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TERRITORIALITY
IN
EDUCATIONAL SETTINGS

A Thesis presented in partial fulfilment
of the requirements for the degree of
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A B S T R A C T

The concern of this thesis was territorial behaviours in classroom settings, namely:

1. The teacher's use of geographic space, and
2. Verbal interaction patterns resulting from teacher - pupil exchanges.

One expectation held was that the teacher would occupy a particular location in preference to all other areas. Another expectation was that the centre of the classroom would be the focus for interaction between the teacher and pupils, with diminishing numbers of verbal exchanges toward the outer edges of the room. The effects of changing the pupils' location was also investigated it being thought that following such change the number of interactions received by the pupils would vary considerably.

Observations were made in two classrooms and data collected. A trained Observer recorded the teacher's use of classroom space and the pupil 'targets' of all verbal exchanges between teacher and individual pupils. The verbal behaviour of the teacher was recorded and later encoded into five qualitative categories.

Analysis of these data revealed that:

- (a) both teachers occupied the centre front of the room in preference to all other areas.
- (b) the distribution of verbal interactions by the teachers was uneven, and

(c) the changing of pupil location had inconclusive effects upon the numbers of verbal exchanges they participated in.

The teacher's verbal behaviour, when considered qualitatively, was found to be little affected by the position occupied by the teacher and was democratically distributed over the classroom.

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
CHAPTER I ... Review of the Literature ...	5
CHAPTER II... Theoretical Outline for Territoriality in Classrooms	14
Types of classroom territory - public p 15; home p 16; interactional p 18; body p 22; Territorial encroachment - violation p 23; invasion p 24; contamination p 24; Reactions - turf defence p 25; insulation p 26; linguistic collusion p 26; Functions of territoriality p 27; Areas Investigated - teacher location p 32; mutual interactional territories p 32; Hypotheses p 33.	
CHAPTER III Methodology	34
Settings and subjects p 37; design p 39; procedure with regard to teachers p 39; procedure with regard to Observer p 40; procedure with regard to tape recordings p 41; statistical tests p 44.	
CHAPTER IV Discussion of Findings	48
Teacher home territory p 49; relationship wedge p 54; teacher locational vis-a-vis pupil preferences p 61.	
CHAPTER V Conclusion	74
teacher location p 74; teacher targets p 78	
Appendix 'A' - Record of Mutual Interactional Territories established	82
Appendix 'B' - Statistical comparison of the variability between 'pupil' scores vis-a-vis 'desk' scores	83
BIBLIOGRAPHY	85

LIST OF FIGURES

		Page
Figure 1	Outline of Classroom settings	38
Figure 2	Teachers' location as indicated by mutual interactions	52
Figure 3	Teachers' use of classroom space	53
Figure 4	Percent of mutual interactions from side territories	53
Figure 5	Variability of scores for particular pupils and desks over the two observation periods.	63
Figure 6	Qualitative descriptions of Teachers' Verbal behaviour	66
Figure 7	Teacher Territories and associated categories of verbal interactions (Room 'A')	68
Figure 8	Teacher Territories and associated categories of verbal interaction (Room 'B')	69
Figure 9	Locational distribution of teacher's verbal behaviour - qualitative (Room 'A')	71
Figure 10	Locational distribution of teacher's verbal behaviour - qualitative (Room 'B')	72

LIST OF TABLES

		Page	
Table	I	Mutual Interactions established for classroom territories	49
Table	II	Percent of mutual interactions by territories for Room 'A'	51
Table	III	Percent of mutual interactions by territories for Room 'B'	51
Table	IV	Numbers of verbal exchanges between the teacher and group locations (Room 'A')	55
Table	V	Area of groups and interactions to groups - Room 'A'	56
Table	VI	Interactions between groups and teacher when the teacher was standing centre front (Room 'A')	57
Table	VII	Changes in interactions received following locational change (Room 'A')	58
Table	VIII	Numbers of verbal exchanges between the teacher and group locations (Room 'B')	59
Table	IX	Area of groups and interactions to groups (Room 'B')	59
Table	X	Interactions between groups and teacher when the teacher was standing centre front (Room 'B')	60
Table	XI	Percent of teacher verbal interactions to end vis-a-vis middle locations	64
Table	XII	Percent of mutual interactions for each verbal category	65
Table	XIII	Teacher territory and percent of verbal interactions per category	67

I N T R O D U C T I O N

For some considerable time, research workers in the field of teaching have been concerned with teacher effectiveness. The dominance of this concern has been reflected in many reviews and summaries on teaching (e.g. Watters 1954; Mitzel 1960; Ryans 1960; Flanders 1970 etc.) The paradigm that has dominated such research has been called the "criterion of effectiveness" paradigm (Gage 1963) which involves for the researcher the following general strategy:

1. Identify and select a criterion of teacher effectiveness which becomes the dependent variable, then
2. measure ramifications reflecting this criterion and
3. measure the potential correlates of this.

The paradigm is basically an input-output one with the intervening process largely ignored. However despite numerous such studies following this organisation (e.g. Mitzel 1960; Ryans 1960) the yield has lacked consistency and educational meaning.

More recently, commentators have suggested that the kind of research undertaken has been inappropriate for the purpose in mind. Thelen (1962), Biddle (1965) Adams (1965, 1967) and others state that a way out of the input-output impasse lies in the study of the "process" of education, thereby viewing the classroom group as a social milieu in which instruction and learning occur. This view adds up to a much more complex process than has previously been employed

because classroom processes are complex. They comprise a dynamic interaction of learner and teacher, the content to be learned and the artifacts of the educational setting.

Despite the complexity of the classroom situation however, in recent years this viewpoint has been heeded. Research into the "real" world of the classroom has increased and books are now appearing which focus exclusively upon this context. (c.f. Jackson 1968; Adams and Biddle 1970). This suggests that knowing about what is actually happening in the classroom may lead to a better understanding of how the learning process is promoted and hence how it may be controlled.

Predictably then, empirically-based knowledge about contextual influences on education is beginning to accumulate. For example, Barker and Gump (1964) demonstrated relationships between school size and pupil participation, Corwin (1966) showed relationships between organisational characteristics in schools and the professionalism of its teacher staff, while Fraser (1967) demonstrated that school characteristics predicted to teacher happiness and commitment. Within the classroom Adams (1965) discovered that nearly seventy per cent of all verbal exchanges occurred in a narrow band that extended from the centre front of the room directly towards the centre back. He also discovered that, within this band, the closer the pupil is to the front of the room the greater the likelihood that he will be involved directly in the verbal action

of the classroom. Loflin¹ has noted the teacher's mode of address to pupils changes with physical distance from each other. Pupils near the front tend to receive terms of endearment while those toward the rear tend to be addressed more formally and impersonally. Adams and Biddle (1970) found evidence of the coercive influence of the classroom environment with respect to teacher location and pupil participation. Some of the findings of this study are described in greater detail later in this paper.

Descriptions of environmental factors which influence classroom behaviours raise the problem of explanation. In the present study "Territoriality" has been used as an organising concept to describe and explain the use of space by classroom inhabitants. However, the patterned use of space in this context is not attributed to innate behavioural tendencies, the view shared by many ethologists. (c.f. Ardrey 1967). Instead the territorial aspects of behaviour are seen to reflect cultural influences whereby forms of behaviour have been developed in accordance with norm and convention.

The present paper attempts to examine one potential source of explanation ... but one that has been given greater credence by ethologists. In their investigations of bird and fish behaviour (e.g. Howard 1920; Noble 1939; Tinbergen 1951) they have found the concept of territoriality useful. It is not impossible that the concept has relevance for the explanation of human

behaviour in general and perhaps classroom behaviour too. Consequently this paper discusses some possible relationships between territoriality and classroom behaviour. An outline of the organisation of this thesis follows:

Chapter 'one' reviews some of the interpretations of territoriality found in the literature. The discussion is primarily concerned with the two major interpretations given, namely, "geographic" space and "personal" space. Chapter 'two' outlines the "territorial" characteristics of classroom behaviour. Four types of territory are described, the forms of encroachment and possible reactions to these are given. In Chapter 'three' the methodology for the empirical investigation is described and three hypotheses stated. Chapter 'four' presents the findings of this investigation and the summary and concluding discussion are given in Chapter 'five'.

Footnote.

1 Loflin: personal communication

REVIEW OF THE LITERATURE

Surprisingly, little is known about the way people use space. The closest that social science comes to it, is the study of the distribution of social classes, economic institutions and mental illness. Such demographic studies tend to be broad in concept and descriptive in approach. An almost unexplored area is microecology, or the way that people in small groups arrange themselves.

Historically, the emphasis of research about the social use of space has been on animal behaviour other than human. But as Carpenter (1958) points out, in a review of the concept Territoriality, even here the available information is limited, unsystematic and qualitative. Studies and observations of territoriality he says are largely in the pre-experimental stage.

Predictably some ambiguity has resulted from the use of such an encompassing concept of space. For example in the studies of Altum (1868), Howard (1929) Hediger (1950) and Von Uexkull (1959) "space" has two different meanings. The more familiar of these refers to space in the geographic sense i.e. space as area. It is most commonly discussed with reference to the animal's territory or home.

Among the many definitions of territoriality are those of Heape (1931), Tinbergen (1936, 1950), Noble (1939), Carpenter (1950) and Hediger (1950). The definitions are based in great part on bird behaviour and even for ethologists perhaps, do not reflect the complete range of variability of most

species. The concepts are especially deficient in descriptions of the main characteristics and variations of the territorial behaviour of vertebrates other than birds. Territorial behaviour has great variations. These are related to differences in species and their habits to seasons and climates, to population pressures (Calhoun 1958), to social organisation, to fluctuations of food supplies, to predation and many other factors (Carpenter 1950). Hence brief descriptions of territoriality for vertebrates cannot represent accurately the common denominators of the behaviour or the kinds and degrees of most variations.

For Carpenter, territoriality is conceptualised in two ways - as a geographic phenomenon and as a behavioural phenomenon. According to Carpenter those processes that are called territorial behaviour are actually higher order, complex behavioural systems which are based on a plurality of sub-systems. For example, territorial behaviour relates to the beginning or terminal phases of migratory responses. Also involved is the complex behaviour of possession and guarding areas of space. There are many elements of selective and discriminatory responses. Complexes of reproductive behaviour relate centrally to territoriality. Attack, encroachment and defence constitute important elements of the concept and so do challenge, vocalisation, song and other display or signalling activities. The vast range of activity concerned with foods and feeding - the search for food - securing,

hoarding and protecting it - are also parts of territoriality. Such behaviours stress that territoriality is a social phenomenon involving flocks, pairs, groups or herds. For Carpenter the central concern is one of gaining an understanding of the 'perceptual-cognitive maps' or behavioural systems of animals which would be a more accurate representation of territorial behaviour than merely geographic or physical space maps. His view of territoriality is primarily that of a behavioural system which is expressed in a spatial-temporal frame of reference.

The second way in which the term 'space' is used can be called the personal space of the organism. Although it has its roots in the work of zoologists and ethologists, it is a different concept from that of territory. Personal space is the distance that the organism customarily places between itself and other organisms. This distance may vary from species to species, and individuals to individuals. Hediger speaks of this as 'flight-distance' and has measured it for hundreds of animals.

The concept of personal space can be distinguished from that of territory in several ways. The most important difference is that personal space is carried around while territory is relatively stationary. The animal will usually mark the boundaries of his territory so that they are visible to others, but the boundaries of personal space are invisible. Personal space has the body as its centre while territory does not. Often

the centre of territory is the home of the animal. Animals will usually fight to maintain dominion over their territory but will withdraw if others intrude into their personal space.

Both concepts, territory and personal space have appeared in the literature in areas other than biology and zoology. Increasingly, efforts are being made to explore the behaviour of man in the light of the knowledge regarding other animal species. Ardrey (1967) in 'The Territorial Imperative' attempted to draw from biology some conclusions concerning human territory:

"I submit that the continuity of human evolution from the world of the animal to the world of man ensures that a human group in possession of a territory will behave according to the universal laws of the territorial principle". (P. 252).

With reference to man's antagonism, hostility, warfare and gangs and to man's postulated needs for stimulation, security and identification, Ardrey attempts to support the universal application of the territorial principle.

The social science has shown an increasing interest in territory in recent years. The concept of territoriality was first introduced into social science in the nineteen hundred and twenties under the aegis of the ecological school. Closely associated have been Park, Burgess and McKenzie (1925) Quinn (1950) and Hawley (1950). Both W.F. Whyte (1943) and F. Thrasher (1922) have studied the territories of

adolescent gangs. W.H. Whyte has also studied the groupings of people within a housing development. Probably the most intensive investigation thus far has been that of Barker and Wright (1957). This study, of psychological rather than sociological ecology, described the behaviour and living conditions of the children of Mid West in terms of 'episodes' and 'settings'. This pioneer study served to describe the action and interaction of groups of children and their penetration into behaviour settings. Of equal importance to the findings was the development of observational and study methods suitable to human ecology.

The concept of personal space has also been seen to have relevance for the study of human behaviour although it has seldom been studied empirically. It seems obvious that people feel uncomfortable when they talk to others who either stand too close or too far away. D. Katz (1937) used the term 'personal space' and compared it to the shell of a snail. Von Uexkull used the analogy of people surrounded by 'soap-bubble worlds'. Stern (1938) developed the concept of 'personal world'. He noted that the physical world was without a centre but the personal world had a natural centre from which and toward which everything pertaining to it expands. This centre is the person himself about whom the personal world is orientated. Stern's analogy to the 'snail shell' of Katz and the 'soap-bubble' of Von Uexkull was to describe the 'personally near' as an 'aura' surrounding the person.

The rules of communication boundaries are difficult to explicate. It would seem that certain expectations are held about physical boundaries. For example, walls or windows usually provide inviolate boundaries. Similarly, participants in a situation where there are bystanders modify their interaction accordingly, clearly indicating who may be permitted in the network. There is an obligation on the part of both participants and bystanders to act as if the encounter was physically cut off from the rest of the situation, the participants following the accepted rules of conversation, the bystanders by showing civil inattention and refraining from exploiting the encounter.

One of the very few empirical studies on personal distance is that of Robert Sommer. He undertook several investigations of personal distance using schizophrenic and non-schizophrenic subjects. The studies were designed to discover the ways in which people will arrange themselves when they are interacting. For small groups he found that there was no simple relationship between distance and communication. The trend in all his data was for higher interaction between occupants of neighbouring chairs, particularly when positioned across the corners of a table.

