equity (20). The 16 remaining transitions were distributed in small numbers between the remaining ego states.

The symmetry of movement between any two pairs of category changes indicates an oscillation between ego states rather than a progression through the categories. Evidence of this oscillation is clearly given in the profile of Session 2 (see page 112). The overall average time spent in any one ego state was 0.48 time units. This figure, together with the large number of episodes, indicates that there was a high rate of change between ego states. The frequency of transitions and the oscillation observed between Contract and Association was the distinctive characteristics of Session 2.

Group state. The figures showing the distribution of sequences and the time spent in each group state sequence are given in Tables 4:16:4 and 4:16:5.

Table 4:16:4

Group state sequences - distribution: Session 2

Category	No of sequences	% distribution
Genesis	1	5.0
Goal-attainment	9	47.5
Integration	0	0.0
Latency	9	47.5
Total	19	100.0

Table 4:16:5

Group state sequences - duration: Session 2

Category	Duration in time units	% session
Genesis	3.5	6.0
Goal-attainment	39.5	76.0
Integration	0.0	0.0
Latency	9.0	18.0
Total	52.0	100.0

From Tables 4:16:4 and 4:16:5 it can be seen that 5% of the total number of sequences occurred in the state of Genesis and that these account for 6% of the duration of the session. The remaining sequences were equally distributed between Goal-attainment and Latency (47.5% each) though the Goal-attainment sequences accounted for 76% of the duration and Latency sequences accounted for 18%. From these figures it can be concluded that Goal-attainment was the dominant group state of Session 2.

Information about the pattern of movement between group states is given in Table 4:16:6.

Table 4:16:6

Group state transitions : Session 2					No. of transitions
	Genesis	Goal-attainment	Integration	Latency	
Genesis	-	2	0	0	2
Goal-attainment	0	-	0	9	9
Integration	0	0	-	0	0
Latency	1	7	0	-	8
Total	1	9	0	9	19

From Table 4:16:6 it can be seen that all but three of the transitions between group states occurred between Goal-attainment / Latency (9) and Latency / Goal-attainment (7). These figures give evidence of the oscillation between the two group states and can be interpreted (as in Session 1) as a negative looping between the states of Goal-attainment and Latency, though between transitions the group was resident in Goal-attainment for a much longer time than in Latency. Visual evidence of the patterns of oscillation and the greater amount of time spent in Goal-attainment are given in the group state profile (see page 112) of Session 2.

The overall average duration of each group state (2.56 time units) indicates that there was still a relatively high rate of change between group states in Session 2.

Relating ego state to group state. From the preceding discussion it would seem that the pattern of activity recorded by the ego state categories is similar to that recorded by the group state categories as there tends to be a balance in the number of incidents of episodes/sequences between two states on both codes, with however,

a disproportionate amount of time spent in one state rather than another. The final step in the presentation of findings for Session 2 is to give a statement of the relationship seen to exist between ego states and group states by providing figures of (i) the co-occurrence of ego state transitions and group states, and (ii) the duration of ego state episodes that co-occurred with each group state. These figures are presented in Tables 4:16:7 and 4:16:8.

Table 4:16:7

Co-occurrences of ego state transitions and group states: Session 2

Ego state transitions	Genesis	Goal- attainment	Integration	Latency	No. of transitions
Equity/Contract	0	0	0	2	2
Equity/Partiality	1	0	0	0	1
Equity/Association	2	1	0	7	10
Contract/Equity	1	1	0	1	3
Contract/Partiality	0	9	0	2	11
Contract/Association	1	15	0	7	23
Partiality/Equity	0	0	0	0	0
Partiality/Contract	1	11	0	2	14
Partiality/Association	0	2	0	2	4
Association/Equity	1	0	0	9	10
Association/Contract	2	15	0	4	21
Association/Partiality	0	4	0	2	6
Total	9	58	0	38	105

Of the 105 ego state transitions which occurred in Session 2, 58 co-occurred with the group state of Goal-attainment and 38 co-occurred with Latency. The notable feature of the distribution of transitions in Goal-attainment was the co-occurrence of Contract / Association (15) and Association / Contract (15), and to a lesser extent the transitions of Contract / Partiality and Partiality / Contract (9 and 11 respectively). These all provide evidence of oscillation between ego states. The group state of Latency was characterised by transitions from Equity / Association (7), Association / Equity (9) and Contract / Association (7). Another feature of Session 2 was the very small number of transitions that co-occurred with Genesis (9) and the absence of transitions with Integration.

Table 4:16:8 gives information on the duration of ego state episodes that co-occurred with each of the four group states.

Table 4:16:8

Ego state / group state co-occurrences expressed as a percentage of the duration of each group state:

Session 2 (52.0 time units)

Ego states	% Genesis	% Goal-attainment	% Integration	% Latency
Equity	54	0	0	29
Contract	31	91	0	13
Partiality	4	3	0	5
Association	11	6	0	53
Total	100	100	0	100
Duration in time units	3.5	39.5	0.0	9.0

From Table 4:16:8 it can be seen that of all the time spent in each group state there was a predominant co-occurrence of one ego state, thus 54% of the time spent in Genesis co-occurred with the ego state of Equity, 91% of Goal-attainment co-occurred with Contract, 53% of Latency co-occurred with Association. There were no occurrences of Integration in this session.

The profile (given on page 112 in the discussion of the hypotheses) allows a visual examination to be made of the relationship between ego state and group state.

Session 3

Session 3 lasted 46 minutes. During this time, 34 episodes of individual actors' behaviour (Code II) and 7 sequences of group interaction (Code I) were recorded. Each set of findings relating to ego state and group state are discussed in turn below.

Ego state. The distribution of ego state episodes and the duration of each episode are given in Tables 4:17:1 and 4:17:2.

Table 4:17:1

Ego state episodes - distrubution: Session 3

Category	No of episodes	% distribution
Equity	4	11
Contract	13	39
Partiality	5	14
Association	12	36
Total	34	100

Table 4:17:2

Ego state episodes - duration: Session 3

Catégory	Duration in time units	% session
Equity	2.0	3.5
Contract	50.5	92.0
Partiality	0.5	1.0
Association	2.0	3.5
Total	55.0	100.0

From Tables 4:17:1 and 4:17:2 it can be seen that there was an almost even distribution of episodes between Contract (39%) and Association (36%), where however, Contract accounted for 92% of the duration of this session and Association accounted for only 3.5% of the time. Of the remainder, 14% were episodes of Partiality, accounting for just 1% of the duration and 11% were Equity episodes which accounted for 3.5% of the time.

Information on the pattern of movement between ego states is given in Table 4:17:3.

Table 4:17:3

Ego state transitions: Session 3

	Equity	Contract	Partiality	Association	No.of transitions
Equity	-	2	1	1	4
Contract	0	-	3	10	13
Partiality	2	3	-	1	6
Association	2	8	1	-	11
Total	4	13	5	12	34

Table 4:17:3 shows that over half of the transitions recorded for this session occurred between Contract / Association (10) and Association / Contract (8). The 16 remaining transitions were distributed in small numbers across all other possible transitions with the exception of Contract / Equity. The distinctive feature of Session 3 was the infrequent movement between ego state categories and the protracted amount of time spent in the ego state of Contract. The overall average time spent in any one category was 1.62 time units indicating a significant slowing down in the rate of change between ego states. Evidence of this is given in the profile of Session 3 (see page 113).

Group state. The figures showing the distribution of sequences and the time spent in each group state sequence are given in Tables 4:17:4 and 4:17:5.

Table 4:17:4

Group state sequences - distribution: Session 3

Category	No. of sequences	% distribution
Genesis	1	15.0
Goal-attainment	3	42.5
Integration	0	0.0
Latency	3	42.5
Total	7	100.0

Table 4:17:5

Group state sequences - duration: Session 3

Category	Duration in time units	% session
Genesis	4.5	8.0
Goal-attainment	49.0	89.0
Integration	0.0	0.0
Latency	2.0	3.0
Total	55.5	100.0

From Tables 4:17:4 and 4:17:5 it can be seen that 85% of all the sequences that occurred in Session 3 were distributed equally between Goal-attainment and Latency, where however, Goal-attainment accounted for 89% of the duration of this session and Latency accounted for only

3% of the time. The remaining 15% of the sequences occurred in Genesis and accounted for 8% of the time. The overall average time spent in any group state was 7.86 time units. This figure, together with the small number of sequences (7) that occurred in this session, is indicative of the on-going stability of group interaction. (See the group state profile of Session 3, page 113).

Information about the pattern of movement between group states is given in Table 4:17:6.

Table 4:17:6

Group state transitions: Session 3					No. of transitions
	Genesis	Goal-attainment	Integration	Latency	
Genesis	-	1	0	0	1
Goal-attainment	0	-	0	3	3
Integration	0	0	-	0	0
Latency	1	2	0	-	3
Total	1	3	0	3	7

There are no discernible patterns exhibited in Table 4:17:6 as there were so few transitions from one group state to another in Session 3. However, the over-riding feature of Session 3 was the dominance of Goal-attainment, as already established in Tables 4:17:4 and 4:17:5 above.

Relating group state to ego state. The final step in the presentation of findings for Session 3 is to give a statement of the relationship seen to exist between ego states and group states by providing figures of (i) the co-occurrence of ego state transitions and group states, and (ii) the duration of ego state episodes that co-occurred with each group state. These figures are presented in Tables 4:17:7 and 4:17:8.

Table 4:17:7

Co-occurrence of ego state transitions and group states: Session 3

Ego state transitions	Genesis	Goal- attainment	Integration	Latency	No.of transitions
Equity/Contract	1	1	0	0	2
Equity/Partiality	0	0	0	1	1
Equity/Association	0	0	0	1	1
Contract/Equity	0	0	0	0	0
Contract/Partiality	0	3	0	0	3
Contract/Association	0	7	0	3	10
Partiality/Equity	0	0	0	2	2
Partiality/Contract	0	3	0	0	3
Partiality/Association	0	1	0	0	1
Association/Equity	0	0	0	2	2
Association/Contract	0	7	0	1	8
Association/Partiality	0	1	0	0	1
Total	1	23	0	10	34

Of the 34 ego state transitions which occurred in Session 3, 23 co-occurred with the group state of Goal-attainment and 10 co-occurred with Latency. The notable feature of the distribution of transitions in Goal-attainment was the co-occurrence of Contract / Association (7) and Association / Contract (7), and to a lesser extent the transitions of Contract/ Partiality and Partiality / Contract (3 transitions each). A feature of the distribution of transitions that co-occurred with Latency was the small number for each, e.g. the highest co-occurrence was 3 transitions of Contract / Association. There was only one transition co-occurring with Genesis - Equity / Contract, and there were no transitions with Integration. The distinctive feature of this session was the small number of transitions that occurred.

Table 4:17:8 gives information on the duration of ego state episodes co-occurring with each of the four group states.

Table 4:17:8

Ego state / group state co-occurrences - expressed as a percentage of the duration of each group state:

Session 3 (55.5 time units)

Group states				
Ego states	% Genesis	% Goal-attainment	% Integration	% Latency
Equity	32	0	0	45
Contract	63	97	0	8
Partiality	0	1	0	4
Association	5	3	0	43
Total	100	100	0	100
Duration in time units	4.5	49.0	0.0	2.0

From Table 4:17:8 it-can be seen that of all the time spent in each group state there was a predominant co-occurrence of one ego state, thus 63% of the time spent in Genesis co-occurred with Contract, 97% of Goal-attainment co-occurred with Contract, 45% of Latency co-occurred with Equity, and there were no co-occurrences of the group state of Integration with any ego state.

The profile(given on page 113 in the discussion of the hypotheses) allows for a visual examination to be made of the relationship between ego state and group state.

Session 4

Session 4 lasted 42 minutes. During this time, 53 episodes of individual actors' behaviour (Code II) and 13 sequences of group interaction (Code I) were recorded. Each set of findings relating to ego state and group state are discussed in turn below.

Ego state. The distribution of ego state episodes and the duration of each episode are given in Tables 4:18:1 and 4:18:2.

Table 4:18:1

Ego state episodes - distribution: Session 4

Category	No of episodes	% distribution
Equity	8	15.0
Contract	23	44.0
Partiality	7	13.0
Association	15	28.0
Total	53	100.0

Table 4:18:2

Ego state episodes - duration: Session 4

Category	Duration in time units	% session
Equity	0.75	1.5
Contract	40.25	81.0
Partiality	2.5	5.0
Association	6.0	12.5
Total	49.5	100.0

From Tables 4:18:1 and 4:18:2 it can be seen that 72% of the total number of episodes that occurred were distributed between the ego states of Contract (44%) and Association (28%). Contract accounted for 81% of the duration of the session and Association accounted for 12.5% of the time. Of the remaining episodes, 15% were episodes of Equity, which accounted for 1.5% of the duration and 13% were Partiality episodes which accounted for 5% of the time.

Information on the patterns of movement between ego states is given in Table 4:18:3.

Table 4:18:3

Ego state transitions: Session 4					No. of transitions
	Equity	Contract	Partiality	Association	
Equity	-	6	0	2	8
Contract	5	-	7	11	23
Partiality	0	5	-	2	7
Association	3	12	0	-	15
Total	8	23	7	15	53

Table 4:18:3 shows that the highest number of transitions were recorded between Association / Contract (12) and Contract / Association (11). The next most frequent transitions were between Contract / Partiality (7) and Partiality / Contract (5) and Equity / Contract (6) and Contract / Equity (5). The remaining 7 transitions were distributed between Equity / Association (2), Association / Equity (3), and Partiality / Association (2). The overall average time spent in any one ego state was 0.92 time units, indicating a speeding up in the movement between states as compared with Session 3, though Contract still accounted for most of the time in this session. (For evidence of this, see the ego state profile of Session 4, page 114).

Group state. The figures showing the distribution of sequences and the time spent in each group state sequence are given in Tables 4:18:4 and 4:18:5.

Table 4:18:4

Group state sequences - distribution: Session 4

Category	No. of sequences	% distribution
Genesis	1	7.0
Goal-attainment	6	46.5
Integration	0	0.0
Latency	6	46.5
Total	13	100.0

Table 4:18:5

Group state sequences - duration: Session 4

Category	Duration in time units	% session
Genesis	1.5	3.0
Goal-attainment	45.0	90.0
Integration	0.0	0.0
Latency	3.5	7.0
Total	50.0	100

From Tables 4:18:4 and 4:18:5 it can be seen that 93% of all the sequences that occurred in Session 4 were distributed equally between Goal-attainment and Latency. Goal-attainment accounted for 90% of the duration while Latency accounted for only 7%. The remaining 7% of the sequences occurred in Genesis and accounted for 3% of the time. From these figures it is clearly evident that Goal-attainment was the dominant group state of Session 4. Even though the overall average time spent in any group state was 3.73 time units, there is ample evidence given in the above figures of the on-going stability of interaction in this session. (See the group state profile of Session 4, page 114).

Information about the pattern of movement between group states is given in Table 4:18:6.

Table 4:18:6

Group state transitions: Session 4

	Genesis	Goal-attainment	Integration	Latency	No. of transitions
Genesis	-	1	0	0	1
Goal-attainment	0	-	0	6	6
Integration	0	0	-	0	0
Latency	1	5	0	-	6
Total	1	6	0	6	13

From Table 4:18:6 it can be seen that 11 of the 13 group state transitions were distributed between Goal-attainment / Latency (6) and Latency / Goal-attainment (5). The remaining 2 transitions occurred between Genesis / Goal-attainment and Latency / Genesis. These figures show that the predominant pattern of movement was between the group states of Goal-attainment and Latency; though between transitions the group was resident in Goal-attainment for a much longer period of time

than it was in Latency.

Relating group state to ego state. The final step in the presentation of findings for Session 4 is to give a statement of the relationship seen to exist between ego states and group states by providing figures of (i) the co-occurrence of ego state transitions and group states, and (ii) the duration of ego state episodes that co-occurred with each group state. These are presented in Table 4:18:7 and 4:18:8 below.

Table 4:18:7

Co-occurrence of ego state transitions and group states: Session 4

Ego state transitions	Genesis	Goal- attainment	Integration	Latency	No.of transitions
Equity/Contract	0	5	0	1	6
Equity/Partiality	0	0	0	0	0
Equity/Association	0	0	0	2	2
Contract/Equity	0	4	0	1	5
Contract/Partiality	0	7	0	0	7
Contract/Association	0	9	0	2	11
Partiality/Equity	0	0	0	0	0
Partiality/Contract	0	5	0	0	5
Partiality/Association	0	2	0	0	2
Association/Equity	0	0	0	3	3
Association/Contract	0	11	0	1	12
Association/Partiality	0	0	0	0	0
Total	0	43	0	10	53

Of the 53 ego state transitions which occurred in Session 4, 43 co-occurred with the group state of Goal-attainment and 10 co-occurred with Latency. The distribution of ego state transitions in Goal-attainment were Association / Contract (11), Contract / Association (9), Contract / Partiality (7), Equity / Contract (5), Partiality / Contract (5), Contract / Equity (4), and Partiality / Association (2). The highest co-occurrence of any ego state transition with Latency was Association / Equity (3). A notable feature of this session was the absence of any ego state transitions in both Genesis and Integration.

Table 4:18:8 gives information on the duration of ego state episodes co-occurring with each of the four group states.

Table 4:18:8

Ego state / group state co-occurrences - expressed as a percentage of the duration of each group state:

Session 4 (50.0 time units)

Group states				
Ego states	% Genesis	% Goal-attainment	% Integration	% Latency
Equity	0	1	0	18
Contract	100	84	0	18
Partiality	0	7	0	0
Association	0	8	0	64
Total	100	100	0	100
Duration in time units	1.5	45.0	0.0	3.5

From Table 4:18:8 it can be seen that of all the time spent in each group state there was a predominant co-occurrence of one ego state, thus 100% of the time spent in Genesis co-occurred with the ego state Contract (though only 1.5 out of a total of 50.0 time units were spent in Genesis in this session), 84 of Goal-attainment co-occurred with Contract and 64% of Latency co-occurred with Association.

The profile (given on p.114 in the discussion of the hypotheses) allows a visual examination to be made of the relationship between ego states and group states.

Session 5

Session 5 lasted 63 minutes. During this time, 17 episodes of individual actors' behaviour (Code II) and 7 sequences of group interaction (Code I) were recorded. Each set of findings relating to ego state and group state are discussed in turn below.

Ego state. The distribution of ego state episodes and the duration of each episodes are given in Tables 4:19:1 and 4:19:2.

Table 4:19:1

Ego state episodes - distribution: Session 5

Category	No. of episodes	% distribution
Equity	5	30.0
Contract	6	35.0
Partiality	1	5.0
Association	5	30.0
Total	17	100.0

Table 4:19:2

Ego state episodes - duration: Session 5

Category	Duration in time units	% session
Equity	2	2.7
Contract	71.38	95.1
Partiality	0.12	0.2
Association	1.5	2.0
Total	75.0	100.0

From Tables 4:19:1 and 4:19:2 it can be seen that although there was an almost even distribution of ego state episodes between Equity (30%), Contract (35%) and Association (30%), Contract accounted for 95.1% of the duration of this session. However, Session 5 differed from other sessions in that it was a test. Consequently, though the session lasted for just over an hour, actual group interaction was only recorded for about 4 minutes (5 time units).

Information on the pattern of movement between ego states is given in Table 4:19:3.

Table 4:19:3

Ego state transitions: Session 5

	Equity	Contract	Partiality	Association	No. of transitions
Equity	-	3	1	1	5
Contract	2	-	1	3	6
Partiality	0	1	-	0	1
Association	2	3	0	-	5
Total	4	7	2	4	17

Table 4:19:3 shows the distribution of transitions recorded for this session. Because of the nature of the session, the distinctive feature was infrequent movement between ego states. The overall average time in any one state was 4.34 time units, indicating a considerable slowing down of the rate of change between ego states, due to the amount of time spent in the ego state of Contract. (This is clearly shown in the ego state profile of Session 5, see page 115).

Group state. The figures showing the distribution of sequences and the time spent in each group state sequence are given in Tables 4:19:4 and 4:19:5.

Table 4:19:4

Group state sequences - distribution: Session 5

Category	No. of sequences	% distribution
Genesis	2	28.5
Goal-attainment	2	28.5
Integration	0	0.0
Latency	3	43.0
Total	7	100.0

Table 4:19:5

Group state sequences - duration: Session 5

Category	Duration in time units	% session
Genesis	3	4.0
Goal-attainment	70	94.0
Integration	0	0.0
Latency	2	2.0
Total	75.0	100.0

From Tables 4:19:4 and 4:19:5 it can be seen that although 43% of the sequences occurred in the state of Latency and that 57% were distributed equally between the states of Goal-attainment and Genesis, Goal-attainment accounted for 94% of the duration of this session. There was an absence of Integration in this session.

Information about the pattern of movement between group states is given in Table 4:19:6.

Table 4:19:6

Group state transitions: Session 5					No. of
	Genesis	Goal-attainment	Integration	Latency	transitions
Genesis	-	1	0	3	4
Goal-attainment	1	-	0	0	1
Integration	0	0	-	0	0
Latency	1	1	0	-	2
Total	2	2	0	3	7

Table 4:19:6 shows the distribution of transitions recorded. As for ego state the distinctive feature of this session was the infrequent movement between states and the long period of time spent in just one state. The overall average time in any one state was 10.44 time units, indicating a condition of group stability. (See the group state profile of Session 5, page 115).

Relating ego state to group state. Table 4:19:7 records the co-occurrence of ego state transitions and group states.

Table 4:19:7

Co-occurrence of ego state transitions and group states: Session 5

Ego state transitions	Genesis	Goal-attainment	Integration	Latency	No. of transitions
Equity/Contract	1	0	0	2	3
Equity/Partiality	1	0	0	0	1
Equity/Association	1	0	0	0	1
Contract/Equity	2	0	0	0	2
Contract/Partiality	0	0	0	0	0
Contract/Association	0	0	0	5	5
Partiality/Equity	0	0	0	0	0
Partiality/Contract	1	0	0	0	1
Partiality/Association	0	0	0	0	0
Association/Equity	1	0	0	1	2
Association/Contract	1	1	0	0	2
Association/Partiality	0	0	0	0	0
Total	8	1	0	8	17

Of the 17 ego state transitions which occurred in Session 5, 8 co-occurred with Genesis, 8 with Latency and only 1 with Goal-attainment. Ego state transitions and changes in group state were recorded at the beginning and end of the session only.

Table 4:19:8 gives information on the duration of ego state episodes co-occurring with each of the four group states.

Table 4:19:8

Ego state / group state co-occurrences - expressed as a percentage of the duration of each group state:

Session 5 (75.0 time units)

Group states				
Ego states	% Genesis	% Goal-attainment	% Integration	% Latency
Equity	60	0	0	0
Contract	33	99	0	35
Partiality	0	0	0	0
Association	17	1	0	65
Total	100	100	0	100
Duration in time units	3.0	70.0	0	2.0

From Table 4:19:8 it can be seen that of all the time spent in each group state there was a predominant co-occurrence of one ego state, thus 60% of the time spent in Genesis co-occurred with Equity, 97% of Goal-attainment co-occurred with Contract, 65% of Latency co-occurred with Association. There were no occurrences of Integration in this session.

The profile (given on page 115 in the discussion of the hypotheses) allows a visual examination to be made of the relationship between ego state and group state.

Session 6

Session 6 lasted 31 minutes. During this time 82 episodes of individual actors' behaviour (Code II) and 8 sequences of group interaction (Code I) were recorded. Each set of findings relating to ego state and group state are discussed in turn below.

Ego state. The distribution of ego state episodes and the duration of each episode are given in Tables 4:20:1 and 4:20:2.

Table 4:20:1

Ego state episodes - distribution: Session 6

Category	No of episodes	% distribution
Equity	7	8.0
Contract	25	31.0
Partiality	19	23.0
Association	31	38.0
Total	82	100.0

Table 4:20:2

Ego state episodes - duration: Session 6

Category	Duration in time units	% session
Equity	3.0	8.0
Contract	18.5	50.0
Partiality	1.5	4.0
Association	14.0	38.0
Total	37.0	100.0

From Tables 4:20:1 and 4:20:2 it can be seen that 38% of the total number of episodes occurred in the ego state of Association and these accounted for 38 % of the duration of the session. Of the remaining episodes, 31% were Contract episodes accounting for 50% of the duration; 23% were Partiality episodes and 8% were Equity episodes which accounted for 4% and 8% of the duration respectively.

Information on the patterns of movement between ego states is given in Table 4:20:3.

Table 4:20:3

Ego state transitions: Session 6

	Equity	Contract	Partiality	Association	No. of transitions
Equity	--	3	1	3	7
Contract	0	--	6	19	25
Partiality	1	8	--	9	18
Association	6	14	12	--	32
Total	7	25	19	31	82

Table 4:20:3 shows that the highest number of transitions were recorded between Association / Contract and Contract / Association (33 of the 82 transitions). The next most frequent transitions were between Association / Partiality and Partiality / Association (21), followed by Contract / Partiality and Partiality / Contract (14). The overall average time spent in any one ego state was 0.46 time units. This figure, together with the relatively large number of episodes that occurred in this session (82 in 31 minutes) indicates that there was a high rate of change between ego states (as shown in the ego state profile of Session 6, page 116).

Group state. The figures showing the distribution of group state sequences and the time spent in each sequence are given in Table 4:20:4 and 4:20:5.

Table 4:20:4

Group state sequences - distribution: Session 5

Category	No of sequences	% distribution
Genesis	3	20.0
Goal-attainment	4	27.0
Integration	2	13.0
Latency	6	40.0
Total	15	100.0

Table 4:20:5

Group state sequences - duration: Session 6

Category	Duration in time units	% session
Genesis	2	5.0
Goal-attainment	16	44.0
Integration	5	13.0
Latency	14	38.0
Total	37	100.00

From Tables 4:20:4 and 4:20:5 it can be seen that 40% of the total number of sequences occurred in the state of Association, and these sequences accounted for 38% of the time spent in this session. 27% of the sequences occurred in Goal-attainment accounting for 44% of the duration. The remaining sequences were divided between Genesis (20%)

and Integration (13%) and these accounted for 5% and 13% of the duration respectively. These figures show that most of this session was taken up by sequences of group interaction in either Latency or Goal-attainment

Information about the pattern of movement between group states is given in Table 4:20:6.

Table 4:20:6

Group state transitions: Session 6					No. of transitions
	Genesis	Goal-attainment	Integration	Latency	
Genesis	-	2	0	1	3
Goal-attainment	0	-	0	4	4
Integration	1	0	-	1	2
Latency	2	2	2	-	6
Total	3	4	2	6	15

From Table 4:20:6 it can be seen that there was no definite patterning of the movement between group states. However, of the 15 transitions between group states, 6 were transitions into Latency and 4 were transitions into Goal-attainment. The table also shows that there was some activity in the group state of Integration. Visual evidence of the movement between group states and the duration of each sequence are given in the group state profile (see page 116) of Session 6. In this session the overall average duration of each group state sequence was 2.33 time units, providing evidence of a return to the high rate of change between group states, as in Sessions 1 and 2.

Relating ego state to group state. The final step in the presentation of findings for Session 6 is to give a statement of the relationship seen to exist between ego states and group states by providing figures of (i) the co-occurrence of ego state transitions and group states, and (ii) the duration of ego state episodes that co-occurred with each group state. These are presented in Tables 4:20:7 and 4:20:8 below.

Table 4:20:7

Co-occurrence of ego state transitions and group states: Session 6

Ego state transitions	Genesis	Goal- attainment	Integration	Latency	No. of transitions
Equity/Contract	2	0	0	1	3
Equity/Partiality	0	0	0	1	1
Equity/Association	0	0	1	2	3
Contract/Equity	0	0	0	0	0
Contract Partiality	1	5	0	0	6
Contract/Association	3	5	0	11	19
Partiality/Equity	0	0	0	1	1
Partiality/Contract	0	5	0	3	8
Partiality/Association	0	0	5	4	9
Association/Equity	1	0	1	4	6
Association/Contract	3	6	0	5	14
Association/Partiality	0	1	5	6	12
Total	10	22	12	38	82

Of the 82 ego state transitions that occurred in Session 6, 38 co-occurred with Latency and 22 with Goal-attainment. The remaining 22 transitions were distributed between Genesis (10) and Integration (12). Of the 22 transitions that occurred with Goal-attainment, 21 registered movement in and out of the ego state of Contract, while 37 out of the 38 transitions that co-occurred with Latency registered movement in and out of the ego state of Association.

Table 4:20:8 gives information on the duration of ego state episodes co-occurring with each of the four group states.

Table 4:20:8

Ego state / group state co-occurrences - expressed as a percentage of the duration of each group state:
Session 6 (37 time units)

Group states				
Ego states	% Genesis	% Goal-attainment	% Integration	% Latency
Equity	24	0	3	18
Contract	47	90	0	12
Partiality	0	2	11	0
Association	29	8	86	70
Total	100	100	100	100
Duration in time units	2	16	5	4

From Table 4:20:8 it can be seen that of all the time spent in each group state there was a predominant co-occurrence of one ego state, thus 47% of the time (only 2 time units) spent in Genesis co-occurred with the ego state of Contract, 90% of Goal-attainment co-occurred with Contract, 86% of Integration co-occurred with Association and 70% of Latency co-occurred with Association also.

The profile (given on page 116 in the discussion of the hypotheses) allows a visual examination to be made of the relationship between ego states and group states.

Putting the hypotheses to test

The final task in this chapter is to test the two sets of hypotheses detailed at the end of Chapter 2 - the structure hypotheses and the process hypotheses. Each set is dealt with below. The data used for testing the hypotheses were presented in the tables given earlier in this chapter and in the profiles presented between pages 110 and 117.

Structure hypotheses

The information relevant to these hypotheses is summarised in Table 4:8 in the over-view of the life span of the group and in the tables of the co-occurrence of group state with ego states for each session. Table 4:8 (page 63) contains a summary of the group state

and ego state findings presented earlier in this chapter. The table expresses the occurrence of each ego state as a percentage of the duration of each of group state; thus providing the information required for testing the four relationships hypothesised.

Hypothesis 2.1 states:

The group state of GENESIS is more likely to occur when there is an accompanying predominant occurrence of the ego state EQUITY rather than any other ego state.

Table 4:8 shows that of all the time spent in the group state of Genesis over the life span of the group, 55% of that time was also spent in the ego state of Equity.