Only very recently have social scientists revived ecological thinking to include such an interactional dimension. Anthropologist Hall has been the major contributor to the field. In the 'Silent Language' (1959)

Hall states that "what people do is frequently more important than when they say". One needs to know more than the formal language of a given group in order to fully comprehend its way of life. Differing cultures use space differently. The dimensions of geographic space (territory) are ordered in particular patterns while personal space is manipulated to give tone and meaning to communications. What is considered to be a 'normal' conversational distance in one cultural context may well be interpreted as offensive behaviour in another culture. The theme of both territory and personal space and man's perception of it Hall further elaborated in 'The Hidden Dimension' (1966) drawing upon the work of zoology for illustrations and justification of the concepts.

Outlining what they describe as a 'neglected sociological dimension' Lyman and Scott (1967) combine the concepts of both territory and personal space in a descriptive study of human behaviour. The authors begin by distinguishing four types of territory. Public territories are those areas where the individual has freedom of access but not necessarily of action by virtue of his claim to citizenship. Home territories are areas where regular participants have a relative freedom of behaviour and a sense of intimacy and control over the area. Interactional territories refer to any area where a social gathering may occur while body territories include the space encompassed by the human body and the anatomical space of the body.

Three types of territorial encroachment (violation, invasion and contamination) and several reaction patterns (turf defence, insulation and linguistic collusion) are described and reciprocal relationships between the territorial types are suggested. Finally, explaining that certain groups, spatially deprived of free territory, develop means of modifying their inner space, the authors offer some observations about lower-class urban Negro youth. This study is of interest for its illustration of an interactionist approach eschewed by the early ecological school.

References to either territory or personal space within the research literature on education are rare. There appear to be no theoretical positions upon which systematic investigations of classrooms has been based in an attempt to elaborate these twin concepts. Only three studies have come to the attention of this writer. Adams and Biddle (1969) discovered as an unanticipated finding that classroom participation is associated with the locations of the actors. Teachers inhabit the front of the room except for rare occasions. Pupil 'Emitters' tend to be located in the centre front of the room, whilst the teachers 'target' area was found to be almost identical. Surprisingly, this central action zone was found to exist in the rooms of all grade levels studied.

Richardson (1967) in a descriptive study of furniture, type and position suggested that the arrangement of classroom desks symbolises the

helplessness of the dependent pupils and the antagonism of the flight-fight basic assumption (Bion). Inferred in this study is that changes in the visual patterns of classrooms brings about corresponding changes in the relationships of the inhabitants.

Jones (1967) has applied the ethological methods of observation and interpretation to the behaviour of children in nursery schools. Attention was given to the relatively constant 'action-patterns' as exhibited by the children, such as responses to the teacher, responses to strangers, responses to visiting parents and rough and tumble play. The clustering of these patterns into several different groups was commented upon. Whilst this study was a provisional descriptive account the Author suggested that the methodology of ethology "is capable of generating useful insights into behaviour that allow comparisons of the same kind of data about man that is available from the study of other primates". Perhaps what the study does suggest is that the benefits of ethological study within the educational situation have yet to be adequately evaluated.

CHAPTER II
THEORETICAL OUTLINE FOR 'TERRITORIALITY'
IN CLASSROOMS

This chapter discusses the 'territorial' character of classroom settings. Specifically, it describes how 'geographical' and 'personal' space is used and comments on relevant norms. Four types of territory within the classroom are described, the forms of encroachment and reactions to these patterns are given, and some functions of territoriality are suggested. Hypotheses are generated about the direction, rate and extent of changes in behaviour that follow changes in spatial relationships.

TYPES OF CLASSROOM TERRITORY:

The existence of territorial behaviours has been established and documented for many animal species. Many variations of such behaviour have been described - e.g. the possession and defence of territory, its relationship to food supply, sexual activities and challenge and display behaviours. The behaviour of man also reveals elaborated forms of territoriality with respect to both geographic and personal space. Lyman and Scott¹ (1967) have suggested a set of organizing concepts for classifying the territorial aspects of man's behaviour as exhibited in general social settings. (See Chapter I pp. 11)

As territorial behaviours are evident in man it may be assumed they are also observable within the classroom setting. The general categories of

Lyman and Scott are used here in modified form for the specific setting of education. Four types of territory can be distinguished, namely:

Public Territory
Home Territory
Interactional Territory
Body Territory

PUBLIC TERRITORY:

Within this fourfold categorisation the classroom may be seen as a Public Territory. The 'public' criterion is met when individuals have freedom of access as of right. It should be noted however that although individuals have freedom of access, they do not necessarily have freedom of action. The classroom is officially open to all, but certain expectations concerning the appropriateness of behaviour for the various inhabitants control the behaviours that occur there. Discussion of these expectations follows.

Firstly, it is expected that illegal behaviour will not occur in public territory. Negative restrictions are placed upon excessive physical and verbal behaviour by participants and defacement or removal of artifacts is prohibited. Since public territories are vulnerable to violation in these respects, 'policemen' are charged with the task of removing transgressors from the scene or restricting their activities. Commonly it is the teachers who enforce such rules although delegation of authority is sometimes entrusted to particular pupils.

Secondly, certain categories of persons are

accorded only limited access to and restricted activity in public territories. It is expected, for instance, that pupils will not play in such areas outside of certain fixed times, that administrators will not be found in classrooms without the knowledge of teachers, that other teachers will not loiter in their associates' rooms without their approval, and that caretakers or incumbents of similar ancillary positions will be in attendance only in pursuit of their legitimate duties.

Since, for members of such divergent groups, to use these territories sometimes contradicts the privileges accorded them as persons, public territory frequently becomes the testing ground for challenges to authority. Particularly is this so for pupil members who may occupy public territory in defiance of formal restrictions. Sit-ins and demonstrations represent extreme examples of such challenges.

Public territories are to this extent ambiguous. The official rights of access by members may be negated by local customs. Again, status discrepancy can modify rights of entrance and activity. So does tenure in the organisation: increasing length of membership tends to permit greater freedom of both activity and entrance.

HOME TERRITORY:

The home territories of classrooms are geographically and behaviourally defined areas where the regular participants have a relative freedom of

behaviour and a sense of intimacy and control over the space. From the two formal status positions - teacher and pupil - of the regular participants derive two main categories of home territory. For example, the teacher's home territories tend to comprise the area immediately forward of her blackboard and the areas occupied by her desk and cupboard. Pupils' home territories may be 'collective' such as the space surrounding book or nature tables, or they may be 'individual', the most common instance being each student's own particular table and chair.

Home and public territories may be easily confused. In fact the areas of public places and the areas of home territories are not always clearly differentiated in the social world and what may be defined and used as a public place by some may be defined and used as a home territory by others (c.f. Cavan 1963). Large areas of space normally used as public traffic thoroughways may be 'staked out' by a group of members for use as a home territory for the duration of a particular type of activity. For example the activity undertaken may indicate to all that a certain space has become a temporary home territory for a group of girls, whereupon a boy would feel outraged if invited to participate. When a teacher allocates public territory for some form of group activity over a specific duration of time he in fact becomes sponsor of a form of home territory.

INTERACTIONAL TERRITORIES:

Interactional territories refer to any area where a social transaction may occur. Two major categories of transactions are discernable; both involve the exchange of information. The first explains the linguistic form conventionally used in that setting. The second explains some other non-verbal symbolic system for information transacted e.g. glances, postures or gestures. Both forms of transaction might be termed 'embodied' or 'disembodied' depending upon whether it is by means of current body activity or via indirect channels such as written messages or other secondary channels of communication (c.f. Goffman 1963). In the present paper reference is restricted to those interactional territories concerned only with linguistic transactions of the embodied kind.

During the exchange in the face-to-face setting any verbal message an individual sends is likely to be modified by much additional information that others perceive from him simultaneously. However while verbal exchanges mainly occur in sequence - turns are taken - non-verbal messages are not subject to the same restraint. Characteristically, each verbal sender is himself a non-verbal receiver, at the same time each receiver is similarly a sender. An important implication is that sight takes on a special function - each giver can see he is being influenced in some way and he will guide at least some of his conduct according to the perceived feedback from his audience.

Cooley and Mead refer to this as the special 'mutuality' of immediate social interaction. This experiencing of 'one' and 'other' in an interactional territory varies according to the physical distance involved and the presence or absence of physical obstructions. The full conditions of copresence demand that the persons be close enough to be perceived in what they are doing, including their experiencing of others.

Surrounding any interaction is a boundary, sometimes physically discernable but more commonly is a tacitly accepted 'invisible line', a kind of social membrane. The total classroom population is an interactional territory although its boundary is also defined concretely. But within the classroom there are other interaction territories where particular groups of participants form clusters within the situation for exchanges of one kind and another. For each interactional territory established there is made an implicit claim of boundary maintenance for the duration of the interaction. Access and egress are governed by rules understood, though not necessarily officially promulgated by the members.

Although interactional territories are characteristically mobile and fragile it is possible to differentiate two major interactional territories within the classroom. The first may be termed a Social Interactional Territory. In the classroom social interactional territory all members are potential participants in the interaction process. Characteristically,

conversation proceeds so that one person talks at a time and all members attend to the same conversation (Jackson 1968; Adams and Biddle 1970). In this sense the class members have a 'single focus' (c.f. Bales 1951). Typically a social interactional territory is established by the teacher when she takes responsibility for guiding the activity, sustaining order and terminating the event.

The second type of territory is established when a group of actors maintains a 'secondary focus' in the class situation. Characteristically those outside the group are unengaged bystanders to the unit of interaction which may be termed an encounter. Such encounters create a 'Mutual Interactional Territory'. Within the classroom such territories are frequently between two participants, commonly the teacher and a pupil. Typically an encounter will exhaust the situation. Sometimes an encounter has a markedly instrumental nature as when the teacher pauses at a pupil's desk to help him for a moment. Adams and Biddle (1970) in their study call such social systems peripheral groups.

It appears that in our society interactional territories follow spatial conventions. Hall has described four spatial dimensions which are situational properties of territoriality.² If caused to sit more than a few feet away because of furniture arrangements, individuals find difficulty in maintaining informal talk (c.f. Sommer 1962). However,

brought together within less than eighteen inches, difficulty is experienced in talking directly to each other and the tendency is to 'talk-off' at an angle (c.f. Hall 1959).

It would be expected that many encounters between the teacher and any one pupil would occur whilst the teacher occupies the frontal area of the classroom. (c.f. Adams and Biddle 1970). The spatial arrangements observed in such encounters may well emphasise the differential distribution of rights and obligations and it is possible that a 'Relationship Wedge' is created between the teacher and pupils. For those pupils seated close to the front of the room one kind of bond of mutual obligation is established, an implicit communication contract. For those further away the contract is different - less intimate. The two possible outcomes of such a state of affairs are:

1. that the teacher uses this Relationship Wedge to further her claims upon the pupils involved with the result that the number of communications are greater among those who are in close proximity;
2. territoriality acts not only in the interest of the teacher but also as a restraint against the teacher in the interest of the group.

The teacher, to honour the rights of others and not exploit their accessibility is obliged to release them on occasion and direct her attention to others outside the Relationship Wedge.

BODY TERRITORIES:

Finally there are body territories which include the space encompassed by the human body and the anatomical space of the body. Reference to this territory is often described as 'Personal Space'. It is the most private and inviolate of territories belonging to an individual. Rights of others to touch one's body are firmly regulated by both formal and informal norms within the classroom.

Personal space is however subject to both creative innovation and abuse. Pupils are often seen to adorn their bodies with various markings and ornaments of dress reflecting peer-group norms. The teacher also regulates the personal space of the pupils, sometimes for signifying a status mark or reward, sometimes as a censure when certain items of apparel are removed or parts of the body are struck.

TERRITORIAL ENCROACHMENT IN THE CLASSROOM:

The nature of the classroom setting almost ensures that territorial encroachment will occur. In the first place, the physical space is small relative to the number of participants. In the second, physical arrangements and material artifacts condense further the amount of free space available. Then again the pupils, because of their incomplete socialisation, often violate norms of interaction. The teacher is thus constrained to act but the unequal distribution of power in the classroom allows the teacher when acting to ignore the territorial rights of others ---

often without giving explicit justification for her actions. Situational factors such as these give rise to three common forms of territorial encroachment; violation, invasion and contamination. Each is discussed below.

VIOLATION:

Violation of a territory is unwarranted use of it. Violators are those who have repulsed or circumvented those who would deny them access and thus become, by virtue of their actions, claimants in some sense to the territory they have violated. Their claims however, may vary in scope, intensity and objective.

Violation of public territory has already been referred to. Certain expectations of behaviour and access rights for various groups are firmly regulated with respect to the freedom of public territory. It is when the class is in 'session' and the public nature of the territory becomes a secondary concern for the participants, that violation of home, interactional and body territories is most frequent. Thus children may be observed making unwarranted use of the home territories of others, perhaps by observing what are intended to be behaviours private to the inhabitant. Interactional territories are violated when one or more of the legitimate interactors behaves out of character. Such verbal behaviours include shouting or whispering and other forms of 'rudeness' which are commonly witnessed in the classroom. The inappropriate body postures or use of the body to embarrass or harass others are

examples of violation of personal space.

INVASION:

Territory is invaded when those not entitled to entrance or use never-the-less cross the boundaries and interrupt, halt or change the social meaning of territory. Mostly commonly it is the teacher who provides the models for such behaviours when she invades pupil territory. She may change both the location and nature of activity, prohibit or direct the nature of interactional territories and arbitrarily interfere with the pupil's personal space. For a misdemeanour a pupil may be moved from his desk to a corner of the room and a symbol attached to his body to publicise his disgrace. Because of her formal authority such acts are not regarded by the teacher as invasions of territory although the question of legitimacy is often problematic. However, because it has no formal legitimacy similar pupil behaviour is seen as invasion. The eviction of others from their home territory, defacement of the teacher's desk or board or other similar punitive behaviours are examples.

CONTAMINATION:

Contamination of a territory occurs when its customary definition and usage are changed by external force. The folk-lore of childhood contains many examples e.g. contamination of territories and their symbols because of use by the opposite sex. The public nature of the classroom may be temporarily denied, for example, during a fire drill. Home territories may

be contaminated by the destruction of the 'home' symbols. Pupils may disown or destroy their home territories should they be defaced or abused by other pupils or the teacher. Interactional territories are rendered impure should an interactant use indiscreet or inappropriate language. Identification with the aberrant language constitutes a reduction in status. Similarly, whenever the body is polluted, personal space becomes contaminated. The presence of bodily secretions is seen as offensive and is removed by the ritual of washing. The use of combs, handkerchiefs or clothing belonging to others is rejected because of fear that contamination of personal space will follow. Body space is also vulnerable to the look, smell, touch and proximity to contaminated persons or things. The rules regarding touch are highly elaborate. Typically self-manipulation of certain areas of body territory are prohibited whilst the touching of others is guided by rules which are clear indicators of social distance. The teacher may touch the pupils but suspicions of sexual immorality modify such contacts.