Hypothesis 2.1 is confirmed.

Hypothesis 2.2 states:

The group state of GOAL-ATTAINMENT is more likely to occur when there is an accompanying predominant occurrence of the ego state CONTRACT rather than any other ego state.

Table 4:8 shows that of all the time spent in the group state of Goal-attainment for the life span of the group, 96.5% of that time was also spent in the ego state of Contract.

Hypothesis 2.2 is confirmed.

Hypothesis 2.3 states:

The group state of INTEGRATION is more likely to occur when there is an accompanying predominant occurrence of the ego state PARTIALITY rather than any other ego state.

Table 4:8 shows that of all the time spent in the group state of Integration for the life span of the group, 83% of that time was also spent in the ego state of Association.

Hypothesis 2.3 is not confirmed.

Hypothesis 2.4 states:

The group state of LATENCY is more likely to occur when there is an accompanying predominant occurrence of the ego state ASSOCIATION rather than any other ego state.

Table 4:8 shows that of all the time spent in the group state of Latency for the life span of the group, 58% of that time was also spent in the ego state of Association.

Hypothesis 2.4 is confirmed.

When the findings of Table 4:8 are taken in conjunction with the separate session findings from the Tables of Ego state / group state co-occurrences (Tables 4:15-20:8), there is further support for the hypotheses stated above. The tables in each session serve to 'unpack' the information given, and the results, as expected, are generally consistent with the overall findings given in Table 4:8.

Inter-session comparison of structure hypotheses

An inter-session comparison for each hypothesis is given below:

A breakdown of the proportion of the time spent in the group state Genesis that is also spent in each of the four ego states, is given in Table 4:21:1.

Table 4:21:1

Ego state / group state co-occurrences - expressed as a percentage of the duration of group state Genesis:

Inter-session comparison

Session	% co-occurrence				Duration of time units of Genesis in each session
	Equity	Contract	Partiality	Association	
1	59	16	1	24	56.75
2	54	31	4	11	3.5
3	32	63	0	5	4.5
4.	0	100	0	0	1.5
5	60	33	17	0	3.0
6	24	47	0	29	2.0

Table 4:21:1 shows that in three of the six sessions the co-occurrence of Equity with Genesis is greater than for any other ego state. Three sessions (1, 2 and 5) between them account for the greater part of the time in which the group state is Genesis, i.e. 63.25 time units out of a total of 71.25 time units spent in the life span of the group. Only 8 time units are spent in the three other sessions (3, 4 and 6). In these latter sessions, a greater percentage of time is spent in ego states other than Equity, when the amount of time spent in Genesis is predictably short.

A breakdown of the percentage of time spent in the group state of Goal-attainment that is also spent in the four ego states is given in Table 4:21:2.

Table 4:21:2

Ego state/ group state co-occurrences - expressed as a percentage of the duration of group state Goal-attainment
Inter-session comparison

Session	% co-occurrence				Duration of time units of Goal-attainment in each session
	Equity	Contract	Partiality	Association	
1	0	65	0	35	2.0
2	0	91	3	6	39.5
3	0	97	1	3	49.0
4	1	84	7	8	45.0
5	0	99	0	1	70.0
6	0	90	2	8	16.0

Table 4:21:2 shows that the figures presented for each session are entirely consistent with the overall findings relating Goal-attainment to Contract. The only occasion when the percentage time fell substantially below the overall figure of 96.5% was in Session 1, where however, Goal-attainment lasted for only two time units out of a total of 221.5 time units spent in Goal-attainment in the life span of the group.

A breakdown of the percentage duration of the group state Integration that is also spent in each of the four ego states is given in Table 4:21:3.

Table 4:21:3

Ego state / group state co-occurrences - expressed as a percentage of the duration of group state Integration:
Inter-session comparison

Session	% co-occurrence				Duration of time units of Integration in each session
	Equity	Contract	Partiality	Association	
1	0	0	34	66	0.25
6	3	0	11	86	5.0

During the life of the group, incidences of Integration occurred only in two sessions. In Session 1 the time spent in Integration was 0.25 time units and in Session 6, Integration only lasted for five time

units. Insufficient evidence is presented in Table 4:21:3 to confirm the hypothesis or to deny it, since so short a duration of Integration fails to put the hypothesis to test. However, the lack of ego state episodes of Partiality would seem to point, by implication, to a relationship between Partiality and Integration as the absence of one is seen to entail the absence of the other.

A breakdown of the percentage duration of the time spent in the group state Latency that is also spent in each of the four ego states is given in Table 4:21:4.

Table 4:21:4

Ego state / group state co-occurrences - expressed as a percentage of the duration of group state Latency:

Inter-session comparison

Session	% co-occurrence				Duration of time units in Latency in each session.
	Equity	Contract	Partiality	Association	
1	27	14	7	52	16.5
2	29	13	5	53	9.0
3	45	8	4	43	2.0
4	18	18	0	64	3.5
5	0	35	0	65	2.0
6	18	12	0	70	14.0

From Table 3:21:4 it can be seen that there is only one session (3) in which Association does not predominantly co-occur with Latency. In Session 3 however, Latency occurred for only 2.0 time units out of a total of 34.4 time units for the life span of the group. The figures for the remaining five sessions are consistent with the overall findings, giving evidence in each session to confirm the hypothesised relationship between the group state of Latency and the ego state of Association.

Process hypotheses

The testing of the process hypotheses required that inter-relationships between ego state data and group state data and the continuous record of interaction be available for examination. The profiles between pages 110 and 117, supplemented by the tables presented earlier in this chapter, provide these primary data. The twelve process hypotheses are discussed in turn.

Hypothesis 1.01.

A group state transition from GENESIS to GOAL-ATTAINMENT is more likely to occur following an ego state transition from EQUITY to CONTRACT rather than any other ego state transition.

In the primary data there are 8 group state transitions from Genesis to Goal-attainment. These account for 7.6% of all group state transitions (Table 4:6). Only 2 of the 8 ego state transitions that precede the Genesis / Goal-attainment group state transition provide direct support for the hypothesis. The remaining 6 Association / Contract transitions appear on face value to negate the hypothesis. However, when these aberrant cases are examined in the profile, a different conclusion is warranted, at least in part. Examination of the profile for Session 1 shows that three ego state transitions co-occurred with the sequence of Genesis prior to the transition into Goal-attainment (time unit 29). These are Equity / Association / Contract. The co-occurrence of Contract with Genesis is consistent with the relations hypothesised between the modified pattern variables and four functional problems in Model I, since Contract is an accompanying pattern variable in the Genesis phase of action. The intervening episode of Association is not sufficiently long to effect group state change into Latency, which is the group state that would be expected as an outcome of an Equity / Association transition. In fact, this very short episode of Association appears to have been overridden by the transition between Equity / Contract precipitating a change in group state from Genesis to Goal-attainment.

Recourse to the primary data for this problematic transition (and similarly for the transitions in Sessions 2:3, 5:5, 6:10) indicated that in this type of transition the intervening episode of individual actors' behaviour was ignored by the other members of the group, therefore failing to have any effect on the state of the group. In the other two instances (Session 4:3, Session 6:20) where the group state movement between Genesis and Goal-attainment appears to have been brought about by an ego state transition of Association / Contract, the above explanation does not hold, due to the absence of Equity. When a group state change from Genesis to Goal-attainment occurs without the co-occurrence of Equity, this change is inexplicable in terms of the model.

Though only partial support is provided for the hypothesis that a group state transition is more likely to occur following an ego state transition of Equity / Contract, there is some evidence in the profiles

to show that where episodes of Equity and Contract are separated by small transitions of other ego states, especially Association, the predominance of Equity and Contract was sufficient to bring about a group state change from Genesis to Goal-attainment.

Hypothesis 1.02.

A group state transition from GENESIS to INTEGRATION is more likely to occur following an ego state transition from EQUITY to PARTIALITY rather than any other ego state transition.

There was only one group state transition between Genesis and Integration during the life span of the group. The ego state transition that co-occurred with this group state was, as hypothesised, from Equity to Partiality. Although the co-occurrence of this ego state with the Genesis / Integration group state transition supports the hypothesis, this one instance is however insufficient to justify a claim of confirmation.

Hypothesis 1.03.

A group state transition from GENESIS to LATENCY is more likely to occur following an ego state transition from EQUITY to ASSOCIATION rather than any other ego state transition.

There were 21 group state transitions between Genesis and Latency, accounting for 20.1% of the group state transitions for the life span of the group (see Table 4:6, page 60). Table 4:22:1 shows the co-occurrence of ego state transitions with the group state transition of Genesis / Latency.

Table 4:22:1

Ego state transition	Group state transition Genesis to Latency
Equity - Contract	3
Equity - Association	7
Contract - Equity	1
Contract - Association	1
Contract - Partiality	1
Partiality - Contract	1
Association - Equity	7
Total	21

Of the 21 ego state transitions that co-occurred with the group state transition, 18 occurred in Session 1. This session provided the 7 instances of Equity / Association transitions which give direct support to the hypothesis, and the 7 instances where ego state transitions are between Association and Equity. 15 of the 21 group state transitions occurred between the time units 23 - 64 in Session 1, which was characterised by a series of oscillations between the group states of Genesis and Latency and the ego states of predominantly Equity and Association. The oscillations between group states and ego states in this way provide partial confirmation of the hypothesis, since there is likely to be some time lag between ego state transitions and the group state changes they effect, and the exact designation of the causal factor in such a period of rapid oscillation between group states is difficult to establish.

Hypothesis 1.04.

A group state transition from GOAL-ATTAINMENT to INTEGRATION is more likely to occur following an ego state transition from CONTRACT to PARTIALITY rather than any other ego state transition.

There were no group state transitions from Goal-attainment to Integration, 6.6% of the ego state transitions recorded for the group life span were however, transitions from Contract to Partiality. The profiles show that in each incident, these ego state transitions were very brief and were of insufficient duration to effect a group state change from a more dominant group state to Integration. The absence of group state transitions between Goal-attainment and Integration fails to put this hypothesis to test.

Hypothesis 1.05.

A group state transition from GOAL-ATTAINMENT to LATENCY is more likely to occur following an ego state transition from CONTRACT to ASSOCIATION rather than any other ego state transition.

There were 25 group state transitions between Goal-attainment and Latency, accounting for 24.4% of all group state transitions recorded in the life span of the group. Table 4:22:2 shows the co-occurrence of ego state transitions with the Goal-attainment / Latency group state transition.

Table 4:22:2

Ego state transitions	Group state transitions Goal-attainment to Latency
Equity - Association	2
Contract - Equity	1
Contract - Association	18
Partiality - Association	1
Association - Contract	3
Total	25

From Table 4:22:2 it can be seen that 18 of the co-occurring 25 ego state transitions were Contract / Association transitions, providing ample evidence of the confirmation of this hypothesis.

Hypothesis 1.06.

A group state transition from GOAL-ATTAINMENT to GENESIS is more likely to occur following an ego state transition from CONTRACT to EQUITY rather than any other ego state transition.

There was only one group state transition from Goal-attainment to Genesis, accounting for 0.9% of all group state transitions in the life span of the group.

The ego state transition that preceded the group state transition was from Contract to Association. This transition was a dysfunctional transition from Goal-attainment to Latency rather than a regressive transition into Genesis as hypothesised. However, the occurrence of only one instance of this group state transition provides insufficient evidence to put the hypothesis to test.

Hypothesis 1.07.

A group state transition from INTEGRATION to LATENCY is more likely to occur following an ego state transition from PARTIALITY to ASSOCIATION rather than any other ego state transition.

There were two group state transitions from Integration to Latency, accounting for 1.9% of all group state transitions recorded for the life span of the group. One group state transition occurred in Session 1, the other in Session 6. In both instances the preceding ego state transition was one of Partiality / Association. On the basis of these two instances, the hypothesis is not disconfirmed,

though two instances provide insufficient evidence to permit a definitive conclusion.

Hypothesis 1.08.

A group state transition from INTEGRATION to GENESIS is more likely to occur following an ego state transition from PARTIALITY to EQUITY rather than any other ego state transition.

There were only one group state transition from Integration to Genesis, accounting for 0.9% of the total number of group state transitions. Only 1.9% of the ego state transitions recorded for the life span of the group were Partiality / Equity transitions. The group state transition Integration to Genesis co-occurred, in this instance, with an ego state transition of Association / Equity. This one instance of the group state transition is however insufficient to put the hypothesis to test.

Hypothesis 1.09.

A group state transition from INTEGRATION to GOAL-ATTAINMENT is more likely to occur following an ego state transition from PARTIALITY to CONTRACT rather than any other ego state transition.

There were no group state transitions from Integration to Goal-attainment. 7.5% of the ego state transitions recorded for the group life span were however, transitions from Partiality to Contract, though, because of the brevity of each transition, these were insufficient to effect any change in group state. The absence of group state transitions between Integration and Goal-attainment fails to put this hypothesis to test.

Hypothesis 1.10.

A group state transition from LATENCY to GENESIS is more likely to occur following an ego state transition from ASSOCIATION to EQUITY rather than any other ego state transition.

There were twenty-five group state transitions from Latency to Genesis, accounting for 24.4% of the group state transitions recorded for the life span of the group. Table 4:22:3 shows the co-occurrences of ego state transitions with the Latency / Genesis group state transition.

Table 4:22:3

Ego state transitions	Group state transtions Latency to Genesis
Equity - Contract	2
Equity - Association	7
Contract - Equity	1
Contract - Association	5
Partiality - Equity	1
Partiality - Contract	1
Partiality - Association	1
Association - Equity	3
Association - Contract	3
Association - Partiality	1
Total	25

From Table 4:22:3 it can be seen that only 3 ego state transitions that preceded the Latency / Genesis group state transition provide direct support for the hypothesis. However, 19 of the 25 ego state transitions occurred in Session 1 and 16 of these 19 occurred between the time units 23 - 66. Although there were few incidents of ego state transitions to support this hypothesis, explanation can be given of the high incidence of Equity / Association transitions and Contract / Association transitions. which occurred in this part of Session 1, since it is a period characterised by a series of oscillations between the group states of Genesis and Latency and the ego states of Equity and Association, and to a lesser extent Contract. These oscillations provide confirmation of the hypothesis since it is reasonable to assume a time lag between ego state transitions and changes in group state because the reaction of the group as a whole to any given stimulus tends to be slower than the reaction of individuals within the group. Given that there is confirmation of the structure, hypotheses relating Equity to Genesis and Association to Latency, the causal relationship can be inferred, in spite of the fact that the exact precipitating transitions cannot be identified in a period of rapid oscillation. Since a large proportion of the relevant ego state transitions can be accounted for in this way, there is sufficient evidence to conclude confirmation of the hypothesis that the group state transition Latency / Genesis is more likely to occur following an ego state transition of Association / Equity than any other state.

Hypothesis 1.11.

A group state transition from LATENCY to GOAL-ATTAINMENT is more likely to occur following an ego state transition from ASSOCIATION to CONTRACT rather than any other ego state transition.

There were 18 group state transitions from Latency to Goal-attainment, accounting for 17% of group state transitions recorded for the life span of the group. Table 4:22:4 shows the co-occurrence of ego state transtions with the Latency / Goal-attainment group state transition.