Contacts which threaten the destruction or fundamental alteration of territory are defined as encroachments. Under these conditions the proprietors of territory are likely to react in terms of turf defence, insulation or linguistic collusion. These forms of reaction are discussed below.

TURF DEFENCE:

Turf defence is a response necessitated when the intruder cannot be tolerated. Examples from the

classroom are numerous and often teacher initiated. Pupils are ejected from the classroom or removed from home territory for misdemeanour. However mere intrusion can be met with this response. Teachers frequently are observed to propel pupils bodily away from the front of the room to areas less central to teacher activity. As well, pupils defend their home and body territories by engaging in physical combat to repel the invader. Turf defence is an ultimate response however. Other more subtle repulsions are available to the occupier who wishes to maintain territorial control.

INSULATION:

Insulation is the placement of some barrier between the occupant of territory and potential invaders. Thus certain territories are designated as being 'out of bounds'. Children may not leave their seats, may not use the book table, may not leave the room, may not talk and thus violate the 'silence' norm so often promulgated. Because of the large number of participants and the restricted area of free space, rules are made to insulate both body and interactional territories. Inevitably this 'second curriculum' of the classroom intensifies the temptations for violation and intrusion. (c.f. Jackson 1967). In her home territory the teacher often claims the insulation right of inattention to pupil behaviours... that is until their violations become excessive.

LINGUISTIC COLLUSION:

Linguistic collusion involves a complex set of processes by which the territorial integrity of the

of the group is reaffirmed and the intruder is labelled as an outsider. For example, pupils may engage in conversation and gesture employing their peer group idioms in an effort to set themselves apart from the teacher. A recognised strategy of the teacher is to esculate her use of technical or abstract terminology to defend her personal status in the face of attack from pupils particularly when her 'superior' position is being threatened.

ETHOLOGY AND SOCIOLOGY - FUNCTIONS OF TERRITORIALITY

The basis for the foregoing discussion rests eventually on an extrapolation from ethology and biology. The hiatus between ethology and the social sciences resides in the concepts of evolution and instincts. The major concern of ethology is with the precise study of innate behaviour patterns in animals ... a search hoping to reveal universal patterns of behaviour. Discussion of universal behaviour patterns inevitably deals with instinctual tendencies of both the closed and open variety. The open instinct, a combination in varying portion in genetic design and relevant experience is the common sort in all higher animal forms. In man it reaches a maximum of learning, a minimum of design. Ethology claims that natural selection has permitted man to come out on top ---- he retains genetic resolve while obtaining the diversity of experience. But it is maintained that no matter how open the instinct, no matter how much learning is incorporated, the total influence on individual behaviour will proceed with

very nearly the form of a closed programme as directs the behaviours of say, a beetle or a bird. (c.f. Ardrey 1967).

No information as to how an instinct operates is available to ethology. Links between knowledge of neurophysiology and the knowledge of behaviour have not been made. While logically the last word of biology should be the first word of sociology, this is not the case. The Biological concern is with Darwinism ... and it is the influence of heredity that sociology denies, just as it is the influence of environment which it exalts. Hence the elaborated forms of territoriality in man are attributed to cultural factors - the process of social inheritance.

The heredity-learning question differentiates the study of territoriality in animals from the study of territoriality in man. Although classroom behaviours differ from general social behaviours with respect to their formality and purposefulness, it would be expected that the geographic and behavioural aspects of human territoriality would be elaborated in modified form to suit the specific requirements of the educational setting.

In addition to those functional aspects referred to in the discussion of territoriality (Chapter I pp 6 - 7) ethologists suggest that territory provides for all higher animals; identity, security and stimulation. These concepts have been used in psychology, in particular to describe hierarchical systems of human needs (c.f. Maslow 1964; Erikson 1965). From a sociological

viewpoint there is no need to postulate 'instinctoid needs' but rather these three functions of territory may be seen as components of role performance.

Two elements are central to the description of the functions of territoriality, the 'heartland' and the 'border' of territories. The heartland comprises that space or object which serves as the identification element for the occupant of a particular territory while the border is crucial to the flight-fight or approach-avoidance behaviours under the terms of territorial encroachment and defence.

The literature related to this heartland-border concept gives repeated emphasis to three factors mentioned above, viz, identity, security and stimulation (c.f. Bates 1950; Hediger 1950; Davis 1958; Ardrey 1967). For the occupant, identity and security are associated with the heartland while stimulation is the functional attribute of border activities.

TERRITORIAL IDENTITY, SECURITY AND STIMULATION IN THE CLASSROOM:

The classroom comprises numerous territorial heartlands and borders. The social purposes of the associated behaviours of encroachment and defence may be contained within the framework of identity, security and stimulation. These three elements of role performance are both obvious and subtle. We know for example, that the teacher is expected to transmit some kind of knowledge and skill while the pupil is expected to receive and retain these. But within

the classroom teaching behaviours are also associated with a particular geographic position. The teacher has a home territory with which she is expected to identify. The teacher too, has an expected identity which is re-inforced by manners of verbal behaviour (her own and others) and distinguishing modes of dress. Similar expectations hold for pupil behaviours giving the role incumbents the appropriate social identification and status.

Behaviours associated with territorial heartland, in addition to giving identity to the occupant, may also provide security for role performance. When a threatening situation is perceived the heartland of territory offers security from encroachment and reduces anxiety or strain. (c.f. Eates 1950). Colloquial terms such as 'safe on home ground' refer to the tendency to retreat to familiar positions and ways of behaving to obtain security. Certain classroom behaviours apparently reflect this. The teacher, when wishing to exert her authority, typically assumes the familiar dominating front position and familiar dominating upright manner. A pupil, when caught misbehaving 'out-of-position' often has to be prevented from moving quickly back to his seat before being rebuked. From those familiar with classrooms, many such examples could be cited which are instructive with regard to this function of the territorial heartland.

Stimulation is associated with behaviours at the

border of territories (Ardrey 1967). The multitude of boundaries in the classroom ensures a high frequency of such behaviour. The pupil leaves his chair to wander about the room, the teacher leaves the front of the room to encircle the outer ring of desks (c.f. Adams and Biddle 1970). Possibly the function of such behaviour is the stimulation gained through probing the outer limits of geographic and personal space.

The preceding conceptual outline for territoriality in classroom settings has drawn particularly from the findings of anthropology, ethology and social ecology. Attention throughout has been given to the continuities and similarities between certain basic aspects of animal territoriality and those of human territoriality. Attention has similarly been paid to the connections between territoriality in general social settings and that in the classroom situation. With certain exceptions (Barker and Wright 1954; Sommers 1962; Adams and Biddle 1970) the extrapolations lack vigorous empirical support.

Research clearly indicates that it is the teacher who is the principal actor in the classroom (e.g. Kinney 1952; Swenson and Parton 1953; Fishburn 1955). Also indicated is the high frequency of verbal behaviour within the teaching performance (e.g. Hughes 1959; Flanders 1960). These factors, combined with the findings of Adams and Biddle (1970) determined the choice of two areas for study here:

1. The teacher's use of geographic space.
2. Mutual interactional territories.

Both are dealt with below.

1. TEACHER LOCATION:

The expectation would be that teachers occupy particular locations in preference to other areas (Adams and Biddle 1970). It would also be expected that locational preferences would be associated with particular referents i.e blackboard, desk. The space immediately surrounding these objects would by definition be home territory for the teacher.

2. MUTUAL INTERACTIONAL TERRITORIES:

By definition these territories are defined by the verbal exchanges that occur between two classroom actors (Chapter II pp 20). It would be expected that the distribution of such territories established between the teacher and any one child would reveal a certain locational pattern namely, the central area of the room being the focus for interaction with diminishing numbers of territories toward the outer edges of the classroom. (Adams and Biddle 1970). Possible reasons for this have been discussed with reference to the relation of physical distance and the mutuality of a situation (Chapter II pp 21). To test this expectation the quantitative distribution of mutual interactional territories was measured in two classrooms. A classification of qualitative categories for verbal behaviours was designed. (Chapter III) The recorded verbal behaviours of the teacher were analysed accordingly so that the qualitative distribution of verbal territories could be ascertained.

The final aspect to be investigated was the

influence of locational change upon the numbers of Mutual Interactional Territories established for each pupil in the classroom. It would be expected that following a move to a dissimilar classroom location the number of verbal exchanges received by the pupil would be significantly influenced because of the teacher's territorial preferences.

The specific hypotheses arising from the two areas discussed above namely,

1. the teacher's use of geographic space and
2. mutual interactional territories

are as follows:

- (1a) That the teacher's occupation of the classroom would reveal locational preferences and that the centre front location would be consistently preferred.
- (2a) That the mutual obligation for interaction between the teacher and that group of pupils most centrally located in the classroom would result in the formation of a relationship wedge.
- (2b) That the number of interactions received by each pupil would vary significantly between observation periods, such variability being due to change of pupil location.

The methodology used to investigate these matters is outlined in the following chapter.

Footnotes:

1. Lyman S.M. and Scott M.D. (1967) Public, Home, Interaction and Body Territories.
2. Hall E.T. (1966) Dimensions of Informal Space:
Intimate 0" - 18"; Personal 18" - 48";
Social 48"- 144"; Public 144" plus

CHAPTER III
M E T H O D O L O G Y

There are many natural social settings in which the researcher can employ something like an experimental design. Even though full control over the scheduling of experimental stimuli is lacking some measure of control is nevertheless possible. To this extent the sample observed, the observations made and the context selected can all be subjected to demands of systematicity which are characteristic of true experimental conditions. Such semi-controlled situations can be regarded as quasi-experimental designs. (Campbell and Stanley 1963). Certain extraneous variables may jeopardize both internal validity e.g. history ... events occurring between observation periods; instrumentation ... learning, fatigue etc within the observer: and external validity e.g. interaction effects involving X and some other variable. The quasi-experimental design outlined below was adopted because the conditions observed were not susceptible to rigorous experimental control. The inherent limitations of the methodology (Campbell and Stanley 1963) are recognised and acknowledged.

Given the research focus the initial task was to obtain access to some classroom settings. An approach was made to the Headteacher of a Grade VI primary school in a medium-sized New Zealand town. He was told that the Experimenter's purpose was to observe

1. the use of classroom space by the teacher.
2. the particular locations to which the teacher

- directed verbal communications, and
3. the effects of change of location upon the number of communications received by individual pupils.

The Headteacher made a request of his staff for volunteers to participate in the study. His statement was phrased in generalized terms e.g. a student wishing to observe classroom behaviours and routines. At no stage was the intended purpose revealed to the staff of the school. In response, two female teachers of Standard One classes volunteered. Both teachers had over four years of certificated experience. Each had had vicarious experience of University studies (their husbands' had had direct experience) and their interest stemmed in part from this fact. They viewed the observations to be made as a welcome break in classroom routine.

The Experimenter met these teachers to explain the demands he needed to make of them i.e. there would be an observer present, they would have to wear a radio microphone, they would be tape recorded etc. They were given assurance (corroborated by their Headteacher) that the study was not concerned with evaluation of teacher or pupil achievements. This, together with the knowledge that all results would be given them, seemed sufficient to allay any suspicions the teachers may have had concerning the purposes of the observations.

Arrangements were made to conduct observations during mathematics lessons taken at almost consecutive

times ... 10.45 a.m. to 11.30 a.m. in one room, 11.15 a.m. to 12.00 noon in the other room. This allowed the Observer to record for thirty minutes in each room with sufficient time to move the equipment between rooms during the 'overlap' period.

The teachers allowed the Experimenter to standardize the positions of the desks (checked each day) and to control the seating pattern of the pupils for a three week period. Unknown to the teachers the classroom floor space was divided into nine equal areas to facilitate the recording of teacher position.

A trained Observer was used for the study. She had had previous teaching experience. Prior to the experiment she

- (a) memorised the seating position of each pupil and the classification for the floor space.
- (b) learned to assemble and operate the radio microphone, tape recorder and oscillator and how to observe and record the data required.

During the observations, for each verbal communication between the teacher and any one pupil the Observer recorded on prepared sheets:

- (a) the letter representing the geographic position of the teacher and
- (b) the number representing the desk of the appropriate pupil.

She simultaneously operated the oscillator button which superimposed a 'beep' on the tape identifying the teacher's recorded verbal behaviour with the

appropriate locational data.

Two trial periods of one hours observations were made in each classroom. This allowed

- (a) The teacher and pupil to become familiar with the Observer and equipment and
- (b) the Observer to familiarize herself with the procedures.