Table 4:22:4

Ego state transitions	Group state transition Latency - Goal-attainment
Equity - Contract	3
Contract - Association	3
Association - Contract	11
Association - Partiality	1
Total	18

Table 4:22:4 shows that 11 of the 18 co-occurring ego state transitions were Association / Contract transitions, providing ample evidence of the confirmation of this hypothesis.

Hypothesis 1.12.

A group state transition from LATENCY to INTEGRATION is more likely to occur following an ego state transition from ASSOCIATION to PARTIALITY rather than any other ego state transition.

There were two group state transitions from Latency to Integration, accounting for 1.9% of group state transitions recorded for the life span of the group. Both transitions occurred in Session 6. In both instances the preceding ego state transition was that of Contract / Association. On the evidence of these 2 instances the hypothesis is not confirmed, though the occurrence of only 2 instances would call into question the validity of any firm conclusion.

The strategy that has been used in the presentation of findings in this chapter was to procede from the general to the particular. An overview, followed by an intersession comparison of findings, concluding with a detailed statement of the findings for each session in turn resulted in the accumulation of evidence upon which both the structure

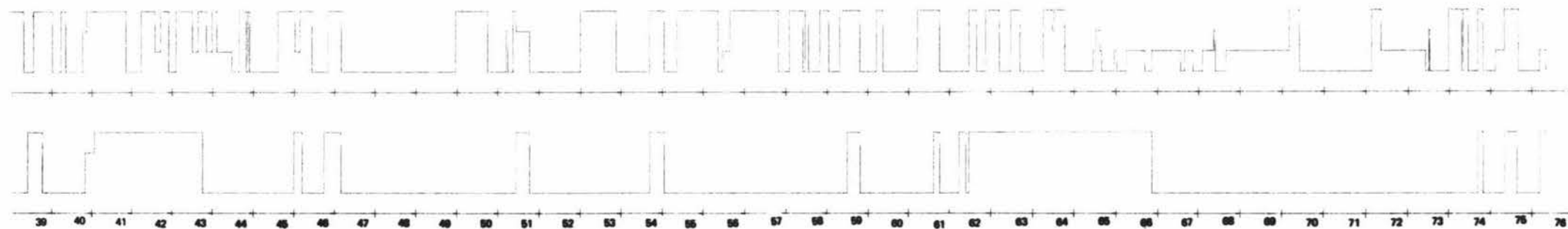
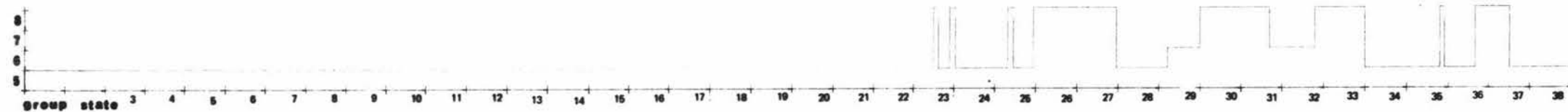
and process hypotheses could be tested. There was in the main sufficient evidence to put the structure hypotheses to test. It should be noted however, that the number of group state transitions recorded in the life span of the group was insufficient to test all the process hypotheses.

The findings produced as a result of analysing the coded data, while giving evidence to partially confirm the hypotheses generated from Model I were, in the main, inadequate to warrant any definitive conclusions about the predictive power of the model. A detailed summary and discussion of the conclusions that can be drawn from this study is given in Chapter 5.

Profile for Session 1

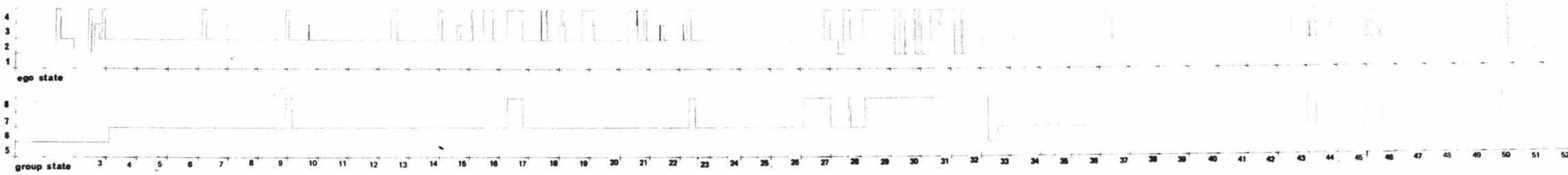
<u>Legend</u>	<u>Ego State</u>	<u>Group State</u>
	1 = Equity	5 = Genesis
	2 = Contract	6 = Goal-attainment
	3 = Partiality	7 = Integration
	4 = Association	8 = Latency

PROFILE OF SESSION 1



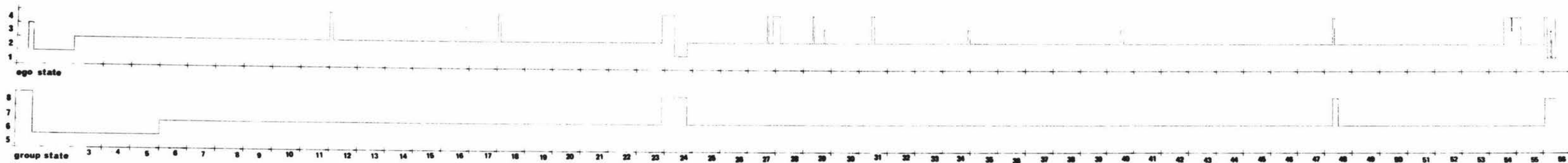
Profile for Session 2

PROFILE OF SESSION 2



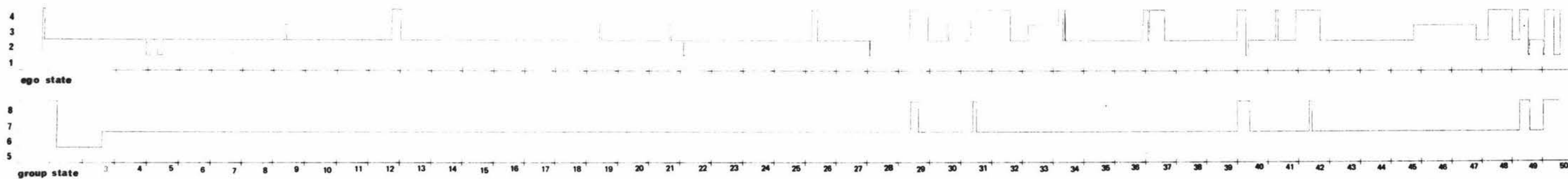
Profile for Session 3

PROFILE OF SESSION 3



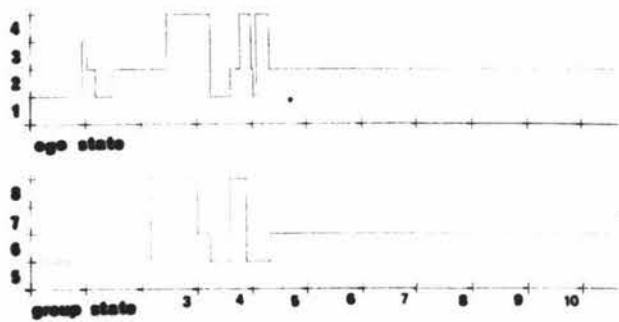
Profile for Session 4

PROFILE OF SESSION 4

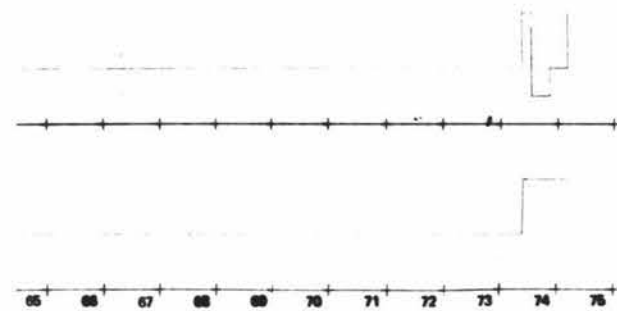


Profile for Session 5

PROFILE OF SESSION 5

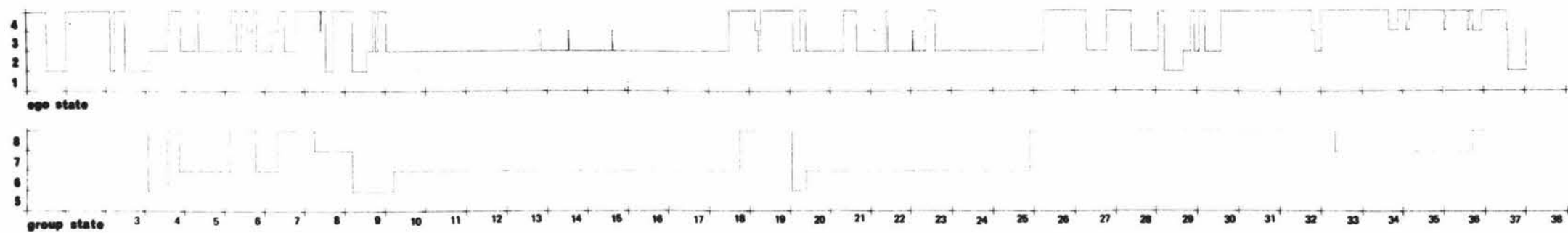


ego state and group state both continue in these categories for a further 55 time units



Profile for Session 6

PROFILE OF SESSION 8



SUMMARY AND CONCLUSIONS

The purpose of the present chapter is to state and discuss the conclusions that can be drawn from the findings, to present an evaluation of the operationalisation of the research model and to appraise the use of Parsons' theory of social action as the basis for the research model. Accordingly, this chapter is largely taken up by an appraisal of the theoretical strategy and methodology used in the investigation, followed, at the end, by a discussion of the implications for subsequent research.

Discussion of Findings

The findings presented in Chapter 4 fall under two main headings: group state findings (stated in terms of the four functional problem categories), and ego state findings (stated in terms of the modified pattern variable categories). The relationships between group states and ego states were spelt out in the model in an attempt to account for the way in which the closed system of small task-oriented groups develops in an orderly manner over time.

The salient features of group state and ego state findings for the life span of the group are reviewed independently below and the conclusions that can be drawn from these findings are discussed in turn.

Ego state

A number of observations about the life span of the group can be made from the ego state findings. The major observation is that Contract dominated the life span of the group, since over two-thirds of the life span was spent in this ego state. The dominance of Contract is consistent with the task-oriented nature of the group. When however, the distribution/duration figures for each ego state category are compared, it can be seen that the number of Contract episodes was disproportionately small. While Contract accounted for 67% of the life span of the group, only 31% of all the ego state episodes occurred in Contract. As part of the methodology used in the study, the factors of distribution and duration were both taken into account in determining the predominance of any ego state. Therefore, predominance was defined in terms of both the number of episodes and the amount of time spent in any particular state.

In this way a more adequate definition of predominance was provided than might have been obtained by taking either factor by itself

as an indicator of predominance or by naively assuming that one measure could be substituted for the other. "It seems obvious that the salience of any given behaviour is not necessarily dependent on either its frequency of occurrence (distribution) or the duration of the activity" (Adams, 1970, 673) but on both taken together. In formulating the hypotheses for the present study, an attempt was made to take the dual factors of distribution and duration into account. The distribution factor was theoretically connected with the idea of process since the number of ego state episodes also stipulated the number of ego state transitions that occurred. The duration factor was theoretically linked with the idea of structure since the amount of time spent in each ego state was an indicator of the consistency of the behaviour of individuals within the group. From the ego state findings for Association and Contract, it can be seen that while episodes of Contract were (on the whole) stable over long periods of time, movement in and out of episodes of Association were rapid and frequent. The contrast between these two ego states is clearly seen in the profiles (see, for example, the Profile for Session 2, p. 112).

This pattern is paralleled by the findings for Equity and Partiality. From the distribution and duration figures for Equity and Partiality (Tables 4:2 and 4:3, pages 57 and 58) it can be seen that because there was a high number of episodes in proportion to the amount of time spent in each state, the episodes for these two states were also short lived. This is especially true of Partiality, where 63 episodes accounted for only 3% of the life span.

Following from these findings it can be concluded that the greater the frequency of transitions and the shorter the duration of episodes, then the more likely it is that the pattern of movement between ego states will be one of oscillation rather than a step progression through the categories. This is to say, where ego state episodes are brief, movement between ego state categories is more likely to occur predominantly between two categories alternately, rather than move between the full range of categories. Scrutiny of the profiles shows that there were three typical patterns of oscillation between ego states;

1. where a functional transition was followed by a regressive transition, e.g. Equity / Contract / Equity,
2. where a regressive transition was followed by a functional

transition, e.g. Equity / Association / Equity

3. where a dysfunctional transition was followed by another dysfunctional transition, e.g. Contract / Association / Contract.

From this pattern of ego state activity it can be concluded that the lower the frequency of transitions and the longer the duration of ego state episodes, the more likely it is that the pattern of movement between ego states will be a step progression, that is, a series of functional transitions through the categories, for example: Equity / Contract / Partiality. A step progression through the categories is an indicator of the functional or orderly development of the group. From the findings of this study, such a movement between ego state categories is likely to occur when the duration of each ego state episode is fairly long. From these findings on the rate and duration of ego state transitions, two conclusions can be drawn. First, it is concluded that the fewer the number of regressive and dysfunctional transitions that occur in sequence, the greater the likelihood of ego state stability. Second, the greater the number of regressive and dysfunctional transitions that occur in sequence, the less the likelihood of ego state stability being maintained. These two conclusions can be expressed in the formula that ego state stability is directly related to the ratio of the number of regressive and dysfunctional transitions to the number of functional transitions. It will be shown later in the discussion of the hypotheses how variations in the ratio bring about similar variations in group state.

Group state

A number of observations about the life span of the group can be made from the group state findings. The major observation is that Goal-attainment dominated the life span of the group, since just under two-thirds of the life span was spent in this group state (64.75%). The dominance of Goal-attainment is consistent with the task-oriented nature of the group. The number of Goal-attainment sequences was however, disproportionately small, when compared with the number of sequences in other group states. While Goal-attainment accounted for 64.75% of the life span of the group, only 25% of all the group state sequences occurred in this group state. Just as there was shown to be an imbalance between the number and duration of ego state episodes of Contract and Association, so too there was an imbalance between the

number and duration of group state sequences for Goal-attainment and Latency. As for the ego state findings, the dual factors of distribution and duration were both taken into account when assessing the predominance of any group state. This again serves to reinforce the point that a simple enumeration of incidents of behaviour or the duration of an activity by themselves are inadequate as measures of the on-going nature of social interaction.

The distribution factor in group state was (as for ego state) theoretically connected with the idea of process, since the number of group state sequences gave the number of group state transitions. The duration factor was related to the idea of structure, since the amount of time spent in each group state served as an indicator of the stability of group interaction. From the distribution/duration figures given in Tables 4:4 and 4:5 (page 59) the characteristic features of group state sequences were identified.

The longest sequences in the life span of the group were those of Goal-attainment, and movement in and out of Goal-attainment was infrequent. Genesis sequences were characteristically short and group state transitions in and out of Genesis rapid and frequent. The bulk of Genesis sequences occurred in Session 1 only. In the whole life span of the group there were only three sequences of Integration - all of which were brief. Latency sequences contrasted with the other group state sequences in two ways. First, the average duration of each Latency sequence was very low (0.97 time units compared with 8.52 for Goal-attainment). Second, when group state changed from Latency to Genesis (as in Session 1) then the Latency sequences were characteristically short and movement between states rapid and oscillatory. When group state changed from Latency to Goal-attainment, the occurrence of Latency was much more intermittent. In this latter case Latency sequences served as interludes between long periods of Goal-attainment (see for example, profile of Session 3, page 113). There was therefore a discernible pattern in the way that group states changed over time. The pattern had implications for the life cycle of the group as a whole. Dominance of Genesis in the beginning of the life span of the group (Session 1) gave way (in Session 2) to the protracted dominance of Goal-attainment. Integration was never established as an identifiable phase of action, and Latency was seen to occur only spasmodically

until the final session, and then only in an unstable state. It can be seen that of the four phases of action postulated in the model, this group only encountered two - Genesis and Goal-attainment; that is, only these two group states were seen to persist for any length of time. The number and duration of Genesis sequences was higher than any other group states in Session 1. The dominance of Goal-attainment was established thereafter. Explanation of why the group only encountered the first two phases of action postulated in the model is given in the discussion of the relationship between ego state and group state.

Relating ego state to group state

There are two ways in which group state is seen to be related to ego state. It was hypothesised that (1) the occurrence of each group state is related to the amount of time spent in an accompanying specified ego state; and (2) that movement between group states is more likely to occur following transitions between specified ego states. As a result of putting these hypotheses to test, certain conclusions can be drawn.

Structure hypotheses. In general, from the evidence given in Chapter 4, it can be concluded that the structure hypotheses relating the occurrence of each group state to the predominant occurrence of a specified ego state were confirmed. This means that there is some evidence to show that there is a consistent and possibly causal relationship between group state (dependent variable) and ego state (independent variable). Hence the state of Genesis is generally seen to be concurrent with that of Equity. A similar relationship has been established between Goal-attainment and Contract, and Latency and Association. The co-occurrence of Integration with a predominant occurrence of Association (83%) rather than Partiality (see Table 4:8, page 63) appears, on face value, to provide evidence to refute the hypothesis that Integration is more likely to occur when there is a predominant occurrence of Partiality. However, the duration of Integration for only 1.25% of the life span of the group provided inadequate grounds for testing this hypothesis. The fact that more Partiality co-occurred with Integration in Session 6 (time units 33-36 on the profile) than with any other group state at any other time in the life span of the group, suggests that this co-occurrence was more than just a chance series of events. In addition, the three time units in Session 6 where Partiality

did occur most, were characterised by regressive transitions between Association and Partiality, but where Association was dominant throughout. The three time units in which Integration occurred were preceded by a substantial sequence of Latency and group state moved back into Latency at the end of the sequence of Integration. The dominance of Latency in this part of Session 6 was matched with a predominant occurrence of Association. The dominant ego state of Association appeared to over-ride the influence of the state of Partiality in affecting the duration of the group state of Integration.

Despite the lack of confirmation of the relationship between Partiality and Integration, the lack of a significant occurrence of Partiality in the overall life span of the group, and the lack of a significant occurrence of Integration in the life span of the group, suggests that the absence of Partiality resulted in the absence of Integration in this group. Positive confirmation of three of the four structure hypotheses shows, in part, that the behaviour of individual actors within a group has an effect on the overall interaction of the group. That is, given that the behaviour of individual actors can be specified, then it is theoretically possible to predict what the accompanying condition of interaction within the group is likely to be.

Process hypotheses. The number of group state transitions recorded was inadequate to put all of the process hypotheses to test. As a consequence, seven of the twelve hypotheses remain untested by the evidence given in the findings. Of the remaining five, four were confirmed. The occurrence of only one group state transition from Goal-attainment to Genesis (Session 5, time unit3) corroborates the evidence given earlier that the problem of Genesis for the system was largely resolved by the end of Session 1, since Genesis was the dominant group state in Session 1 only and the lack of transitions back into Genesis from Goal-attainment provides evidence that this phase of action was thereafter no longer problematic for the system. The absence of transitions from Goal-attainment to Integration permits the conclusion that Integration as a phase of action was not entered into by this group, and therefore the system problem of Integration was never resolved.

Because Genesis was resolved early in the life span of the group, and as Integration was never entered, then predictably movement between

group states was largely between Goal-attainment and Latency.

Transitions between these two group states accounted for nearly half the total number of group state transitions recorded for the life span of the group. The hypotheses relating ego state transitions to group state transitions between Goal-attainment and Latency, and between Latency and Goal-attainment were confirmed. This conclusion can be accepted with confidence, given the high incidence of transitions on which these hypotheses were tested.

Neither the system problems of Goal-attainment nor Latency were resolved in the life span of the group under study. Evidence for the lack of resolution of Goal-attainment is two-fold: The lack of sufficient Partiality appears to have prevented the precipitation of group state changes from Goal-attainment to Integration. As shown in Chapter 2, a functional movement from one phase of action to another is brought about only when the phase of action ceases to be problematic for the system; the large number of group state transitions between Latency and Goal-attainment indicates the lack of Goal-attainment resolution and the lack of stability in this phase of action, despite its overall dominance in the life span of the group. The ego state transitions between Contract and Association, and between Association and Contract (both dysfunctional transitions) which brought about the group state transitions were the highest recorded for all ego state transitions (see Table 4:3, page 57). The large number of dysfunctional transitions out of Latency back into Goal-attainment provides evidence of the lack of system problem resolution for Latency too. Furthermore, as shown earlier (page 120), Latency never dominated the life span of the group for any length of time.

The evidence given in Chapter 4 partially supports the hypotheses relating transitions between the ego states of Equity and Contract to transitions between the group states of Genesis and Goal-attainment. Examination of the ego state transitions that preceded group state changes led to the conclusion that where the hypothesised ego state transition from Equity to Contract was interrupted by movement in and out of another ego state, and where this intermediate transition was of short duration only, then the dominance of the Equity / Contract transition had an over-riding effect on the change in group state that occurred.

The remaining hypotheses for which adequate data existed were those relating to the group state transitions from Genesis to Latency and from Latency to Genesis. Most of the Genesis / Latency, Latency / Genesis transitions took place during the first Session, and occurred in quick succession one after another, within a part of that Session (time units 23-64). As already established (page 120) Genesis sequences were characteristically short and movement in and out of Genesis rapid and frequent. It has also been shown that when transition in and out of any group state is rapid and frequent, then the pattern of movement is likely to be matched with oscillation in and out of one other group state, rather than a movement through the full range of group state categories. Oscillation between the group states of Genesis and Latency in this part of Session 1 is matched with a series of oscillations between the ego states of Equity and Association. During the time units 23-64 in Session 1, a prolonged series of regressive and functional transitions resulted in the instability of ego state during this period. Because ego state was unstable during this period, group state was predictably effected and also unstable. The relevant hypotheses are only partially supported because of the lack of clear support for each individual group state transition. However, the pattern of oscillation between the ego states of Equity and Association is matched with a pattern of oscillation between Genesis and Latency, and although a one-to-one causal relationship cannot be identified, it can be concluded from the data given in Session 1, that oscillation between ego states resulted in the oscillation between group states, which the structure hypotheses show to be related to each ego state respectively.

Seven of the twelve hypotheses remain untested because of the lack of evidence in the base data. Of these seven, six relate to group state transitions in and out of Integration. The virtual absence of Integration has already been commented on. The other untested hypothesis is that relating to the group state transitions from Goal-attainment to Genesis. Of the total number of transitions that occurred, the seven hypotheses remaining untested related in fact to only 6.5% of all group state transitions recorded. Therefore, despite the fact that seven of the twelve hypotheses remain untested, 93.5% of the group state transitions recorded for the life span of the group are explicable in terms of the five remaining hypotheses. To this extent, the model (and the relation-

ships hypothesised between ego states and group states in it) is adequate to describe and explain the nature of group interaction for this particular small task-oriented group.

Accounting for the absence of Integration and Latency

The research model hypothesised four phases of action and the discussion above has reported that only two of these phases were encountered by the group under study. The remaining two phases - Integration and Latency - were not encountered by the group. In the discussion of the hypotheses an attempt has been made to account theoretically for the absence of Integration and Latency. A consideration of the features of the group itself and the procedures used in operationalising the model provides additional insight into the difficulties experienced in using the model to explain how the behaviour of individual actors is related to the interaction between actors within the group.

Two forms of explanation of the lack of Integration recorded in this group can be offered--the first in terms of the operationalisation of the categories of Integration and Latency, the second in terms of the 'truncated' life span of the group.

(1) Low inter-coder reliability scores were obtained for the coding of both Integration and Latency. In the discussion between coders, when coding discrepancies were resolved, it became evident that there was some confusion between the categories of Latency and Integration. The particular problem was to distinguish between laughter and the telling of jokes which provided a relaxation from task activities (Latency), and those jokes and amusing comments which were integrative in function. The group state code was not sufficiently detailed to instruct coders on how to code laughs and funny or amusing comments. Where coders disagreed on the classification of this type of behaviour, the criterion of Latency was more often invoked than that of Integration. In this way, because of lack of clarity on the part of the coding instructions, and the inadequacies of signal examples, the absence of Integration may have been exaggerated through the over-weighting of Latency behaviours.

(2) The group under study had originally had a programme planned to take a whole week. Owing to the lecturer's absence at the end of the week, the programme was condensed into three days. Recourse to the secondary data of the transcripts shows clearly that the group was being

hurried towards the completion of its tasks. For example:

Session 3: "I'm a little bit concerned at the moment at the fact that very little specific reference has been made to material which you've been provided with. Now, either this means that you haven't got to grips with the material as yet... We are going to have to do something before tomorrow morning."

Session 4: "I think we... from my point of view I thought that I dealt with the school as a moral community in the last two lectures. If you want to talk about that further, I'm quite happy to do so here. Otherwise you might prefer to pass on to the Role of the Teacher and Life in Classrooms section. Any real objections if we do that? By the way, the timetable for this afternoon, for those who might not have been here like yesterday, we'll have this discussion session ... until... quarter to three... From 3 o'clock to 4 o'clock we'll have this written test thing, and from 4.15 to 5 we'll have this general evaluation session, because that will be our last full time together as a group. Let's get on with this Teacher Role, yes?"

Because of the shortage of time, the main focus of the group's activities was on achieving some understanding of the material they would be required to present in the test on the final (third) day of their programme. Thus, as clearly shown in the profiles, after the first session, and the lengthy period of Genesis, the group settled down to predominantly Goal-attainment behaviours. The test (Session 5) served to direct the discussion of the earlier sessions. The final session of the programme immediately followed the test. It was a short evaluative discussion, allowing students an opportunity to comment on the structure of the course they had participated in, and on the material they had been presented with. This session did not refer to the test, nor did it allow the lecturer to make any comment about the way in which group members had performed in relation to either the discussions they had participated in during the two previous days, nor in the test they had just sat. Group members had therefore little opportunity of expressing the intrinsic value of membership of this group, nor of relating particularistically or affectively to one another. To this extent, group members had little scope to exercise the full range of role relations open to them.

Latency did not occur as a phase of action for this group either, though the intermittent occurrence of sequences of Latency that were recorded can be explained. The high incidence of Latency sequences recorded in Session 1 is compatible with the model and the conceptualisation of the first phase of action as being a period when the relevant classification of members of the group is negotiated. During the phase

of Genesis, the role relations between members were predominantly those of Equity--where actors classified one another according to the criterion of universalism and related in an Affectively-neutral way. All the members of this group had the attribute of being those who had studied the course extra-murally but they also had the individual qualities of different teaching experiences, differing years of experience/service, and a differing understanding of how to relate the content of the course to their teaching experience. Thus apart from obvious differences of sex and age, the group still had to draw a boundary between the group and the 'environment'. Negotiation of the boundaries of the group is explicable in terms of the conflicting occurrence of Association and Equity behaviours in the first session. Essentially, the problem was that of establishing a definition of the situation, which would provide actors with a criterion of relevance, so that a distinction could be drawn between the universally relevant properties or attributes that each actor or group member had, and those attributes that might be task relevant, but not for this particular group. For individual actors the problem was that of deciding how much and what to invest in the group. The predominance of Genesis in Session 1 interrupted by oscillations in and out of Latency, gives evidence of the problem experienced by the group of arriving at such a common definition. When the profiles for the six sessions are examined, there is sufficient evidence to suggest that the problem of Genesis was resolved by the end of Session 1. Thereafter short non-problematic sequences of Genesis occurred in the main at the beginning of each session, which is consistent with the idea of (i) the on-going development of the group--signifying the reassertion of the tasks for the group in preparation for either a new task or continuation of tasks established in an earlier session, or (ii) redefinition of the situation following the 'latent' interludes between sessions.

Evaluation of Operationalisation Procedures

A full evaluation of the adequacy of the research model presented in this thesis is not possible until further research has provided sufficient data to test fully the hypotheses put forward. However, some evaluation of the operationalisation of the model is possible.

Commentary on the Codes and Coding

Coding. A number of difficulties were experienced in applying

the categories of Code II to classify the behaviour of individual actors in the group. The categories for this code required a distinction to be made between behaviours that were on-task and those that referred back to the past experience of group members; that is, to distinguish between Contract behaviours and Association behaviours. Some perceived ambiguities in this distinction resulted in some difficulty in coding these particular behaviours. It can be argued however, that this difficulty was largely one of the content of the particular course the students were pursuing, since it required them to both recapitulate on their prior experience and to demonstrate an understanding of the literature with reference to specific school contexts.

Similar difficulties were encountered in the application of the categories of Code I in classifying group interaction--notably in classifying behaviours such as laughter and jokes. Some difficulty was experienced in determining the appropriateness of classifications under the categories of Integration and Latency. Another problem concerned the incidence of short sequences of Latency interspersed among longer sequences of Goal-attainment which were in some cases inexplicable in terms of the model, but which might in part be attributable to some ambiguities between the coding categories. These difficulties serve to highlight the need for further research to be carried out, using Codes I and II in order to establish the discreteness between categories on each code, and the discreteness between codes.

Despite the difficulties encountered in the coding of certain types of behaviours, and the questions that these difficulties raised over the discreteness of the categories for each code, several general conclusions can be made however, about the operationalisation of the two codes.

A matter of fit - the codes and the theory

What has been presented and operationalised in the present investigation are two conceptual schemes--one which provides a set of categories for describing group interaction or group state, and one which provides a set of categories for describing individual actors' behaviour. Both codes independently provide a means for describing action in developmental terms, though each code by itself is inadequate to explain the internal dynamics of small groups. When the two sets of categories are theoretically linked together in a model, they can be used in the

explanation of how small groups become established and persist over time. Such an explanation is not afforded by the simple description of small group behaviour. An essential property of the research model presented is the analytic separation of group interaction from the behaviour of individuals in the group. The model shows how the concept of 'group' is an emergent property of the interaction between individual members, where interaction takes the form of the exchanges of symbolic meaning between actors. This exchange leads to the emergence of a culture for the group, which develops as the group develops--in each phase of action. That is to say, the culture of the group is generated by the very interaction in which members are engaged and emerges out of the changing pattern of role relations that exist between members. Whereas the four functional problems describe the interactive condition of the group, the modified pattern variables describe the roles enacted by individual group members. Because actors are seen to play different roles and to relate differently to other actors, according to the definition of the situation, so the pattern variables provide a means for delineating the scope of role relations between actors and the flexibility that actors must exhibit in order to be constantly adapting to the changing situation of the group. Actors are thus viewed as active agents constantly adapting to the demands of the internal environment of the system of which they are members. The concept 'role' in the research model is therefore also an emergent property of group interaction--that is, actors are seen as employing certain 'role making and role-taking'¹ strategies in order to cope with the situational demands that are made of them. It has been postulated in the model that in order for the social system to become and remain viable (as a system) over time, then there has to be opportunity for actors to play out the full range of relations open to them. Where this full range of role-relations is restricted (through either the inflexibility of actors or through institutionalised restraint) then there are serious implications for the viability of the system, though this conclusion is not entirely validated by the findings presented in the study. The modified pattern variable categories of the model provide descriptors of the changing role-relations between actors and the effects that such changes between individuals have on the state of the group as a whole.