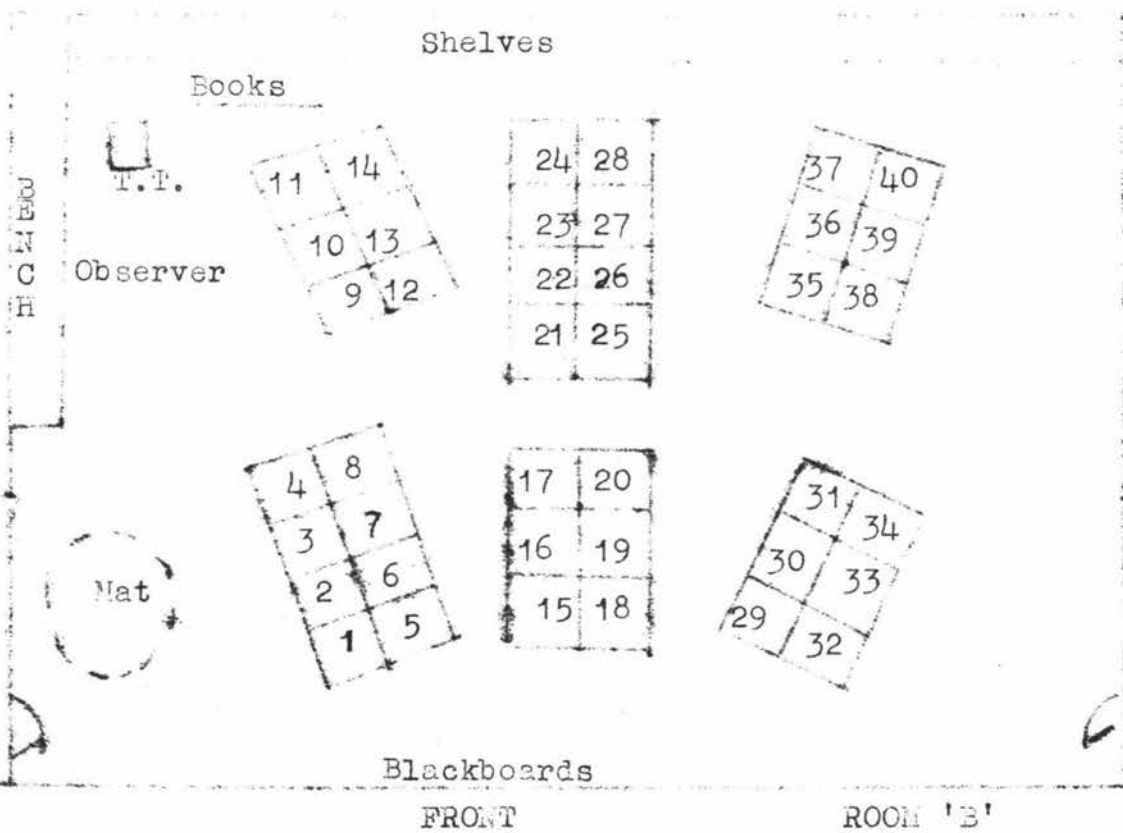
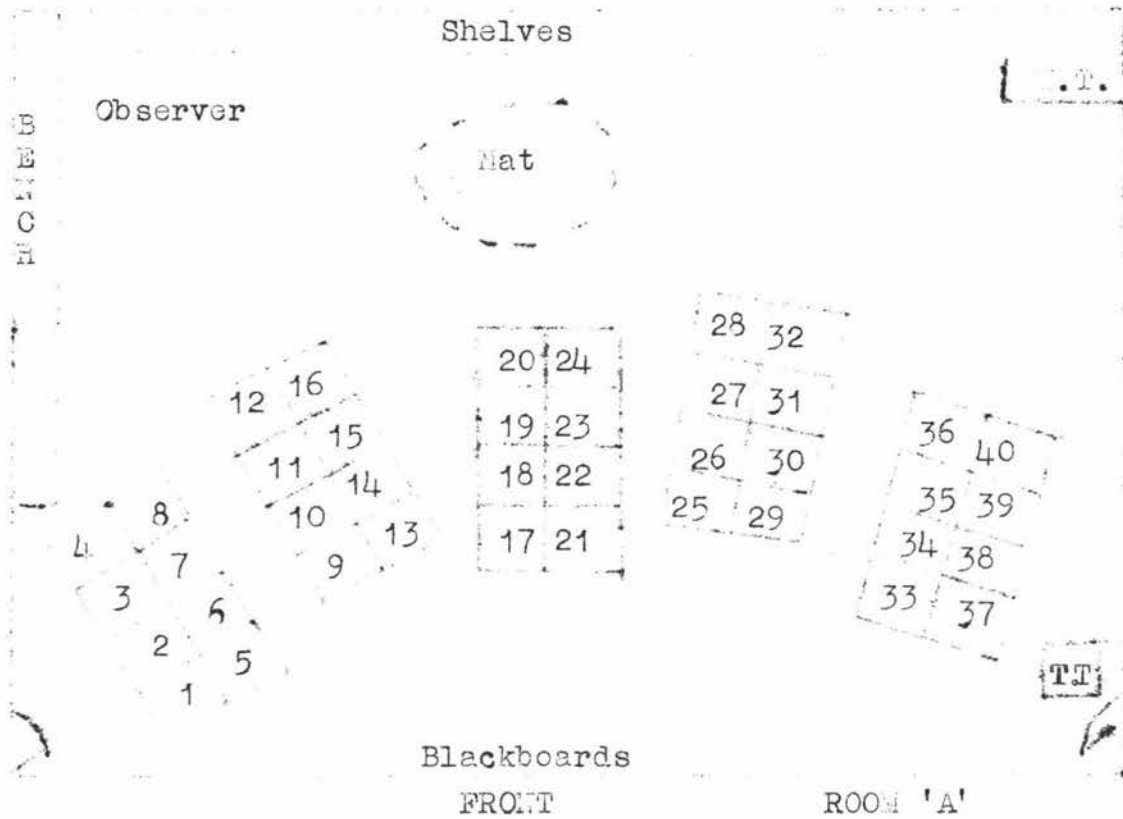
The participants of both classrooms were used to being observed by teachers in training and no difficulties were experienced in these particular trials.

A description of the experimental conditions and design follows:

SETTINGS AND SUBJECTS

Both classrooms in which observations were made were 792 square feet in area and their interiors were basically similar. To support later comparisons of data an attempt was made to equate the positions of desks in both rooms. However this was not achieved and desk arrangements were different. (See Figure I on page 38)

Each room was divided into nine equal areas indicated by appropriate chalk marks, and floor markings were used to hold the location of desks constant throughout the period of the experiment. The pupils in both classrooms were Standard One level and of mixed abilities. Their teachers were female and had volunteered to participate in the 'experiment'.



Key: N.T. = Nature Table. T.T. = Teacher's Table

DESIGN:

For both classrooms the Pretest - Posttest design was employed; $O_1 X O_2$ in which O refers to the process of observation and X represents the exposure of the group to the changed condition.

The observations by a trained observer were made during two periods, each period being five consecutive school days. On each day data were collected during a normal mathematics lesson of thirty minutes. The pupils' locations were changed at the end of the first five day observational period and then held constant for two weeks. In the second of those weeks further observations took place. The week intervening between the observational periods was provided to enable the teachers to become familiar with the adjusted locations of the pupils.

PROCEDURE UNDERTAKEN WITH REGARD TO TEACHERS:

No explanation of the real purpose of the observations was given the teachers. Apart from being told that the Experimenter was interested in the general patterns of classroom behaviour the 'explanation' was presented in negative terms, i.e. the Experimenter would not be:

- (a) measuring teacher efficiency or teacher effectiveness,
- (b) assessing personality traits of either teacher or pupils
- (c) judging pupil attitudes or discipline.

The teachers were asked to conduct their mathematics

lessons in their customary manner. They were to tell their pupils that the Observer was a Teachers' College student who was learning how to use a taperecorder, hence the need for their teacher to wear a radio microphone. At the conclusion of the experiment the teachers completed a brief questionnaire regarding classroom behaviours during the periods of observation. The questions were:

1. Did your class behave as it normally does, over these past three weeks?
2. (a) Were you conscious of the Observer while you were teaching?
(b) If 'yes' - did you modify your behaviour because of the Observer's presence?
(c) If 'yes' - in what way(s)?

PROCEDURE WITH REGARD TO THE OBSERVER:

A general description of the Observer's tasks has been given (Chapter III pp 36). For each Mutual Interactional Territory¹ established, the Observer identified:

- (a) the location of the teacher within one of the nine areas of the classroom (A through I),
- (b) the target area of the verbal interaction (desk positions - One through Forty), and
- (c) the corresponding verbal behaviour of the teacher as recorded on the tape. The latter was done by superimposing upon the tape a short buzzing sound.

The Observer was instructed to enter the classroom

five minutes after the commencement of each lesson and her recording ceased before the lesson ended. This eliminated her having contact with the pupils. A plan of each room drawn to scale was given her to help her with the identification of targets. To assist in the analysis of the tape recordings made, each period of five minutes was indicated by recording three rapid 'beeps' upon the tape. For the purpose of this study the Observer ignored those Mutual Interactional Territories established when the pupil was in a position other than his chair.

PROCEDURE WITH REGARD TO TAPE RECORDINGS:

The social forces at work in the classroom are so complex that it appears on the surface as if any attempt to analyse them would be extremely difficult. The teacher's interaction with children, which is only part of the total social process, seems almost as difficult to identify. Nevertheless, teacher-pupil contacts have been classified into specifically defined behavioural acts by various researchers. (c.f. Flanders 1960).

The present study is concerned with teacher behaviour only. The interest is only in the teacher's verbal behaviour that is directed toward an individual child and not that intended for a group or class of children. The teacher's verbal behaviours were differentiated into three categories:

1. sanctioning behaviours
2. directing behaviours, and
3. assertive behaviours.

The first two of these were further subdivided into negative or positive; five categories resulted. They are:

1. Positive sanctioning
2. Negative sanctioning
3. Positive directing
4. Negative directing
5. Assertive

All categories are mutually exclusive. An account of each category is given below.

1. **POSITIVE SANCTIONING:** Often positive sanctioning is a single word 'Good', 'Fine', 'Right'. The teacher may simply say 'I like what you are doing'. Such sanctioning may apply to the child's expressed emotions and to both task and non-task activities. Essentially it is an experience that reflects a positive valuing.
2. **NEGATIVE SANCTIONING:** This category includes such as 'Stop', 'No', 'You are a naughty child'. A question such as 'What are you doing?' would be classified in this category - with proper intonation the question reprimands the child and returns him to accepted behaviour. Ridicule and sarcasm fall within the scope of this category. Essentially it is an experience that reflects negative valuing.
3. **POSITIVE DIRECTING:** 'Continue', 'Go ahead with what you are saying', 'Tell us more about that idea', are all examples of positive directing. Repetition of a child's response may also be category 3 when this repetition communicates to the child that his answer

is correct and he should continue. 'Collect the books', 'What are two plus two?', 'David', 'Mary' - are further examples of this category. Where the teacher's verbal behaviour both encourages the pupil to further effort and indicates the direction to be followed, category 3 is recorded.

4. NEGATIVE DIRECTING: The teacher is saying in effect 'Do not do what you are doing, do something else'. For statements such as 'Wait your turn', 'Not at present', 'I would not do that but what would happen if.....', category 4 is recorded. This category has some affinity with Kounin's "desist" concept.

5. ASSERTIVE: This category includes all verbal teacher behaviour that is concerned with giving ideas, facts or opinions. Statements as 'The correct answer is ...', 'Sentences begin with capital letters', are possible examples. The presentation of material may be used to introduce, review or focus the attention of the child on an important topic. If the teacher is explaining himself or his authority, defending or justifying himself, the statements are classified as assertive.

The recording of the classroom behaviours studied required the Observer to make two entries for each verbal interaction. Firstly she recorded the area of the room in which the teacher was standing. The nine areas were designated A I. Secondly the Observer recorded the number of the desk at which the particular pupil was seated i.e. One through forty.

To each of these pairs of "scores" was added the numeral representing the appropriate verbal category as encoded from the tape recording. An example of this recording would be: A - 26 - 3/3 where A = the teacher's location; 26 = the location of the pupil's desk to which the teacher directed her verbal behaviour; and 3/3 = the verbal category (positive directing) as assigned independently by two raters. A specimen record of one day's observations is given in Appendix A.

The tape recordings were analysed independently by two persons - the Experimenter and the Observer. Each Mutual Interactional Territory was categorized and the category number recorded alongside the appropriate record of teacher location and pupil location. Reliability of the two encoders was computed as a percentage of agreement for each thirty minute recording. For Room A the reliability was within the range of 85 - 92 percent; for Room B within the range of 87 - 94 percent.

STATISTICAL TESTS:

Listed below are the statistical treatments applied to the data relevant to

1. Teacher location
2. Relationship Wedge
3. Location of Desks vis-a-vis pupils
4. End versus Middle positions

within groups.

1. STATISTIC ANALYSIS FOR TEACHER TERRITORIES

Anova	$X_{ij} = \mu + \mu_i + B_j + \epsilon_{ij}$		
	μ_i	effect of area i	$i = 1, \dots, 9$
	B_j	effect of week j	$j = 1, 2.$
Source	df	ss	$E(2, 5)$
Areas	8	$\frac{1}{2} \sum_i X_i^2 - C$	$\sigma^2 + 2\sigma_x^2$
Weeks	1	$\frac{1}{9} \sum_j X_j^2 - C$	$\sigma^2 + 9\sigma_p^2$
Error	8	by subtraction	C_2
Total	17	$\sum_i \sum_j X_{ij}^2 - C$	

This gave a significant difference between areas so tested difference in individual areas using Tuhey's W test

$$W = \frac{Q \times (n_2 p)}{S \bar{x}}$$

n_2 = error df

p = no. of territories in comparison

$$S \bar{x} = \sqrt{S_e \frac{2}{r}}$$

$\alpha = .05$

2. RELATIONSHIP WEDGE

Formulae for test of H_0 - There is no difference between the number of mutual interactions established for any particular group within the classroom.

Anova	$K_{ij} = \mu + \mu_i + B_j + \epsilon_{ij}$		
	μ_i	effect of block c	$i = 1, 5$
	B_j	effect of week j	$j = 1, 2$

Example from Room A:

Source	df	SS	
Blocks	4	$\frac{1}{2} \sum_i X_i^2 - C$	$\sigma^2 + 2\sigma_x^2$
Weeks	1	$\frac{1}{5} \sum_j X_j^2 - C$	$\sigma^2 + 5\sigma_p^2$
Error	4	by subtraction	σ^2
Total	9	$\sum_i \sum_j K_{ij}^2 - C$	

3. STATISTICAL ANALYSIS FOR LOCATION OF DESKS AND LOCATIONS OF PUPILS

Anova

$$X_{ij} = \mu + T_i + B_j + \epsilon_{ij}$$

T_i effect of i^{th} week

B_j effect of j desk location

$$X_{ij} = \mu + T_i + B_j + \epsilon_{ij}$$

T_i effect of i week

B_j effect of child's location

4. ENDS VERSUS MIDDLE LOCATION

Anova

$$K_{ijk} = \mu + T_i + B_j + \epsilon_{ij} + \delta_{ijk}$$

T_i = effect of i^{th} position $i = 1, 2$

B_j = effect of j^{th} block $j = 1, 2$

K samples $K = 1, 20$

DISCUSSION:

The complexity of the natural classroom setting makes for certain difficulties. The unpredictability of classroom behaviours was one of these difficulties. Children who were absent intermittently or who left the classroom during the observation periods gave rise to incomplete data being recorded for particular locations. Where there was an insufficient basis for accurate predictions to be made such data were omitted from consideration.

Another difficulty experienced concerned the randomizing of pupil location. In both experimental conditions the location of pupils as directed by the Experimenter resulted in certain problems for both pupils and teachers. Some children were unable to see

the blackboard because of taller pupils in front of them. For a few pupils seated on the front edge of the room board work could not be read because of the acute viewing angle. For one teacher, the incidence of two 'problem' children in adjoining locations was a concern. Such difficulties arising from the random distribution led the Experimenter to make small readjustments to the seating patterns for the second period of observation so that classroom management and routines were not adversely affected.

The final difficulty experienced was a technical fault with the radio-microphone on the last day of study. The teacher's verbal behaviours were recorded using three multi-directional microphones which resulted in a recording of impaired quality although sufficiently clear for the purposes of analysis.