1. Turner, 1962.

Some operational considerations

Operationalisation of the abstract category system for actors' behaviour proved less difficult than the operationalisation of the categories for group state. Individual behaviours were, on the whole, easily identifiable, especially when related to the verbal signals made by actors, as in this study (and in the majority of other observational studies). The identification of group interaction was more complex and few studies have attempted to code group interaction per se. Identification of group interaction rested upon the verbal signals of a few members of the group and the largely non-verbal signals of the rest of the group. The difficulty was in establishing the links between the observed non-verbal behaviours and the abstract categories which the operational categories substantiate. The most difficult non-verbal signal to categorise was that of silence--since several interpretations might legitimately be imputed from the non-active participation of group members. The members might be listening attentively, they might be bored, or hungry. Only the first of these interpretations had a place in the classification of social interactive behaviours--despite the fact that individuals imputing the interpretations of boredom or hunger to other actors, might adjust their behaviour accordingly. Similarly, the degree of support given to an individual by the group was difficult to assess. The distinction between the silent endorsement of a speaker's comments and the silent withholding of approval for an individual can only be made if other behavioural indicators are listed. The operationalisation of the group state code (Code I) does not as yet offer sufficient direction to coders to enable them to take more than a superficial account of non-verbal signals. Hence there is some point in reiterating that a great deal more work needs to be done in refining the behaviours classified under each of the categories of Code I to ensure both the exclusiveness and exhaustiveness of the categories.

The value of the type of operationalisation that was conducted lies in the content-free nature of the categories. The examples given for each category of each code were, as far as could be ascertained, general rather than content-specific. However, evidence of the content-freeness of categories can only be established after further application of the codes to different empirical situations and different types of contrasting task-oriented groups. The second important feature of the

operationalisation of the categories was that the behaviours included under each category were not arbitrarily arrived at, but were listed under each category heading because there was in each case theoretical justification for their inclusion in any one particular category.

The use of video-recording equipment to obtain a permanent record of the group under study, provided a means for careful and objective analysis of each behaviour exhibited, and allowed for the checking and reappraisal of coding classifications that had been made.

A question of measurement

Many questions are raised by the analysis of the findings presented in Chapter 4, and in the discussion of these findings presented in this chapter. Examination of the profiles poses the problem of why it is that some ego state transitions precipitate group state changes and others do not, even when they are comparable in terms of context and duration. Further, though there is evidence to support an apparent causal relation between ego state transitions and group state changes, the question of how great or small the time lag between the ego state transition and the group state transition may be in order for the causal factor to remain effective needs to be established.

The matter of establishing clear-cut causal relationships in the explanation of human interaction brings into question the task of finding statistical devices which are both appropriate and adequate for this purpose. In the main, there are very few statistical procedures available which can be used in the analysis of complex process phenomena. An important extension of the present research study would be that of devising or adapting statistical-cum-mathematical techniques¹ for quantifying social behaviour in process terms. Such techniques could then be used in determining the probabilities of the outcomes of actors' choices or decisions as a basis for predicting human behaviour, and in terms of the present study, of tracing out the effects of individual actors' behaviour on the interactive condition of the group of which they are members.

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1. See Dubin's (1960) discussion of the use of stochastic models in sociological analyses, and Fisek's (1969) use of Markov chains in the analysis of task-oriented discussion groups. Also see Bailey (1964) for a more detailed analysis of stochastic processes and stochastic models.

Prediction of the outcome of patterns of ego state transitions would allow for a more detailed analysis of episodes classified under the modified pattern variable categories and the determination of how much role scope and role flexibility needs to be established in order for a social system to remain viable. That is to say, where the role definitions of each interactive situation are ambiguous, how much ambiguity of role-definition can be tolerated by the group before group state changes, or the system breaks down.

The questions raised by the analysis and discussion of findings lead to a statement of the implications for further research and of the application of this research model.

Research Implications

Sufficient evidence has been given in the findings to show that the relationships hypothesised between ego state and group state in the research model are partially confirmed. This present study was exploratory in nature, and in order for the research model to be established as a general theory of small task-oriented groups, a great deal of further research is required; both replication of this study and investigation of other types of small task-oriented groups, so that the content-free nature of the codes may be established and the general applicability of the research model confirmed.

The possibility of comparative studies of small task-oriented groups raises a number of questions. The way in which individuals are selected or permitted to participate in a group and the content or nature of the tasks on which the group is engaged provide two dimensions upon which a typology of small task-oriented groups might be established. Such studies would concentrate on the effects of (i) the boundary function of selection procedures and the extent to which different types of selection or recruitment effect the genesis of small groups; (ii) the task-setting/task performance behaviours found in different groups where the strength of the mandate is seen to be a function of prior goal-setting or the emergence of goals for the group. Thus, how members are recruited for a group and the way in which a mandate for the group is established are seen to be key factors that might effect the structuring of interaction in small task-oriented groups. A further important factor effecting the viability of system maintainance might be the degree of separation seen to exist between the group (as

a system) and its embedding environment. Gouldner (1957-58) has made a distinction between 'locals' and 'cosmopolitans'. A similar distinction could be made between those for whom the task-activity is a new experience and whose loyalty is therefore to the group in which they work (locals), and those for whom the task-activity is a familiar experience and whose loyalty is to the manner in which the tasks had previously been successfully carried out, rather than to the immediate collection of people with whom members are working (cosmopolitans). Thus 'cosmopolitans' are those whose commitment is to the wider context of the organisation or institution within which they work, 'locals' are those whose commitment is group-specific. Comparative studies of 'local' and 'cosmopolitan' groups would allow for analysis of the way in which pressure from the external environment was adapted to, and show the effect that prior task-experience has on the formation and maintenance of task-oriented groups.

Longitudinal studies of groups are required in order to establish tests of the cyclical development of the group. In this way, the manner in which each of the four system problems is confronted and resolved by the group could be examined and comparisons made of the way in which cycles of activity of increasing complexity are achieved.

Research into system process could further be carried out on groups at different stages of system development. This would allow for detailed analysis to be made of the interactive situations of each phase of action and would be an important step in the refinement and extension of the two codes.

Another important extension which requires substantial theoretical formulation would be the study of the structure and process of socio-expressive groups, for which different pattern variable bonds might be established. Since the role-definitions for interaction in a socio-expressive group would not be task-related, different pattern variable bonds would be required to stipulate the dominant characteristics of each phase of action.

Research Applications

Part of the original stimulus for this research investigation came from an interest in small groups working within the educational context. Although, as stated in Chapter 2, there are a multiplicity of small task-oriented groups, discussion of the application of the research model

presented in this study will be confined to the educational context, since this is the discipline within which the research study was being carried out.

A very great deal has been written on the role of the teacher in the school and in the classroom. But little research has been conducted on the way in which role-definitions for the classroom situation are established, despite the use of concepts such as 'role-expectation' and 'teacher/pupil role relations'. Furthermore, the concept of both teacher and pupil role is essentially a static one. It is a major contention of this present study that the adoption of a dynamic, emergent conceptualisation of role allows for a more adequate description and explanation of the role relations between individuals in the interactive situation. Where 'role' is seen to be a function of the definition of the situation, then the way in which actors come to define that situation is an essential part of the analysis of role and role relations. Applied to the classroom situation, the research model allows for analysis of the different roles that teachers and pupils play in relation to one another in different situations and in different phases of class activity. Personal experience and observation of many classroom teachers indicate that establishing a definition of the classroom situation is often problematic. Application of the research model to a variety of task-oriented contexts which exist in schools may well allow for an analysis of the ways in which the teaching/learning situation is defined and the criteria of relevance that are invoked in the establishment of legitimate role-expectations for performance. In terms of the research model presented in this study, the success or failure of teachers to achieve standards of attainment with their pupils is a function of the ability of the class (as a social system) to resolve the problems of task-setting (Genesis) and task-performance (Goal-attainment).

In much of the literature concerned with teacher role, comment is made on the place of affectivity in teacher/pupil relations. In the research model presented here, it is hypothesised that affectivity that occurs prematurely (that is, before goals are attained) is dysfunctional for the attainment of goals. Bidwell's research (1965) would seem to support this conclusion. So far, research into role relations between teacher and pupil have ignored the situational

context within which the relationships occur (see Hoyle, 1969, 32). To this end, research into different classroom climates and the relation between the climate and phases of activity within the classroom can be conducted within the framework of the general theory of small task-oriented groups postulated here, where the pattern variable bonds stipulated in the model encapsulate the notion of the interdependence of relational and situational demands.

Mention has already been made (in Chapter 2) of the teacher acting as an agent of discretion in the giving or withholding of rewards and the effects that this exercise of discretion can have on the successive cycling through of task activities. Little work has been done on achievement rates in classes of children of mixed ability. If the value of rewards is seen to lie in the temporal closeness or distance that can be tolerated by children where the motivational force of the reward is still maintained, then research into the different toleration spans of children will lead to a better understanding of the rate and complexity of task-activities that children can sustain. Slow learners and non-achievers may require that the distance between performance and reward be much shorter than that tolerated by achieving and successful children. By conceptualising each group within a class as a social system in its own right, the rate of task-performance demanded by the teacher could be adjusted to the toleration levels of the children concerned. Such adjustments would however, require comparative research into the structure and process of all groups within a given class.

Young & Beardsley (1968) have documented the way in which children in the secondary school system are required to make constant adjustments to a changing definition of the situation, when they move from one lesson to another. This 'system to system' movement raises several issues related to the research investigation of this present thesis. Analysis of the separate social systems of each class-lesson would provide a composite picture of the normative patterns which structure pupils' interaction in the school. Breeben (1968) has pointed to the conflict of norms that children have to adjust to between home and school, but further research into the norms of each lesson may well highlight a conflict of norms within the institution of the school itself. Conflict in the definition of the situation between lessons poses the pupils with a constant problem of adapting to the demands of the system of which they are currently members, requiring of them that they 'filter' out past

experience from other lessons that is deemed irrelevant to the immediate context. Thus it could be hypothesised that the stronger the boundary that teachers can maintain between their class-lesson and the environment of the school, the stronger the normative control within class. Alternatively, the weaker the boundary maintained between the class-lesson, the more likely it is that the normative patterns existing outside the class will dominate.

System to system movement also poses the problem of how children not only adjust to the constant demands of adaptation to a new situation (Genesis) but also of how children within the context of the school are provided with opportunities for 'enjoying the activities of Latency'. Friedenberg (1967) has commented on the constant official demands of the school and the lack of escape from formal roles. The research model postulates the functional necessity of a period of Latency if further cycles of activity are to be engaged in. It could be hypothesised therefore, that where the institutional demands deny opportunity to pupils and teachers to enjoy the wider role-relations of Latency (and Integration), then task-activities are less successfully achieved.

There are then, some grounds for suggesting that many different task-oriented situations are amenable to analysis in terms of the research model presented in this study. There still remains however, a considerable amount of theoretical refinement and operational validation to be carried out before the model can be said to have the status of a fully articulated empirical-theoretical model capable of explaining how small task-oriented groups come into existence and persist over time. By adopting the Parsonian Voluntaristic Theory of Action as its theoretical framework, this study has attempted to lay the foundations for such a development.

APPENDIX A

CODE I

Preamble to CODE I

CODE I is concerned with analysing group state - the condition characterised by the interaction occurring between members. It does not have regard to the performances of individual members per se.

CODE I is a set of four coding categories. Coders are required to use these categories to identify sequences of interaction between actors. A sequence is defined as a series of signals and responses occurring between actors which can be identified as belonging to the same category. A sequence ends when a different category describes the interaction that is occurring.

The coder's task is to analyse into pre-determined categories, interaction as it occurs between members of small task-oriented groups.

Primary data for analysis consists of video-taped records and secondary data comprise transcripts of verbal interaction taken from the video-tape records. The coder's basic procedures are to:

- 1) Read the transcripts, identifying and categorising sequences of interaction
- 2) Observe the interaction - i.e. view the taped record to check identification and classification of sequences of interaction
- 3) Record the categories on the coding sheet
- 4) Identify the times at which sequences begin and record the time count number.

These procedures are interdependent. In order to undertake this however, a coder has to know:

- 1) The code
- 2) The system for recording the code
- 3) Viewing procedures
- 4) Procedures for selecting tapes.

Each is dealt with in turn below:

CATEGORY 5 - focusses attention on the setting up of the group, the establishment of rules and procedures under which the group will operate and the setting up of tasks for the group.

Settling down signals - indicating actors getting ready to participate in the group by:

- Coming into class
- Taking off coats
- Getting seated comfortably
- Sitting down
- Unpacking satchels
- Getting out books, papers, pens
- Breaking off private conversations
- Looking at speaker/teacher signalling readiness.

Procedural signals - indicating actors' use of commonly accepted conventions and the establishment of specific rules and routines for this group by:

- Signs of deference to others - apologies for lateness, coming in very quietly, on tiptoes; addressing by title
- Introductions/roll call
- Filling in forms/name cards etc.
- Passing round papers
- Being quiet when others are speaking
- General concurrence with procedural routines - noting down arrangements
- Verbal responses given to suggestions/requests/demands about administrative arrangements for the group - "aha"/"OK" etc.
- Non-verbal responses given to suggestions/requests/demands about administrative arrangements for the group - nods, silence, hand gestures.
- Requests for further information about routines - times of meetings, length of test etc.
- Representative expressing concurrence of group on procedures.

Task-setting signals - indicating actors' agreement on and acceptance of task proposals for the group by:

- Statements of what will be done/intentions about tasks
- Statements of willingness to do what is required/volunteering to do tasks
- Acceptance of tasks set - nods, silence, absence of objections when tasks are suggested, verbal acceptance - "OK"/"Sure"/"Fine"
- Reading through information sheets as directed
- Finding the page(s) referred to
- Leafing through notes/files/ etc.
- Representative expressing acceptance of tasks/task definitions for the group.

Negotiation signals - indicating the exchange of ideas between actors about both procedures and tasks for the group by:

- Disagreements about what is proposed for the group
- Raising objections to routines/procedures/ task proposals
- Suggestions of alternative ways of proceeding
- Requests for the consideration of new or different tasks.

CATEGORY 6 - focusses on interaction in the group relating to the active condition of 'getting on with' tasks. All the signals in this category refer to on-task behaviours and should not be confused with either the Procedural Signal or the Task-setting signal of Category 5 - i.e. pre-task behaviours.