No difficulties in recording the teacher's behaviour were experienced. The radio-microphone was sufficiently sensitive to ensure that no item of the teacher's verbal behaviour was omitted. With the Observer being able to listen to an amplification of the verbal transactions a very accurate record of the 'targets' was possible, even when the teacher had her back to the Observer and was leaning over a group and talking to the various individuals within it. Equally accurate matching of behaviour was possible because of the identification

'beep' superimposed upon the tape-recordings,

1. Mutual Interactional Territory: - a verbal transaction between teacher and any one pupil. For full description see Chapter II pp 20)

CHAPTER IV
DISCUSSION OF FINDINGS

From the two classrooms observed, data were collected pertaining to the three hypotheses arising from the theoretical position developed for territoriality in educational settings. (See Chapter II pp 31 ff) That the data might have reflected the influences of the experimental requirements (i.e. presence of Observer and technical equipment) was checked by written questionnaire. The question 'Did your class behave as it normally does?' was answered in the affirmative by both teachers. Both acknowledged that they were conscious of the Observer's presence but denied that this caused them to modify their behaviour in any way. The belief that a 'natural' classroom setting was observed can be held with some measure of confidence.

This chapter discusses the findings as related to each hypothesis i.e.

1. Teacher Territory
2. Relationship Wedge, and
3. The Teachers' locational vis-a-vis pupil preferences.

Also included is discussion of an unanticipated finding namely, a tendency for the teacher to interact more often with pupils seated at the end positions of groups as compared with those pupils seated at the middle positions of such groups. Finally, the qualitative characteristics of the teachers' verbal behaviours are summarized and discussed.

1. TEACHER HOME TERRITORY

The objective was to discover whether the locational behaviours of the teachers could be identified with a 'home' territory i.e. a space occupied and controlled by the teacher in a manner different from all other areas.

The first analysis of the data required the totalling of the number of mutual interactions established for each of the nine areas of the classroom for both periods of observation. They are listed in Table I below:

Classroom Territories	MUTUAL INTERACTIONS			
	ROOM 'A'		ROOM 'B'	
	Time 1	Time 2	Time 1	Time 2
A	15	4	48	57
B	59	109	62	65
C	115	95	75	15
D	32	3	105	114
E	212	136	98	75
F	307	544	329	415
G	15	2	18	11
H	73	10	20	21
I	41	66	17	43

TABLE I - Mutual Interactions established for each territory in classrooms A and B

In the table, marked differences are evident between the numbers of Mutual Interactions established within each territory. In Room A, 869 and 969 interactions were exchanged during observation periods one and two respectively, giving a total of 1838

mutual interactions. Territory F (the centre front) was the location from which the largest number of verbal exchanges occurred, there being a total of 851. The middle of the room (territory E) was the position from which the next largest number of interactions occurred (338 exchanges). In all, 1,168 interactional territories were established between the teacher and any one pupil while the teacher was standing in the front of the room (Territories C. F. I). Relatively small numbers were established from the territories at the side and rear of the classroom.

In Room B a total of 1,588 interactional territories were established, 772 of these during the first observation period, 816 during the second such period. The centre front of the room (territory F) was that location from which the largest number of exchanges took place there being a total of 744. For the centre rear of the room (territory D) the next largest number of interactions (219) were recorded. While the teacher was standing in the front of the room (territories C. F. I) she exchanged a total of 894 verbal messages with individual pupils but from the side territories and the rear corners only relatively small numbers of interactions occurred.

By combining the data for each observation period within each room (differences between periods were found to be not significant) and computing percentage scores for each classroom territory, these differences are even more apparent. (Tables II and III)

Also apparent is the similarity in the use of classroom space by the two teachers (c.f. Tables II and III)

G	D	A
0.92	1.9	1.03
H	E	B
4.52	18.94	9.14
I	F	C
5.82	46.30	11.43

FRONT

TABLE II: Percent of Mutual Interactions by territories for Room A

G	D	A
1.82	13.79	6.61
H	E	B
2.58	10.90	8.00
I	F	C
3.77	46.86	5.67

FRONT

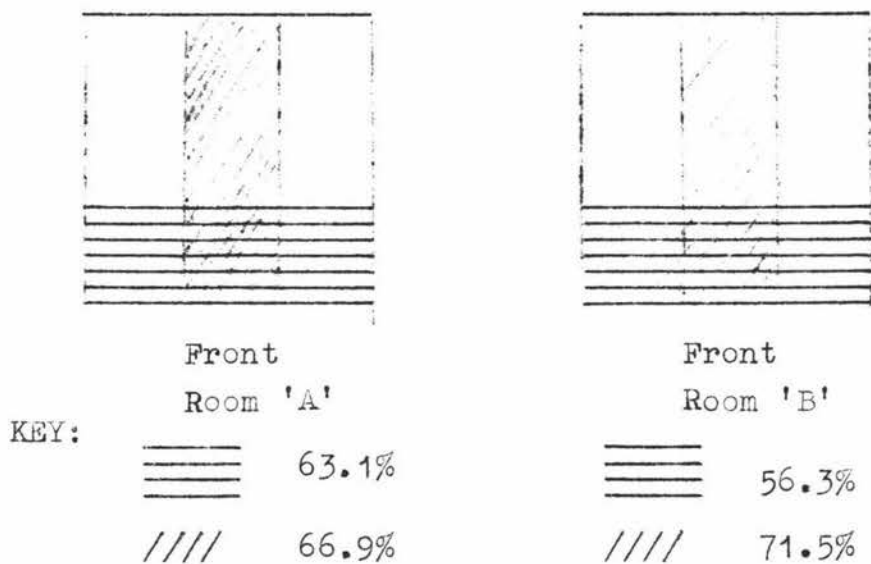
TABLE III - Percent of Mutual Interactions by territories for Room B

For the next analysis, 'Home' territory was defined operationally as that area from which a significantly ($p < .05$) greater number of mutual interactions were established as compared to any other area. The hypothesis was that the teacher's occupation of the nine areas of the classroom would differ and that a preference for the centre front location would be shown. An analysis of variance of the data gave a significant difference between teacher territories in both classrooms. (Room A, $F 12.12^{**}$; Room B, $F 24.14^{**}$) The prediction that the teachers' use of classroom space would differ was therefore supported. A test (Tukey's W test) for differences between territories within each classroom showed that each teacher established a significantly greater number of interactional territories

from the centre front of the room. (Room A $W = 219.4$
 $p = .05$; Room B $W = 130.0$ $p = .05$) In each
classroom therefore, the teacher established a 'home'
territory, thus supporting the hypothesis.

The locational data reveals the same territorial
preferences as found by Adams and Biddle (1970). These
authors refer to the 'footlight parades' and 'inland
excursions' which typified the movement of teachers
about the classroom. Both characteristics are reflected
in the findings of this study and are presented below.

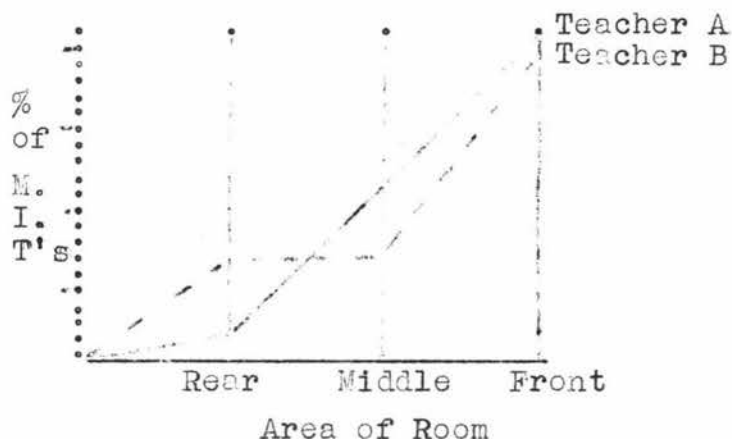
Figure 2 : Teachers' location as indicated by mutual
interactions



There was a trend for the teachers to make
decreasing use of the space towards the rear of the
classroom.

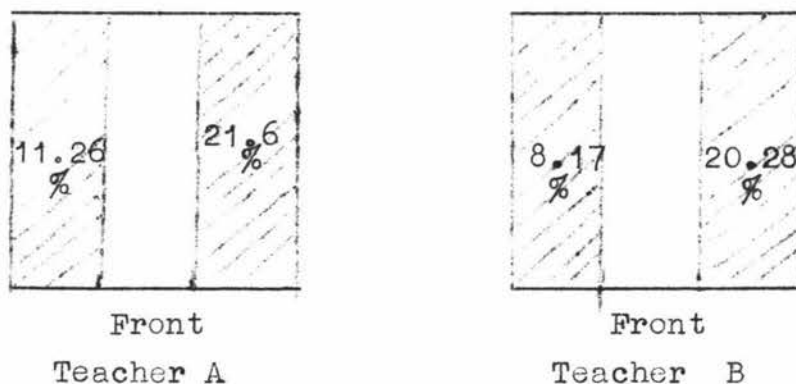
Figure 3 : Teachers' use of classroom space

(See Figure on page 53)

Figure 3: Teachers' use of classroom space

A possible reason for the relatively high number of Mutual Interactions Teacher B established from the rear of the room was suggested by the Observer. For the last five minutes of each lesson observed the teacher conducted a 'number game' among the pupils. She moved to the back of the room and directed the game which involved pairs of pupils moving to the blackboard in the front to record 'answers'.

When the teachers' occupation of side territories is examined, both teachers show an uneven pattern:

Figure 4: Percent of Mutual Interactions from side territories

The concept of territoriality suggests that the centre front of the room is that area in which the

teacher experiences a relative freedom of action and sense of comfort. This might imply that such occupancy provides both identity and security for role performance. (See Chapter II pp 29 ff) This also showed that other classroom members rarely intruded into the teacher's home territory except by invitation and the seating arrangement in Room A was such that there were no regular occupants of the area other than the teacher.

In the present study the teachers' use of classroom space reflects an uneven distribution pattern. The implications of these territorial behaviours for classroom inhabitants and procedure will be discussed later in this paper.

2. RELATIONSHIP WEDGE

The purpose was to discover whether the teacher spoke more often to pupils located towards the centre front of the classroom. The rationale for this expectation is dealt with (Chapter II pp 20 - 21) but a brief recapitulation is worthwhile now. For those pupils seated in the centre front of the room, the physical proximity to the teacher is sufficiently close to establish rapport. (Hall 1966) In such face-to-face situations a particular 'mutuality' of occasion is established. (Goffman 1967) This mutuality serves to increase the likelihood of verbal communication. (Goffman 1967) Empirical support comes from studies by Adams (1965, 1967) and Adams and Biddle (1970).

In this study the number of mutual interactions between the teacher and each group of pupils was obtained by summing the interaction scores for each location (desk) within the group. In Room 'A' there were five groups which were designated (a, b, c, d, e) from left to right across the room; in Room 'B' there were three group locations (a, b, c) from left to right. The findings for Room 'A' are discussed first; those for Room 'B' second.

ROOM 'A' The number of interactions established for each group location is shown in Table IV.

Group	a	b	c	d	e
Week 1	89	167	263	173	155
Week 2	138	180	132	264	190
Total	227	347	395	437	345

TABLE IV: Numbers of verbal exchanges between the teacher and group locations

From the table it is seen that during the first week of observation the teacher established more mutual interactions with the centrally located group than with any other group. The further the groups were located from the centre of the room, the less the number of interactions they received. This pattern is in accord with the expectations held regarding the formation of a relationship wedge. A comparison of the most peripheral groups with the centre group shows that group 'a' received only one third as many

interactions, group 'e' less than two thirds as many interactions as the number received by the centre group.

For week two, following changes in pupil location; the interaction pattern differed, the centre group received slightly fewer interactions than did the others. The side groups (a and e) received a lesser number than their two adjoining and more central groups.

Table V shows the area of each group by percentage (allowing for desks unoccupied) and the percent of interactions received by each.

GROUPS	a	b	c	d	e
Area	19.44	16.66	19.44	22.22	22.22
INTERACTIONS					
Week 1	10.28	19.76	31.12	20.47	18.37
Week 2	15.26	19.91	14.60	24.20	21.03
Mean	12.8	19.8	22.9	24.8	19.7

TABLE V. Area of groups and interactions to groups (percentages)

This table shows that for Week 1, when the area of each location is taken into account, the centre group received relatively more interactions than did the more peripheral groups. For Week 2 however this pattern was not repeated. Overall, the distribution of the verbal interactions is comparatively even between the five group locations.

The face-to-face situation obtains most conspicuously when the teacher is standing at the centre of the room. The number of interactions

between the teacher from this position and each of the groups are shown in Table VI.

GROUPS	a	b	c	d	e
Area %	19.44	16.66	19.44	22.22	22.22
Inter- actions	110	121	155	199	170
%	14.75	16.03	20.53	26.35	22.52

TABLE VI: Interactions between groups and the teacher when the teacher was standing in the centre front of the room.

This interpretation reveals a teacher preference for the location just right of centre. This preference is only slight when the area of the group is considered together with the percent of interactions received.

For the second period of observation pupils were moved 'by group' and randomly distributed within that group. In every instance of a group of pupils being moved to a more central location, a higher number of interactions were received during that period; a lesser number of interactions was received from all but one of the groups moved to a more peripheral location.

(Table VII - page 58)

The table shows that groups 'a' and 'e' which were moved to a more central location for the second period of observation received greater numbers of interactions following their move. Groups 'b' and 'c', moved to less central locations, received fewer interactions. These findings imply support

for the expectation with regard to a relationship wedge effect.

Groups moved to a more central location for the second observation period	
Group	Difference in interactions received between first and second observation periods
a	+ 43
e	+ 109
Groups moved to a less central location	
Group	Difference in interactions received between first and second observation periods
b	- 29
c	- 83
d	+ 17

TABLE VII: Changes in interactions received following locational changes (Room A)

The hypothesis predicted that the mutual obligation for interaction between the teacher and that group of pupils most centrally located in the room would result in the formation of a 'relationship wedge'. An analysis of variance (See Chapter III pp 45) of the data for each group within the room showed the differences between groups to be not significant. Thus no claim can be made for the establishment of a relationship wedge within this particular classroom.

ROOM B: In this classroom there were three group locations (c, b, a) from left to right. The number of interactions established for each group location is shown in Table VIII.

Group	a	b	c
Week 1	306	253	213
Week 2	358	239	219
Total	664	492	432

TABLE VIII: Numbers of verbal exchanges between the teacher and each group location.

The table shows that for both weeks, group 'a' received the most interactions, group 'b' more than did group 'c'.

Table IX below shows the area of each group (allowing for unoccupied desks) and the percentage of mutual interactions transacted for each group.

Group location	a	b	c
Area of group %	38.89	33.33	27.78
Interactions			
Week 1 %	42.20	32.68	25.12
Week 2 %	44.36	28.50	27.14
Mean %	43.34	30.48	26.18

TABLE IX: Area of groups and interactions received - percentages.

When the area of each 'target' space is taken

into account it is seen that the teacher distributes her verbal behaviours very evenly over the three locations. The differences between groups are very small and do not support the expectation for the creation of a relationship wedge.

The pattern of verbal interactions between groups and teacher while the latter was standing in the centre front of the classroom is shown below. (Table X)

Groups	a	b	c
% Area	38.89	33.33	27.78
Number of Interactions:			
Week 1	131	76	50
Week 2	158	132	122
Total	289	208	172
As a percentage	43.20	31.09	25.71

TABLE X: Interaction between groups and teacher when the teacher was standing in the centre front of the room.

These locational preferences of the teacher are very similar to those found when the teacher was occupying all classroom territories (See Table VIII) Group 'a' still received the greater proportion of mutual interactions although this time group 'b' received a slightly greater proportion than did the 'c' group.

The hypothesis predicted a mutual obligation for verbal interaction between the teacher and the centrally

located group. The statistical analysis of the data for Classroom B (See Chapter III pp 45) showed no differences between locations and thus there was no support for the prediction of a relationship wedge in this classroom.

From the observations conducted in both classrooms it must be concluded that no marked locational preferences for mutual interaction were shown by either teacher. Possible reasons for the findings will be discussed in the concluding chapter.

3. THE TEACHER'S LOCATIONAL vis-a-vis PUPIL PREFERENCES

In this study, on each occasion the teacher and any one pupil exchanged a mutual interaction the Observer recorded the location of the desk at which the pupil was seated. Thus for each five day period of observation, scores were obtained for each desk. The locations of the pupils was changed for the second period of observation and differences in the pupil interaction scores (between observation periods one and two) may in part be attributed to change of location.

The question asked was whether the teacher directs her verbal behaviours to particular desks rather than to particular pupils. The expectation was that the teacher's territorial preferences would override her knowledge of the children as individuals. The theoretical basis for this prediction has been outlined. (See Chapter II pp20 ff.)

The raw scores for both the locations (desks) and the pupils are shown in Appendix B. To support

the above expectation the location scores would need to show less variability between observation periods than would the pairs of scores for each pupil. In the data for both classrooms there is no clear indication of this. In both rooms, some 'desk' scores show marked variability between observation periods. (See Figures 5 - page 63) Similarly, variability between some 'pupil' scores is seen. (Figure 5 - page 63).

In the figure the variability of the scores between observation periods one and two are shown for particular pupils and particular desks. For a few pupils, a difference of up to sixty interactions was recorded between observations; similarly for some desks, a variation of up to seventy three interactions was recorded. From these particular cases however, no pattern of consistency is shown, nor any obvious relationship between particular locations and particular pupils. These marked variations are exceptions to rather than examples of the general pattern of scores for pupils vis-a-vis desk locations.

The hypothesis was that the number of interactions received by each pupil would vary significantly between observation periods, such variability being due to change of location. A statistical comparison of the variability between 'pupil' scores vis-a-vis 'desk' scores (see Chapter III pp 46) for formula used. - Data contained in Appendix B) did not support the hypothesis for either classroom. It would appear that for this study neither the teachers' locational

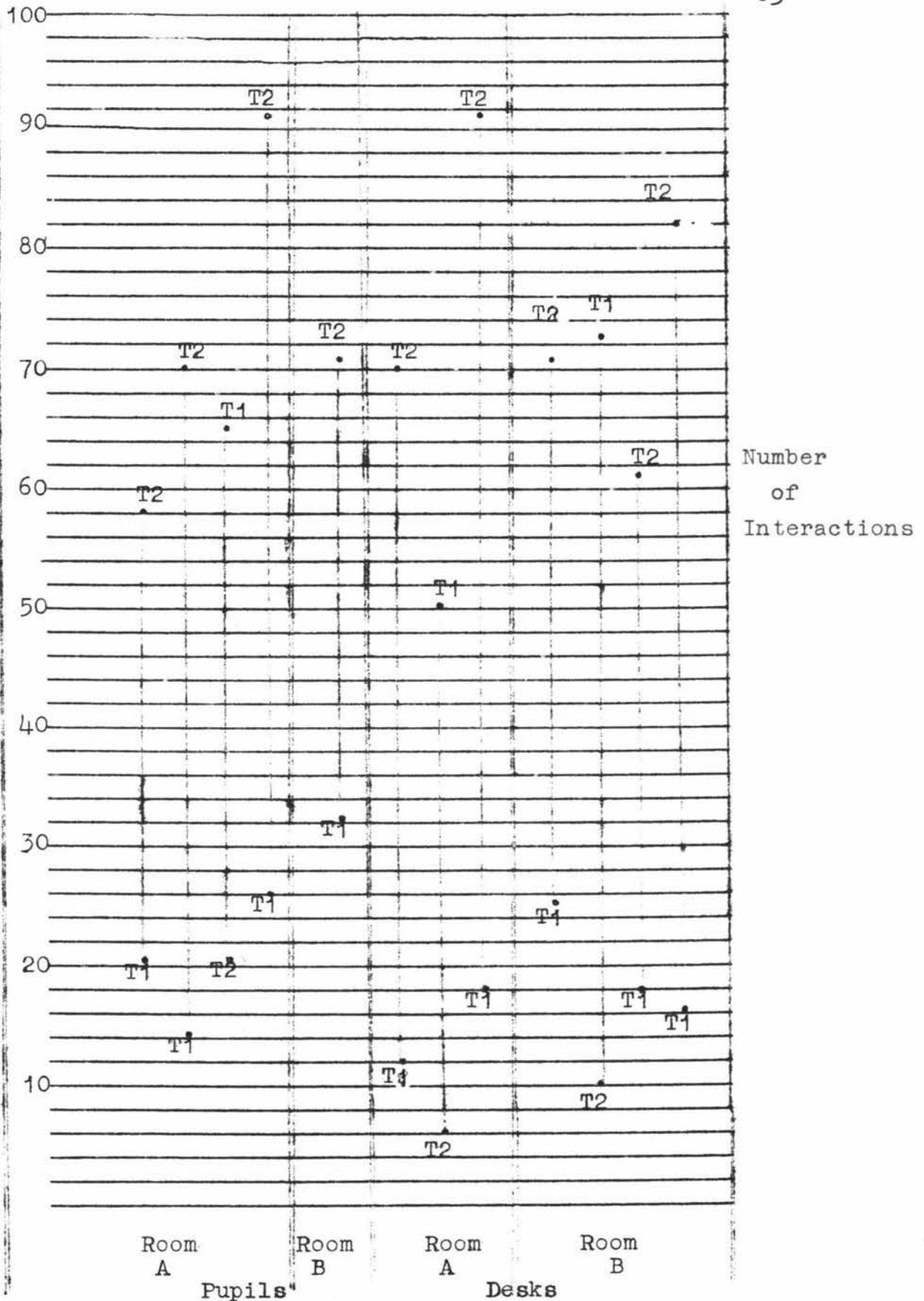


Figure 5: Variability of scores for particular pupils and desks over the two observation periods

preferences nor their knowledge of each pupil's position served to indicate their pattern of verbal interaction.

UNANTICIPATED FINDING

From the row scores it appeared that those desks situated at the ends of groups tended to 'receive' more interactions from the teachers than did the desks located in the middle of the groups. The pattern for both classrooms is given in Table XI.

	Area	Interactions received
<u>ROOM 'A'</u>		
'End' location	54% target area	59% inter-action
'Middle' "	46% target area	41% inter-action
<u>ROOM 'B'</u>		
'End' location	66% target area	69% inter-action
'Middle' "	34% target area	31% inter-action

TABLE XI: Percent of teacher verbal interaction to end vis-a-vis middle locations

In both classrooms these locational preferences of the teachers occurred without regard to the particular occupants of the desks. These preferences were slight but stable over the period of observation. However a statistical analysis (See Chapter III pp 46) for formula used) for differences between interaction scores for 'end' and 'middle' locations was found to be not significant. (F 2.71 n.s.)

4. QUALITATIVE DESCRIPTION OF MUTUAL INTERACTIONS

The verbal behaviours of the teachers were decoded from the taperecordings into five categories:

1. Positive sanctioning
2. Negative sanctioning
3. positive directing
4. negative directing
5. assertive behaviours.

The procedure followed has been outlined. (Chapter III pp 41 ff)

Because the data for both teachers was very similar they will be discussed in association. The qualitative description of the mutual interactional territories established by both teachers is given in Figure 6 and Table XII. (Figure 6 - see page 66)

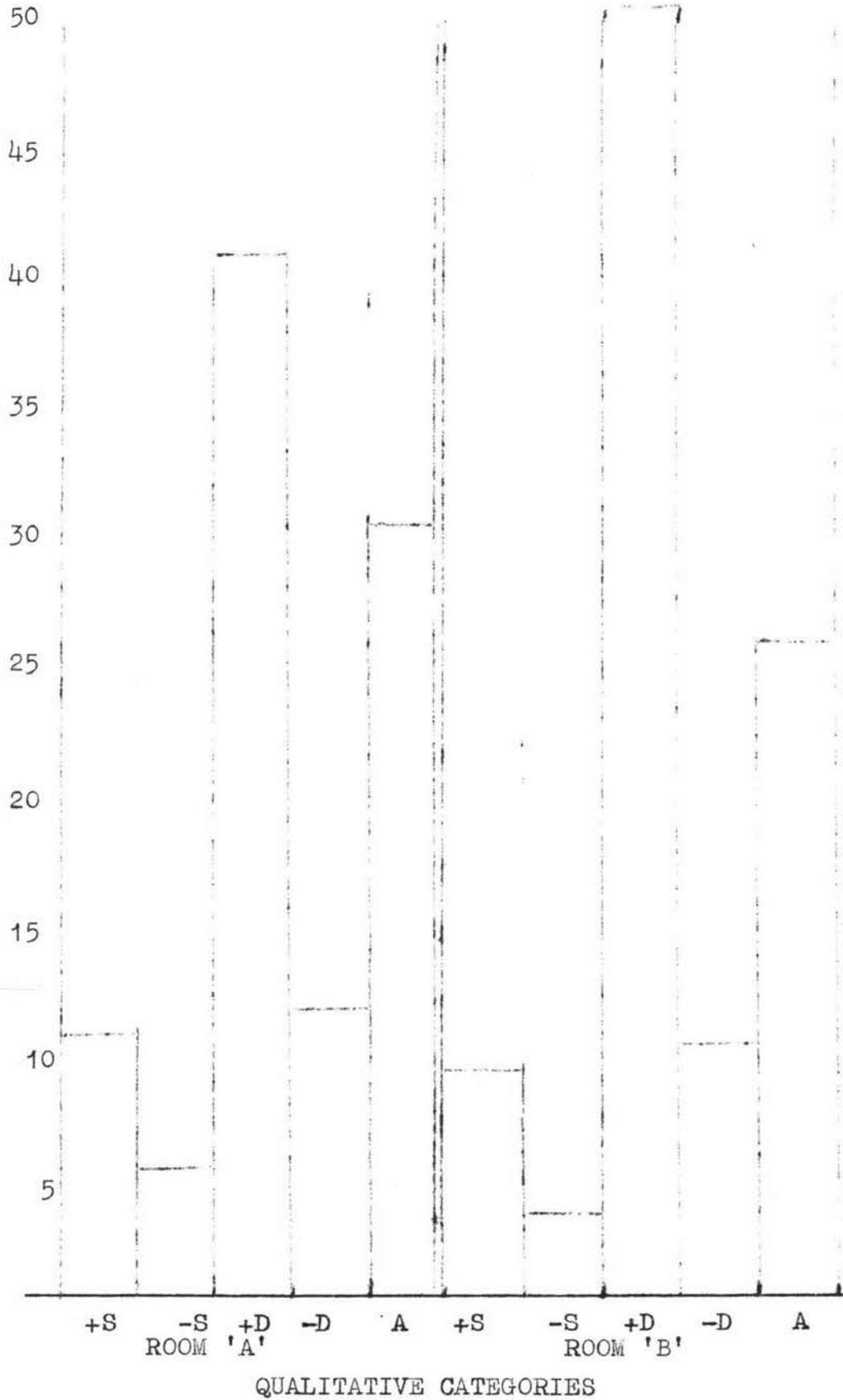
Categories	Room A %	Room B %
Positive Sanction	11.0	9.1
Negative Sanction	5.2	3.6
Positive Directing	41.5	50.6
Negative Directing	11.9	10.5
Assertive	30.4	26.1

TABLE XII: Percentage of Mutual Interactions for each verbal category.