Task-confronting signals - indicating actors' impersonal discussion of task related topics by:

- Asking and answering questions on content which is task related
- Asking for and giving of information which is task related
- Clarifying/asking for clarification of statements made in the task context - repeating a point, explaining the meaning of a word, translating a phrase into simpler terms
- Elaborating/asking for elaboration of points raised about tasks - drawing diagrams, spelling out an argument, explaining how a conclusion was reached
- Referring to the literature to support an argument
- Several members of the group discussing topics germane to the task, in quick succession.

Task-engagement signals - indicating actors receptiveness of others' contributions in the task activity by:

- Listening attentively to what others say - sitting up, changing position to look at speaker, not fidgeting whilst someone is speaking.
- Non-verbal signals of interest in what the speaker is saying/signs of renewal of interest/alertness - sitting up, sitting forward in chairs in order to hear what is being said, looking at blackboard, turning heads in direction of speaker.
- Signs of identification or involvement with the speaker - smiles, shaking heads, nods, etc.

Task-participation signals - indicating actors' contribution to the task activity from their personal experience by:

- Agreeing/disagreeing with statements and opinions made by others in discussion, offering arguments/reasons for or against points raised by others
- Offering opinions for group comment where members say "I think...", "In my opinion...", "How I see it is..."
- Citing of personal experiences to illustrate a point - where members say "In my school...", "The person I know who...", "What I'm used to doing is..."

Task-organisation signals - indicating actors' occupation with the 'mechanics' of task activity by:

- Working practically on the tasks - writing notes, consulting books, collecting materials, collecting data
- Sharing resources - looking at someone else's books, borrowing equipment from others
- Following explicit instructions
- Getting on with the work.

CATEGORY 7 - focusses on the emergence of actors' commitment to the group and the establishment of a group identity.

Familiarity signals - indicating increased familiarity between actors by:

- Use of nicknames/first names
- Sharing of experiences from outside the group - non-task anecdotes
- Non-verbal signals of familiarity - exchanges of expressions, winks, knowing looks, nods, grins to individuals etc.
- Private conversations.

Identity signals - indicating actors' awareness that the group has an identity by:

- Statements of interests and ideas held in common
- Use of the convention "we/they" where the group is differentiated from other groups
- Assigning a symbol or name to the group

Affiliation signals - indicating actors' sense of commitment to one another in the group by:

- Use of the terms "we/us" where reference is made to the group
- Defense of one another from personal (verbal) attack
- Efforts made to include others in the group - by directing remarks to those not yet participating, encouraging others to join the conversation etc.
- Making personally supportive comments.

Evaluation signals - indicating the value, for actors, of belonging to the group by:

- Appraisal of each others' contributions to the group
- References to the value of belonging to the group
- Statements of appreciation for benefits received from membership of the group.

CATEGORY 8 - focusses attention on the consolidation of group experience and the temporary suspension of group task activities.

Recapitulation signals - indicating reference to past group experience by:

- Recapitulation of what the group has done or achieved
- Statements about what has already been learned
- Reiterating/re-defining/re-stating rules/norms/standards for the group.

Continuation signals - indicating preparations for further group activity by:

- Formalising the organisation - plans for reconvening/suggested times for meetings/suggested dates/duration of sessions/nature of sessions etc.
- Reference to what members may expect to get out of further participation/promises of continuing commitment
- Statements of future courses of action
- Statements of preparation to be made by group members - reading assignments/topics to consider etc.
- Calls for increased membership/expressions of concern over decrease in membership.

Banter signals - indicating a diversion in group activity by:

- Funny, humorous, frivolous, silly, nonsensical remarks
- Bursts of laughter
- Clowning, bantering, kidding, horse play, larking around.

Recession signals - indicating the temporary suspension of group interaction by:

- Getting up and walking about/going for a stroll/physically relaxing/stretching/slumping down in chair.
- Moving outside/going to another place in the room
- Engaging in idle chatter/private conversations
- Closing books/packing satchels etc.
- Going for a coffee break/a smoke.

Coding Conventions

One category must be sufficient to identify any sequence of interaction of the group. However, where group state is not so definable the following rules should be observed:

- 1) where most (well over half) members of the group are behaving in one way and a few (one, or a small number) members are behaving in a divergent way, code the behaviour of the majority of the group;
- 2) where approximately half the group are behaving in one way and half the group are behaving in another way at the same time:
 - (i) where one of these behaviours is a continuation of the last behaviour coded, then code the new behaviour demonstrated by half the group;
 - (ii) where two category changes occur at the same time delay coding until one mode of interaction becomes dominant over the other (that is, until the majority of members adopt one mode of behaviour).

If the bifurcation of the group becomes stabilised and judgement on the dominant mode of behaviour is impossible, then code each part of the group as a separate group, indicating this clearly in the column provided (4) on the coding sheet.

Recording the Code

Code records take the form of entries on a coding sheet. The sheet has four columns. In Column 1 is recorded the number of the tape being used. In Column 2 the time count number that identifies the number of each episode of group state. In Column 3 the category code number prevailing at the time is recorded. A fourth column is provided for the occasions on which two codeable conditions occur simultaneously. A separate coding sheet should be used for each tape.

Note: A seconds time count was recorded on the tapes coincidently with the record of interaction. The appropriate time count number serves to identify the times at which group state changes occur.

Viewing Procedures

- (a) Operating the video-recorder: Coders should be competent in the

operation and use of the video-recorder, before starting to code. Instructions for the use of the recorder are given on the inside of the cover of the machine. During coding, stop, rewind, and review the tape as often as required in order to code accurately.

(b) Coding: For coding, the tapes have been arranged in a random order. The coder's task is to view each tape so that he can produce a continuous record of code categories that covers the whole period and does not fail to identify any instance of any category. The coder when viewing the unit must first identify the category appropriate for the initial interaction. Thereafter he records the time count and category number for every change from one category to the next. The resulting list of category numbers then shows the progression of the different forms of interaction that have occurred, that is, recording the instances of different sequences. The recorded time unit can be used to determine the duration of each sequence.

Selecting the Tapes

When coding group state select tapes to be coded in random order (using a standard table of random numbers).

Column 1 Tape Number	Column 2 Time Count Number	Column 3 Category Number	Column 4 (Use this column only if group state cannot be identified by one category.)

APPENDIX B

CODE II

Coding Manual for Code II

CODE II is concerned with analysing the behaviour of individual actors. It does not have regard to the state of the group per se, nor to occasions when several actors speak simultaneously.

CODE II is a set of four coding categories. Coders are required to use these categories to identify episodes of actors' behaviour. An episode is defined as any verbal signals in the form of a sentence, part-sentence or protracted speech spoken by an individual actor, which can be identified as belonging to the same category. An episode ends when a different category describes the verbal behaviour that is occurring at any one time.

The coder's task is to analyse into pre-determined categories, the verbal behaviours of each individual speaker within the context of the small task-oriented group.

Primary data for analysis of videotaped records and secondary data comprise transcripts of verbal interaction taken from the videotape records. The coder's procedures are to:

- 1) Read the transcript
- 2) Identify episodes of verbal behaviour
- 3) Categorise them
- 4) View the taped record to check the episodes of behaviour identified in each category
- 5) Record the categories and the time count at which new episodes begin.

These procedures are interdependent. In order to undertake them however, a coder has to know:

- 1) The code
- 2) The system for recording the code
- 3) Viewing procedures
- 4) Procedures for selecting tape units.

Each is dealt with in turn below.

CODE II

CATEGORY 1 - focusses attention on how individual actors define the conditions under which they and other actors may participate in the group by:

Labelling actors in the group under a generalised heading -

e.g. as a group of sociologists/senior students/ teachers/ men etc.

Stating the criteria/conditions of membership for the group -

e.g. "Having all done Ed.II..."/"I presume that you all are here because you have some interest in the topic..."

Stating the conditions under which members stay in the group/

perform in the group - e.g. "Since this group has come to discuss X, we shall expect contributions from you all"/"I expect you to come to tutorials adequately prepared".

Mentioning/drawing attention to some feature/characteristic that

distinguishes actors in this group from actors in other groups -

e.g. "You have a substantial background of university experience",

"You have expressed a desire to participate in this project...",

"I understand that none of you has any experience in this..."

Stating/referring to a rule or norm which applies to all members -

e.g. "In fairness to others in the group, I think we should...",

"I think a word of explanation is in order"

Signalling his detachment from the group - e.g. moving out of close

physical contact, use of hand gestures, facial expressions, change in tone of voice, change in posture

Attempting to hold the group in check/to exercise restraint -

e.g. "Hang on a moment", "Now just wait a moment..."

Establishing a role for himself in the group/providing a rationale

for his being in the group - e.g. "The reason why I'm here is that...", "I see my position in this group as being..."

CATEGORY 2 - focusses attention on how individual actors participate in, and signal their expectations of how others will join in with the tasks of the group by:

- Giving instructions/directions to actors on what to do/how to proceed - e.g. "I want three groups"/"Discuss the questions on Page 3 before going on to any others"
- Demanding/telling actors to perform - e.g. "Do this..."/"Get on with your work"/"Tell me how you would answer this"
- Requesting/asking actors to perform/suggesting a task activity - e.g. "Will you please answer this..."/"I would like you to...", "Please"
- Referring to tasks that actors are engaged in/have not yet completed - e.g. "Is the work you are doing too difficult?"/"You have only given me part of the answer"/"Before we go any further could we..."
- Reiterating/re-phrasing/re-stating the task in different words - e.g. "What I mean by this is..."/"In other words..."/"Put this way..."/"Put another way..."/"That is to say..."
- Stating/elaborating upon a stated task - e.g. "In answering this question, I should like you to pay special attention to..."/"To make the point more explicit..."/Lecturing to the group
- Clarifying the task by providing information/definitions/reasons - e.g. "There are two reasons for doing it this way, one..."/"To find X, you need to know the value of Y..."/"The definition is limited to..."
- Reminding actors of their tasks or indicating their part in the task - e.g. "Remember that you're supposed to be looking at..."/"If you recall, the problem I posed was..."
- Ascertaining that actors have information/equipment necessary to do the task - e.g. "Can you all see the board"/"Are we all ready to go ahead then?"/"Do you fully understand the problem?"/"Are there enough chairs?"
- Providing equipment necessary to do the task - e.g. "Does anyone need any pens or paper?"
- Contributing to tasks by use of examples/references to professional experiences/related background knowledge.

CATEGORY 3 - focusses attention on the way in which individual actors establish a special relationship with others by giving rewards and punishments by:

Rewarding actors for what they have done or what they are doing - e.g. praising or positively sanctioning actors' behaviour, concurring, affirming

Showing his satisfaction/approval of actors - e.g. "That's a first rate job"/"That's really good"

Showing that he is pleased - e.g. "I'm pleased with you"/"I'm glad you've done it that way"/"Thank you, I appreciated that"

Saying what he likes - e.g. "I like the way that you've done that"/"That suggestion appeals to me"

Punishing actors for what they have done/have not done/ for how they are behaving - e.g. blaming or negatively sanctioning actors' behaviour, denying/prohibiting/being sarcastic, making jokes at another's expense, intentionally ignoring comments of others

Showing his disapproval/dissatisfaction/disappointment - e.g. "What a pity you were so careless"/"I am disappointed with your effort"

Reprimanding/criticising actors - e.g. "When are you folk going to settle down"/"Your behaviour leaves a lot to be desired"

Complaining about actors' behaviour - e.g. "You're wasting my time as well as your own"/"This noise is intolerable"

Threatening/abusing actors - e.g. calling them names - "Idiot"/"Numbskull"/"If you don't get on, I'll..."

Saying what he dislikes - e.g. "I don't like your attitude".

CATEGORY 4 - focusses attention on the way in which individual actors relate to other actors because of the personal attributes or qualities which other actors have by:

Mentioning or referring to attributes such as age, sex, marital status, seniority, ability, rank, intelligence, occupational status etc. which differentiate actors in the group from one another - e.g. "Fred, as an older person..." / "John, you're a teacher..." / "How typical of a woman".

Referring to himself or other actors in terms of what they have done or achieved - e.g. "I gather that you have taught for a number of years" / "You worked in Australia for some time" / "X, you did an essay on this earlier on...".

Referring to an actor(s) as having expert or prior knowledge/ qualifications/experience - e.g. "Your knowledge of the practical situations should..." / "Having worked in this area before...".

Referring to an actor(s) as having made some contribution/stated an opinion/expressed a belief/ideas etc. - e.g. "You've given a convincing answer" / "You think I'm biased in my view".

Referring to the past history or experiences of an actor(s) which is not specifically related to the tasks of the group - e.g. "When I was at school..." / "Joe's travelling gives him a wide understanding..." / "I've taken twenty exams...".

Joking with actors/telling funny stories/making puns/polite conversation/small talk - e.g. comments about the weather/sports results/political situations.

Expressing sympathy or concern for an actor(s) well-being - e.g. "Are you warm enough?" / "How are you today".

Mentioning or referring to an actor(s) interests/activities outside the group - e.g. "How did the game go on Saturday" / "Was the meeting as successful as you had hoped?".

Referring to an actor(s) physical appearance or condition - e.g. "You look a bit sloppy today" / "You seem very tired, too much work?".

Making derogatory or complimentary remarks - e.g. "That's a nice dress" / "Congratulations on a good piece of work" / "You are inept".

Coding Conventions

One category must be sufficient to identify any episode of verbal behaviour of individual actors. Every verbal signal spoken by any actor must be coded. Where a verbal signal consists of only one or a few words/exclamations or incomplete (and therefore difficult to code) sentences, coders should attempt to code using the video-tape to provide supporting data. Where it is impossible to make a coding decision, include the problematic verbal signals within the time count of the preceding episode, so that a continuous coding record is produced.

Recording the Code

Code records take the form of entries on a coding sheet. The sheet has four columns. In Column 1 is recorded the number of the unit of tape being used (See Table 1). In Column 2, the tape number and in Column 3, the time count number that identifies the beginning of each episode.¹ In Column 4 the episode code number prevailing at the time is recorded.

Viewing Procedures

- (a) Operating the video-recorder: Coders should be competent in the operation and use of the video-recorder, before starting to code. Instructions for the use of the recorder are given on the inside of the cover. During coding, stop, rewind and review the tape as often as is required in order to code accurately.
- (b) Coding: For coding, the tapes have been divided into fifteen-minute units. The coder's task is to view a unit so that he can produce a continuous record of code categories that covers the whole period and does not fail to identify any instance of any category. The coder, when viewing the unit, must first identify the category appropriate for the initial episode. Thereafter he records the time count and category number for every change from one category to the next. The resulting list of category numbers then shows the progression of the different episodes of verbal behaviour that have occurred in this unit, recording the instances of different episodes. The recorded time can be used to determine the duration of each episode.

1. Note: A seconds time count was recorded on the tapes coincidentally with the record of interaction. The appropriate time count number serves to identify the times at which episode changes occur.

Selecting Tape Units

Table 1 provides a randomised schedule of numbered fifteen-minute units of tape which specifies the order in which units are to be coded. Coders should check the unit numbers assigned to them for coding and also check that they have the requisite tapes and accompanying transcripts.