From Figure 6 the dominance of the positive directing and assertive verbal behaviours for both teachers is apparent. Together these two categories account for over seventy percent of all verbal behaviour by the

FIGURE 6: Qualitative description of Interactional Territories - Teachers' Verbal Behaviour

% of Mutual Interactional Territories



KEY:

+S = Positive Sanctioning -S = Negative Sanctioning

+D = Positive Directing -D = Negative Directing

A = Assertive

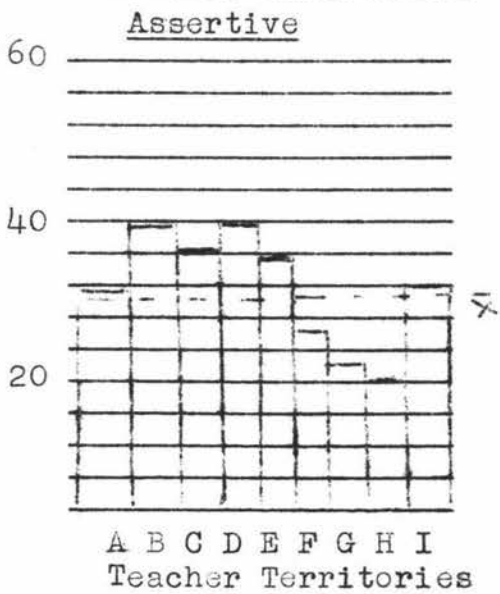
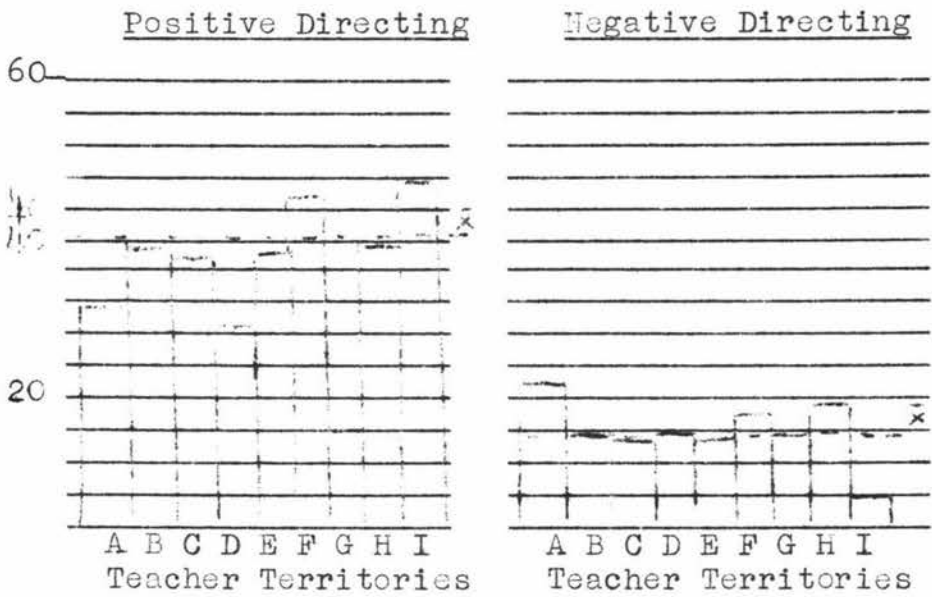
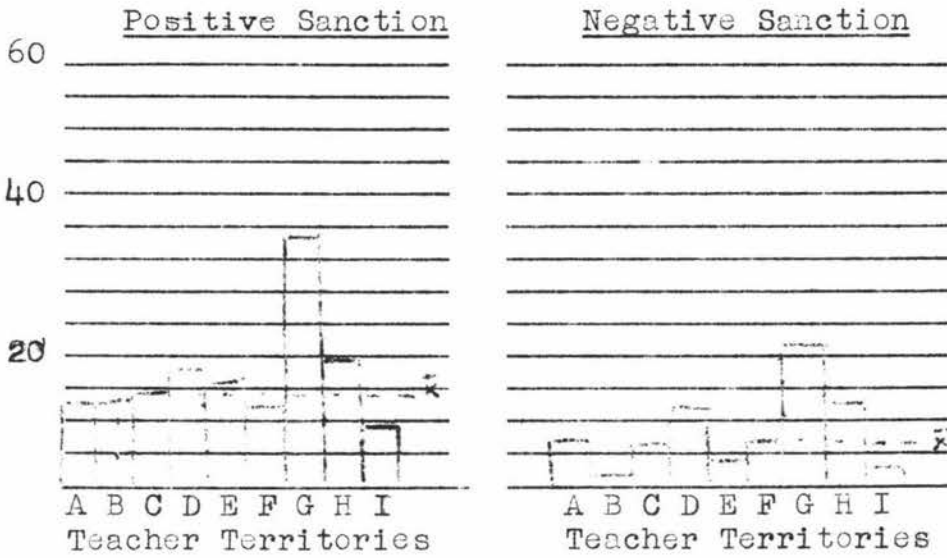
teachers. These patterns are shown again in the Table. In both classrooms positive directing interactions were predominant (41.5% and 50.6%). Assertive behaviours formed the next largest category (30.4% and 26.1%) negative directing (11.9% and 10.5%) and positive sanctioning (11.0% and 9.1%) were next. The proportion of negative sanctions was very small in each room (5.2% and 3.6%). The proportional distribution of the types of interactions by both teachers was, therefore, very similar.

For each of the nine teacher territories in both classrooms the qualitative categories of the interactions established were determined. This association of teacher territory and quality of interaction is shown in both tabular form (Table XIII) and figural form (Figures 7 and 8) - Pages 68 and 69.

Teacher Territory	Category of Interaction				
	+S	-S	+D	-D	A
<u>Room A.</u>					
A	10.5	5.3	31.6	21.0	31.6
B	10.0	1.0	39.0	11.0	39.0
C	11.0	5.0	38.0	10.0	36.0
D	14.3	8.6	25.8	11.4	40.0
E	14.1	3.1	38.5	10.3	34.0
F	8.4	5.8	45.5	13.6	26.7
G	35.3	17.5	11.8	11.8	23.6
H	16.5	9.5	39.7	14.3	20.0
I	9.9	3.8	48.3	5.6	32.4
<u>ROOM B</u>					
A	10.5	5.8	35.2	17.1	31.4
B	4.8	3.2	47.2	11.8	33.0
C	8.8	4.4	41.2	21.2	24.4
D	10.2	3.6	50.0	6.9	29.3
E.	8.6	2.9	43.9	16.8	27.8
F	8.7	3.5	59.4	8.4	20.0
G	20.7	6.8	13.8	17.3	41.4
H	9.7	2.5	34.2	14.6	39.0
I	13.3	0.0	43.3	3.4	40.0

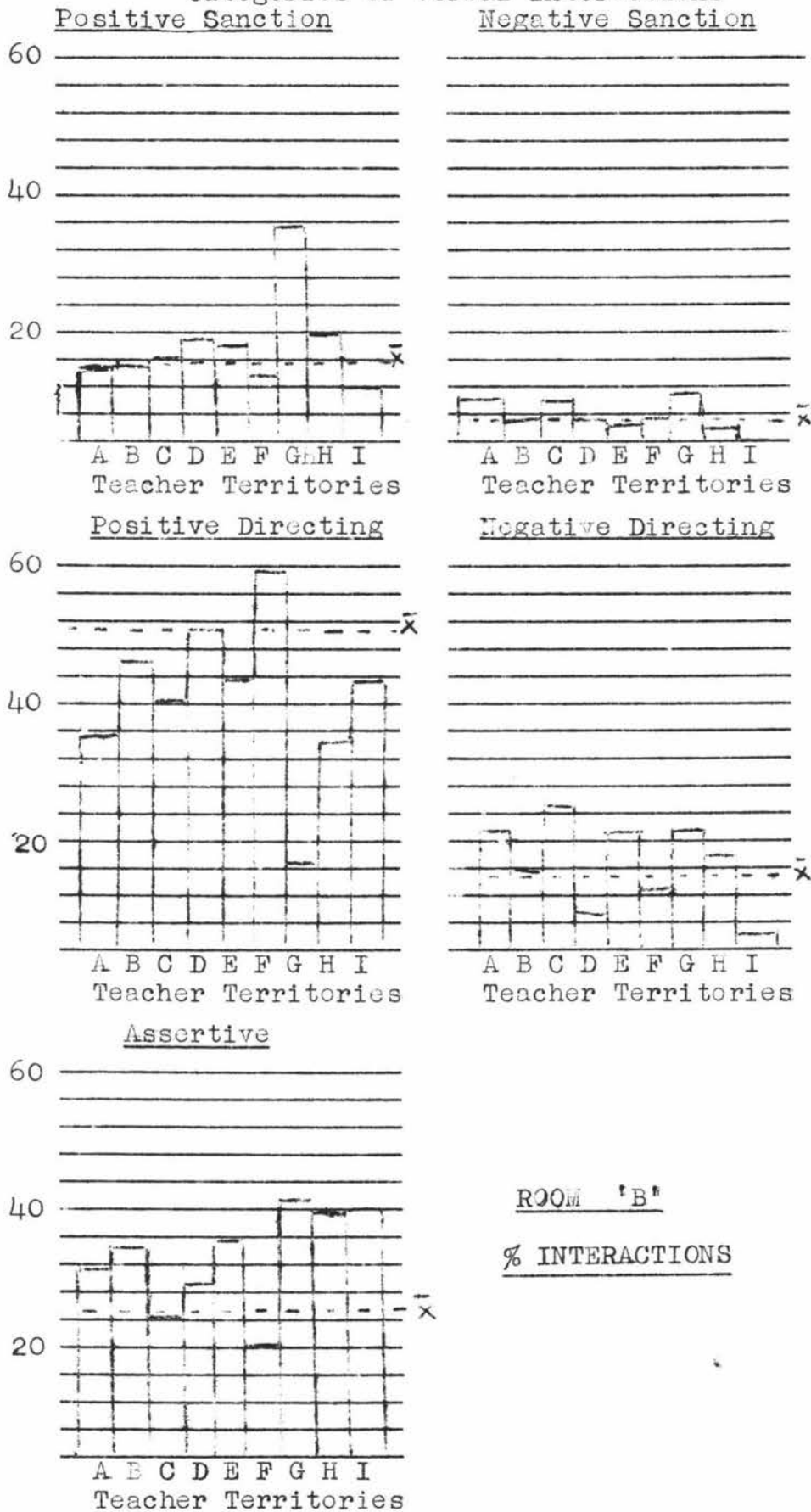
TABLE XIII: Teacher Territory and percentage of verbal interactions per category

FIGURE 7: Teacher Territories and Associated Categories of Verbal Interactions



ROOM 'A'
% INTERACTIONS

FIGURE 8: Teacher Territories and Associated Categories of Verbal Interactions



Within each of those territories where a larger number of mutual interactions were established the proportional distribution between categories is similar to the distribution for the total verbal interactions of the teachers (c.f. Table XII) This is indicated on figures 7 and 8 for each category i.e. by comparison of territory totals with the mean number of interactions. From both the Table (XIII) and Figures (7 and 8) it is seen that within all Teacher Territories with a large number of cases, positive directing and assertive behaviour are the dominant modes for verbal transaction.

However, some territories are associated with a pattern of interaction that is not characteristic e.g. Classroom A territories A, G, H; Classroom B territories G, H, I. This feature does not appear to be associated with location per se. Rather is it that the very small number of interactions established within these particular areas provide a typical example which is an inadequate basis for comparison. This applies particularly for Area G in classroom A.

In both classrooms again, the number of interactions per category were determined for each group location. The locational distribution is shown in Figures 9 and 10 for Room 'A' and Room 'B' respectively. (See pages 71 and 72)

In Room A each group location received a very similar qualitative distribution of the teacher's verbal behaviours. This is clearly indicated by

Figure 9: Locational Distribution of Teacher's verbal behaviour - qualitative
ROOM 'A'

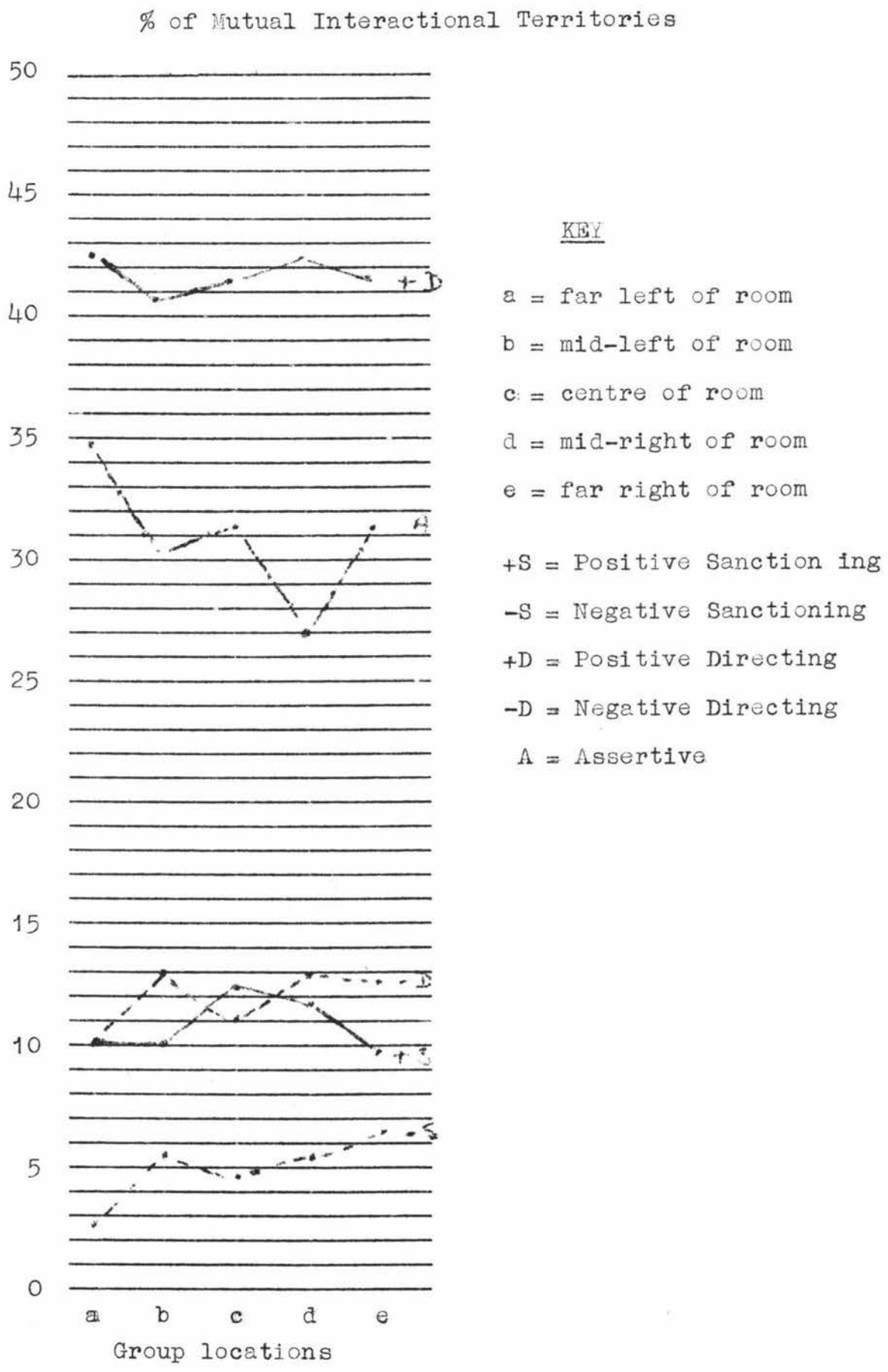
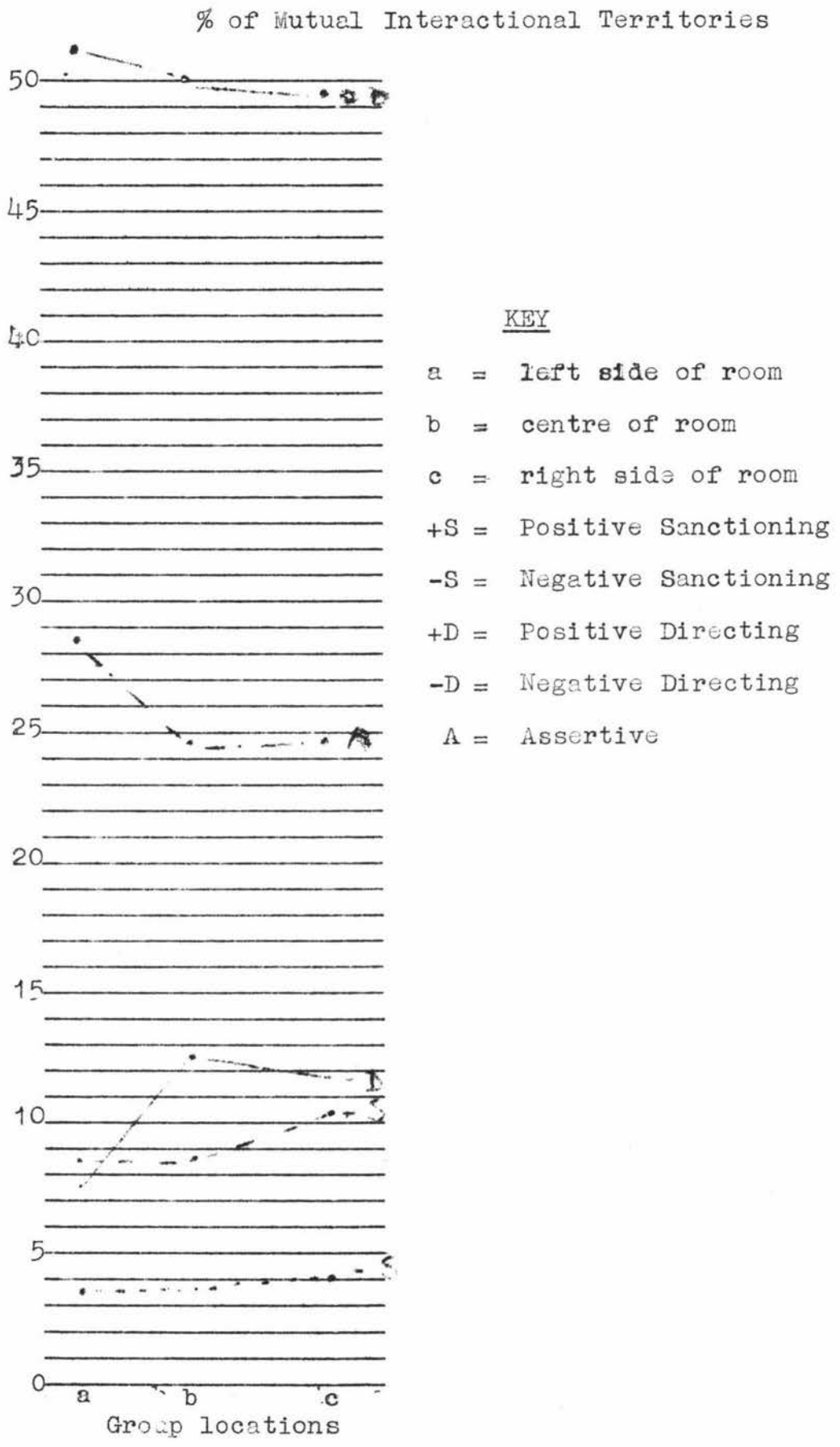