Table 1

Schedule of Randomised Units

Unit No.	Tape No.	Time Span
1	3	1080-2700
2	1	3601-4500
3	1	2701-3600
4	6	3601-4500
5	2	0001-0900
6	6	5401-6300
7	1	0901-1860
8	5	0901-1800
9	2	0901-1800
10	3	0901-1800
11	1	1801-2700
12	2	1801-2700
13	3	0001-0900
14	4	1801-2760
15	4	0001-0900
16	6	2701-3600
17	4	0901-1800
18	6	4501-5400
19	1	0001-0900
20	6	6301-7200
21	5	0001-0900

APPENDIX C

Technical Equipment

The Massey University Mobile Research Laboratory provided the video-tape system used in the making of video-tape recordings for this study.

The system (as set up for this study) consisted of two remotely-controlled (ITC, VF 202A) video cameras, three (AKG 7070) microphones, a control console, an automatic gain control (audio), an (ITC 1003) vision effects mixer, a time counter connected to a third video-camera, a Sony EV 320, one inch, helical scan video-tape recorder, containing two sound channels, an audio effects mixer, and a 17-inch television monitor screen. A brief account of these items of equipment is given below.

The video-unit and microphones

The two remotely controlled video-cameras (with optional zoom lenses) and motor-driven pan and tilt heads comprised the basic video-unit. When used for making the video-tape records of the group used in this study each camera was mounted on a tripod located in opposing corners of the room. The cameras were able to be moved through 270° on the horizontal plane and 60° on the vertical plane in the process of filming. The three microphones were suspended from the ceiling at strategic points in the room and just above head-height of the seated group members.

The control console

Operation of both the audio and video sections of the system was controlled at the keyboard of the control console. Included in the console are a variety of video and audio equipments. The video equipment includes a synchronizing generator, an effects generator, program monitors, control equipment, a program video switching system, a monitor switching system and a control oscilloscope. Audio equipment includes two audio channels, monitoring amplifiers, speakers and associated controls.

The synchronizing generator performs the function of controlling and timing all video equipment in the system, including cameras, the effects generator and the like. The effects generator is included so that signals from the two cameras may be combined into one composite image for recording. The effects generator used is capable of placing an image in one corner (any corner) of the other image, or of imposing an image across the top, bottom or either side of the other image.

Four program monitors are provided, one for each of the cameras and one for the combined image provided by the effects generator. Video-units and microphones are connected by cable to the control console.

The video-tape recorder

The video-tape recorder was used to record the mixed video-signals from the vision effects mixer onto the video-tape, and the mixed audio signals from the audio mixer were recorded on channel 1 of the sound tranck. The final composite video-tape recording was monitored through the 17-inch television monitor screen.

REFERENCES

- Aberle, D.F. et al. 'The Functional Prerequisites of a Society', Ethics, Vol. 60, January 1950.
- Adams, R.S. The Classroom Setting: A Behavioural Analysis, Unpublished Ph.D. thesis, University of Otago, 1965.
- Adams, R.S. 'Duration & Incident Frequencies as Observation Indices', Ed. & Psych. Measurements, 30, 1970, 669-74.
- Bales, Robert F. 'A Set of Categories for the Analysis of Small Group Interaction', Am.Soc.Rev. 15:2, April 1950, 257-63.
- Bales, Robert F. 'Some Uniformities of Behavior in Small Social Systems' in Swanson, Newcomb & Hartley et al (Eds.) Readings in Social Psychology (revised), New York, Henry Holt & Co., 1952.
- Bales, Robert F. 'A Theoretical Framework for Interaction Process Analysis' in Cartwright, Dorwin & Zander, Alvin (Eds.) Group Dynamics: Theory and Research. Evanston, Ill. 1953, 30.
- Balley, N.T.J. Introduction to Stochastic Processes. With Applications to the Natural Sciences. New York, Wiley & Sons, 1964.
- Barber, Bernard 'Structural-Functional Analysis: Some Problems and Misunderstandings'. Am.Soc.Rev., 21, September 1956.
- Becker, Howard & Boskoff, Alvin (Eds.) Modern Sociological Theory in Continuity and Change. New York, Holt, Rinehart & Winston, 1966.
- Berrien, Kenneth F. General and Social Systems. New Brunswick, N.J. Rutgers University Press, 1968.
- Biddle, Bruce J. & Adams, Raymond S. An Analysis of Classroom Activities. Center for Research in Social Behavior, University of Missouri, Columbia, 1967.
- Biddle, Bruce J. & Thomas, Edwin J. Role Theory: Concepts and Research. New York, Wiley & Sons, 1966.
- Bidwell, C.E. 'The School as a Formal Organisation' in March, J.G. (Ed.) Handbook of Organisations. Chicago, Rand McNally, 1965, 972-1022.
- Black, Max (Ed.) The Social Theories of Talcott Parsons: A Critical Examination. Englewood Cliffs, N.J., Prentice-Hall, 1961.
- Black, Max 'Some Questions About Parsons Theories' in Black, Max (Ed.) The Social Theories of Talcott Parsons. Englewood Cliffs, N.J. Prentice-Hall, 1961.
- Blalock, Hubert M. Jr., 'Theory Construction: From Verbal to Mathematical Formulations', Prentice-Hall Methods of Social Science Series, Englewood Cliffs, N.J., Prentice-Hall, 1969.
- Blau, P.M. 'Structural Effects', Am.Soc.Rev., 25, April 1960, 178-93.
- Blau, P.M. 'Patterns of Choice in Interpersonal Relations', Am.Soc.Rev., 27, February 1962, 41-55.
- Blau, P.M. 'Operationalising a Conceptual Scheme: The Universalism-Particularism Pattern Variable', Am.Soc.Rev., 27:2, April 1962, 159-69.

- Blumer, Herbert Symbolic Interactionism: Perspective and Method. Englewood Cliffs, N.J., Prentice-Hall, 1969.
- Bredemeier, Harry C. 'The Methodology of Functionalism', Am.Soc.Rev. 20, April 1955.
- Brodbeck, May 'Meaning and Action' in Brodbeck, May (Ed.), Readings in the Philosophy of the Social Sciences, New York, Macmillan, 1968.
- Brodbeck, May (Ed.) Readings in the Philosophy of the Social Sciences, New York, Macmillan, 1968.
- Brown, Robert Explanation in Social Science. London: Routledge & Kegan Paul, 1963.
- Buckley, Walter Sociology and Modern Systems Theory. Englewood Cliffs, N.J., Prentice-Hall, 1967.
- Catton, William R. Jr. 'Flaws in the Structure and Functioning of Functional Analysis', Pac.Soc.Rev., 10:1, Spring 1961.
- Cohen, Guido B. The Task-Tuned Organisation of Groups. Amsterdam: Swets & Zeitlinger, 1969.
- Cohen, Percy S. Modern Social Theory. London, Heinemann, 1968.
- Coleman, James S. 'Relational Analysis: The Study of Social Organisation with Survey Methods', Human Organisation, 17, Winter 1958-59, 28-36.
- Coser, Lewis A & Rosenberg, Bernard (Eds.) Sociological Theory: A Book of Readings. New York, Macmillan, 1957.
- Davidson, Donald 'Actions, Reasons and Causes', in Brodbeck, May (Ed.) Readings in the Philosophy of the Social Sciences. New York, Macmillan, 1968.
- Dean, Lois R. 'The Pattern Variables: Some Empirical Operations' Am.Soc.Rev., 26, February 1961, 80-90.
- Demerath, N.J. & Peterson, Richard A. (Eds.) System, Change and Conflict: A Reader on Contemporary Sociological Theory and the Debate over Functionalism. London, Collier-Macmillan, 1967.
- Dore, Ronald P. 'Function and Cause', Amer.Soc.Rev., 26, December 1961.
- Dreeben, R. On What is Learned in School. Reading, Mass.: Addison-Wesley, 1968.
- Dubin, Robert 'Parsons' Actor: Continuities in Social Theory', Amer.Soc.Rev., 25:4, August 1960.
- Fisek, Mustafa Hamik The Evolution of Status Structures and Interaction in Task Oriented Discussion Groups. Unpublished Ph.D. thesis, Stanford University Abstract, 1969.
- Friedenberg, E.Z. 'The Modern High School: A Profile' in Sexton, Patricia (Ed.) Readings on the School in Society. Englewood Cliffs, N.J., Prentice-Hall, 1967.
- Getzels, Jacob W. & Thelen, Herbert A. 'The Classroom Group as a Unique Social System', N.S.S.E. 59th Yearbook, Part II, 53-82.
- Gouldner, Alvin 'Cosmopolitans and Locals: Towards an Analysis of Latent Social Roles'. Admin. Science Quarterly, I:2, 1957; II:2, 1958.

- Gouldner, Alvin 'Reciprocity and Autonomy in Functional Theory' in Demerath, N.J. & Peterson, Richard A. (Eds.) System, Change and Conflict. New York, Free Press, 1967.
- Grinker, Roy R. (Ed.) Toward a Unified Theory of Human Behavior. New York, Basic Books, 1956.
- Gross, Llewellyn (Ed.) Sociological Theory: Inquiries and Paradigms. New York, Harper & Row and John Weatherhill, 1967.
- Gross, Neal et al. Explorations in Role Analysis. New York, Wiley, 1958.
- Hare, A. Paul, Borgatta, Edgar F. & Bales, Robert F. Small Groups: Studies in Social Interaction. New York, Alfred A. Knopf, 1955.
- Hempel, Carl C. Aspects of Scientific Explanation, and Other Essays in the Philosophy of Science. New York, Free Press, 1965.
- Hempel, Carl C. & Oppenheim, P. 'Studies in the Logic of Explanation' in Brody, B.A. (Ed.) Readings in the Philosophy of Science. Englewood Cliffs, N.J., Prentice-Hall, 1970.
- Hoyle, E. The Role of the Teacher. London, Routledge & Kegan Paul, 1969.
- Isajiw, Wsevolod W. Causation and Functionalism in Sociology. London, Routledge & Kegan Paul, 1968.
- Lockwood, David 'Some Remarks on 'The Social System'', British J. of Soc., Vol. VII:2, June 1956.
- Lofland, John Analysing Social Settings: A Guide to Quantitative Observation and Analysis. Belmont, Calif., Wadsworth Publ. Co., 1971.
- McHugh, Peter Defining the Situation: The Organisation of Meaning in Social Interaction. Indianapolis & New York, Bobbs-Merrill, 1968.
- Miller, J.G. 'Living Systems: Basic Concepts'. Behavioral Science, Mental Health Institute, University of Michigan, Vol. 10, 1965, 193-237.
- Miller, J.G. 'Living Systems: Structure & Process'. Behavioral Science, Mental Health Institute, University of Michigan, Vol. 10, 1965, 337-79.
- Miller, J.G. 'Living Systems: Cross Level Hypotheses', Behavioral Science, Mental Health Institute, University of Michigan, Vol. 10, 1965, 380-411.
- Morse, Chandler 'The Functional Imperatives' in Black, M. (Ed.) The Social Theories of Talcott Parsons: A Critical Examination. Englewood Cliffs, N.J., Prentice-Hall, 1961.
- N.S.S.E. (Ed. N.B. Henry) The Dynamics of Instructional Groups: Sociopsychological Aspects of Teaching and Learning. 59th Yearbook of National Society for the Study of Education, Part II, Chicago, Illinois, 1960.
- Nolan, C.J.P. Talcott Parsons: The Genesis and Development of a Theory from the Structure of Social Action to the Social System. Unpublished monograph, Massey University, 1971.
- Parsons, Talcott The Structure of Social Action. New York, McGraw Hill, 1937.

- Parsons, Talcott The Social System. London, Routledge & Kegan Paul, 1951.
- Parsons, Talcott Essays in Sociological Theory, (revised). Glencoe, Ill., Free Press, 1954.
- Parsons, Talcott 'The Pattern Variables Revisited: A response to Robert Dubin' in Parsons, Talcott (Ed.) Sociological Theory and Modern Society. New York, Free Press, 1967. The article first appeared in Am.Soc.Rev., 25:4, August 1960, 467-83.
- Parsons, Talcott 'The Point of View of the Author' in Black, Max (Ed.) The Social Theories of Talcott Parsons. Englewood Cliffs, N.J., Prentice-Hall, 1961.
- Parsons, Talcott Social Structure and Personality: A Collection of Essays. New York, Free Press, 1964.
- Parsons, Talcott Societies - Evolutionary and Comparative Perspectives. Englewood Cliffs, N.J., Prentice-Hall, 1966.
- Parsons, Talcott Sociological Theory and Modern Society. New York, Free Press, 1967.
- Parsons, Talcott 'A Paradigm for the Analysis of Social Systems and Change' in Demerath, N.J. & Peterson, R.A. (Eds.) System, Change and Conflict. New York, Free Press, 1967.
- Parsons, Talcott, Bales, R.F. & Shils, Edward A. Working Papers in the Theory of Action. Free Press & Glencoe, Ill., 1953.
- Parsons, Talcott & Shils, Edward A. (Eds.) Towards a General Theory of Action. Cambridge, Mass., Harvard University Press, 1959.
- Parsons, Talcott & Smelser, Neil J. Economy and Society. London, Routledge & Kegan Paul, 1956.
- Parsons, Talcott & Smelser, Neil J. 'The Primary Sub-Systems of Society' in Demerath, N.J. & Peterson, R.A. (Eds.) System, Change and Conflict. New York, Free Press, 1967.
- Rosenshine, Barak Teaching Behaviours and Student Achievement. International Association for the Evaluation of Educational Achievement (I.E.A.), 1970, (unpublished document).
- Rudner, R.S. Philosophy of Social Science. Englewood Cliffs, N.J., Prentice-Hall, 1966.
- Simon, Anita & Boyer, E. Gil. Mirrors for Behavior: An Anthology of Observation Instruments, Vols. 1-15 and Summary. Research for Better Schools, Inc., Philadelphia, Penn., 1970.
- Smith, Alfred G. Communication and Culture. New York, Holt, Rinehart & Winston, 1966.
- Smith, Louis M. & Geoffrey, William The Complexities of an Urban Classroom: An Analysis toward a General Theory of Teaching. New York, Holt, Rinehart & Winston, 1968.
- Swanson, G.E., Newcomb, T.M. & Hartley, E.L. (Eds.) Readings in Social Psychology. New York, Henry Holt & Co., 1952.
- Swanson, G.E. 'Book Review of the "Working Papers" by Parsons, Bales & Shils', Am.Soc.Rev., 19, 1954, 95-7.

- Tiryakian, Edward A. Sociological Theory, Values and Sociocultural Change: Essays in Honor of Pitirim A. Sorokin. Glencoe, Ill., Free Press and London, Collier-Macmillan, 1963.
- Turner, Ralph H. 'Role-Taking: Process versus Conformity' in Rose, Arnold M. Human Behavior and Social Processes, Chapter 2. Boston, Houghton Mifflin Co., 1962.
- Turner, R. personal communication reported in Miller, J.G. 'Living Systems: Basic Concepts', Behavioural Science, Mental Health Institute, University of Michigan, Vol. 10, 1965, 210 (footnote).
- Weber, Max 'The Interpretive Understanding of Social Action' in Brodbeck, May (Ed.) Readings in the Philosophy of the Social Sciences. New York, Macmillan, 1968.
- Wilson, B. 'The Teacher's Role: A Sociological Analysis', British Journal of Sociology, 13, 1962.
- Young, T.R. & Beardsley, P. 'The Sociology of Classroom Teaching: A Microfunctional Analysis'. J. of Ed. Thought, 2:38, 1968.
- Zetterberg, Hans L. On Theory and Verification in Sociology. Bedminster Press, 1963.