Figure 10: Locational Distribution of Teacher's verbal behaviour - qualitative Room 'B'



a comparison of each groups' scores with the overall qualitative description of the interactional territories (see Figure 6). In Room 'B' a similar pattern is seen. There was no 'preferred' group location i.e. no group received a disproportionate number of either positive, negative or assertive interactions. The qualitative distribution of mutual interactions was democratic in each classroom.

I In summary, three main features regarding the qualitative nature of the teachers' verbal behaviours should be mentioned. They are:

1. The dominance of positive directing interactional territories together with only a slighter lesser prominence of assertive interactional territories.
2. The lack of any major differences in the proportional distribution of the five descriptive categories found for the nine classroom areas and
3. The even distribution of verbal territories (qualitatively) among the various groups within the classroom settings.

C O N C L U S I O N

The findings of this investigation fall into two major areas:

1. Teacher Location
2. Teacher 'Targets'.

It must be acknowledged, regretfully, that a relative lack of differentiation was presented with regard to the findings of teacher 'targets'.

A brief summary of the findings and certain implications arising from these are discussed below:

TEACHER LOCATION: The principal finding was that the teachers occupied the centre front of the classroom for forty-six percent of their verbal interactions with individual pupils. Nonetheless, they were in other locations while interacting with pupils. Approximately sixty percent of the interactions occurred whilst the teachers stood in one of the three territories across the front of the room. The middle of the room was the location for a further twenty-two percent of the interactions. However both teachers engaged in verbal behaviours from the sides and rear of their rooms only rarely.

From the concept of Territoriality several reasons for these behaviours may be offered. In the studies of Ethology, that territory most often occupied by the animal is known as its 'home' territory. Customarily home territory is associated with some 'important' possession e.g. a nest. Among the functions home territory serves for its occupant is the relative

freedom and sense of power it provides. Also associated is the reinforcement of identity and security which the heartland of home territory provides for the occupant.

If these suggestions of ethologists are true for animals then possibly human behaviours in general and classroom behaviours in particular, display certain similarities. For instance the teacher may use the centre front area because this territory offers her both identity and security for role performance. The expectation is that properly 'teaching' behaviour is conducted from the front of the room. Possibly the teacher occupies this territory to conform with this normative expectation and so reinforce her teacher identity and security of role performance. Again, while nest or lair is the referent of animals' home territory, so the blackboard may be an analogous referent for the teacher. Only rarely do other classroom participants use this board except by invitation and the area surrounding the board is usually similarly respected. The restrictions upon pupils regarding the function and use of the centre front area give further support to the suggestion that this is the teacher's home territory.

A second possible reason for the locational behaviours of the teachers may be seen in the concepts of 'flight distance' (Hediger 1950) and 'personal space' (Hall 1959; 1966) (c.f. Chapter I pp 9 ff) These concepts suggest that optimal physical distances are maintained between any two members of the same

species, according to their particular situation. Within the classroom setting the teacher's role performance may demand that she maintain a certain physical distance from her pupils at least for most of the time. The requirements of communication would in part demand this. Possibly, therefore, the centre front of the room is that area which permits the necessary physical separation of teacher and pupil.

One consequence of the teacher's use of territory is the high 'visibility' of her role performance. For the pupils the teacher is rarely out of sight. The locational behaviours of the teacher tend to reinforce her dominant official status. Another consequence of teacher territoriality is that some pupils are rarely within 'personal' or 'social' distance ¹ of the teacher. In our culture the physical distance of four to twelve feet is characteristically maintained for casual or impersonal communications and is not considered sufficiently close to permit close interpersonal relationships to be maintained.² For pupils in the rear corners of the room, the teacher is predominantly located at public distance,³ one which characterizes formality of occasion and the necessity to rely upon the non-verbal aspects of communication for meaning. Physical distance becomes social distance. Consequently the territorial behaviour of the teacher creates the possibility of differential social environments for the pupils according to their location.

Possible implications arising from the above

discussion concern two current trends within education:

1. Non-directive teaching and
2. 'Open' class environments.

Non-directive teaching methods are concerned with the less tangible outcomes of education, usually couched in terms of attitudes, dispositions, social acceptance or social awareness. Such teaching has been variously described as Encounter teaching (Broudy 1969) or Process teaching, (Barton 1970). While the outcomes are not explicit the authors are more confident concerning the means. The teacher's role is seen as that of a counsellor rather than an instructor. Teaching involves example rather than direction and the provision of 'desirable' models for emulation. Should the teacher use location to reinforce official statuses and should physical distance preclude the maintenance of close relationships, then the need for alternative forms of territorial behaviour by the teacher is obvious.

Similarly, alternative modes of teacher territoriality are implied by the concept of the 'open' classroom. Changes in the structural design of classrooms suggest that teachers will adopt modified teaching behaviours. However teachers may tend to manipulate spatial arrangements to enable them to maintain territorial behaviours with which they are familiar. Fixed blackboards and the functional attributes of home territory may continue to coerce those locational behaviours which are not wholly relevant to the 'open' situation.

Alternate forms of classroom management might alter the locational routines of teachers. Were the teacher to remain at one 'station' and the pupils to move from alternative activities to the 'official' one, would be one such example. An emphasis upon 'discovery' methods or upon individual or group work would be further possibilities. Various desk arrangements might coerce the teacher into differing locational patterns. However the consequences of such procedures upon the teacher's territorial behaviour are difficult to calculate for one such change in the classroom setting sets up a chain of further events.

TEACHER TARGETS: Targetting behaviour, the teacher's verbal communication to particular pupils, is a common classroom phenomenon. It reflects in part the teacher's concern for ensuring certain expectations are met i.e. that questions be both asked and answered, attention be demanded and given, and praise be issued and received. In the present study the targetting behaviour of the teachers was frequent, a mutual interaction being exchanged on the average of six per minute. The findings are summarized below:

In one classroom the teacher tended to communicate more often with those pupils centrally located. Pupil movement to a more central location, with the exception of one group, resulted in a higher number of verbal interactions with the teacher. In the other classroom the teacher communicated more often with pupils located on the side of the room. In

neither room did the teachers show a preference to interact with particular pupils as compared with particular locations. Qualitatively, both teachers verbal behaviours were distributed democratically, positive and negative comment being evenly distributed through the room.

Immediate social interaction is characterised by a "mutuality" of occasion (Chapter II pp 18 - 19) The experiencing of 'one' and 'other' in an interactional territory varies according to the physical distance involved. Customarily social exchanges occur most easily when the participants are within twelve feet of each other. (Hall 1959). In the present study, while the findings did not strongly support these ideas, neither did they negate the basic premises. The particular conditions in the classrooms observed may have resulted in the rather inconclusive results. Possibly the Hawthorne effect was operating and the teachers distributed their mutual interactions in the belief that 'good' teachers involve all pupils. However an uneven quantitative distribution of the teachers' verbal behaviours was recorded and some possible consequences and implications of this are discussed below.

An uneven spatial distribution of verbal exchanges between the teacher and individual pupils implies that pupils experience the classroom social environment differentially. There is a certain face validity in the claim that those pupils spoken to least, 'profit' least. For these pupils, much classroom behaviour is experienced vicariously for they are audience to rather

than participators of the communicatory process.

Another outcome has relevance for the practice of grouping pupils ... a regular feature of classroom management. Teachers group children according to achievement, interests and other criteria, and often stabilize both the membership and location of these groups. Both the location and the position within the group may influence learning outcomes because of differential interaction patterns.

Questioning activities of the teacher are related to pupil achievements. (Sanders 1966) Interestingly there is some indication that the difference between being questioned and not being questioned is important for pupils too.⁴ Pupil location may well be an important feature related to questioning because of the teacher's territorial preferences in verbal behaviour.

Reward and punishment are fundamental to the learning process. Differential distribution of reinforcements must significantly influence both the affective and cognitive outcomes. In this study the teachers' verbal reinforcements were democratically distributed in that each location received both positive and negative comment but the proportion received by each location differed.

It is possible that pupil achievement and pupil location are related. Participation in, as opposed to observation of, verbal exchanges with the teacher may facilitate learning. Certainly the quality of the models provided in verbal interactions would be

important. The degree of social involvement with the teacher may be significant if she is the major 'resource' for the information pupils require. The achievement location relationship is an aspect of the classroom process that requires further study.

The classroom viewed as a social system comprises many clusters of observable characteristics, all of which interact and influence the teaching-learning process. Customarily the major concern has been for characteristics associated with either the teacher, the pupil, or some aspect of content held to be important. This study has examined a further element of the setting i.e. the use of space, both geographic and personal, by classroom actors. It has been suggested that territorial behaviours of the participants can be manifested in ways that are not readily apparent and may have importance for the outcomes of education. Efforts to conceptualize the complexity of classroom life need to take cognizance of territorial behaviours which impinge upon what teachers and pupils do.

Footnotes:

1. Hall E.T. 1959 The Silent Language. New York Double Day
2. Ibid
3. Ibid
4. Nutall 1971 - Personal communication

RECORD OF MUTUAL INTERACTIONAL TERRITORIES
ESTABLISHED

COPY OF BASAL DATA - ROOM 'A' - DAY ONE
OF FIRST OBSERVATION PERIOD

CODE: Letter = Teacher Territory
First Number = Desk of pupil
Second and third number = Verbal Category of Teacher's mutual interaction - Two Encoders

F34-3/3	A32-4/4	B32-5/5	E24-1/1	E20-3/5	F29-1/1	
I12-4/4	F32-3/3	F 5-1/1	G16-1/1	E17-3/5	B37-3/5	
F24-4/4	F32-3/3	E19-5/5	G12-1/1	E24-1/1	B30-5/5	
F38-4/2	F32-1/1	F 3-3/3	F 3-4/4	F24-4/4	B28-1/1	
I34-4/4	A32-4/4	E14-4/4	F 7-1/1	F24-5/5	B28-3/3	
F29-2/2	B32-3/3	F36-3/3	F 4-1/1	E32-1/1	B26-3/3	
F24-4/4	B32-4/4	C36-4/4	F 7-1/1	F32-5/5	D24-5/3	
F 9-3/3	B32-5/5	F36-3/3	F 6-1/1	F32-3/3	D24-3/3	
F37-1/1	B32-5/5	F 9-4/4	F32-1/1	F38-3/5	D24-3/3	
F34-3/3	F32-1/1	F 9-2/2	F38-2/2	F35-5/5	E22-3/3	
F34-3/3	F32-3/5	E23-1/1	F37-3/3	F4C-3/3	E22-4/2	
F34-5/5	F32-1/1	E24-5/5	F36-4/4	F40-1/1	E22-3/3	
F24-3/3	F32-2/2	E24-3/3	F36-5/5	E16-3/3	E 9-5/5	
F34-4/4	F 1-3/1	E24-3/3	F36-1/1	F38-2/2	E14-3/5	
F34-5/5	F22-3/3	E24-5/5	F36-3/5	F38-4/4	E 9-1/1	
I24-2/2	F31-3/3	E24-3/3	F36-3/5	F 3-5/5	E17-1/1	
F 4-5/5	F22-3/3	E24-1/1	B32-5/5	F17-3/3	G16-2/2	
F37-2/4	F22-4/4	E24-3/3	B32-1/1	F15-4/4	C16-1/1	
E32-3/3	F32-5/5	E24-2/2	B32-1/1	F15-2/2		
E24-3/3	F32-4/4	E24-1/1	B32-3/3	F31-3/3	T = 133	
H 2-3/3	E32-3/3	E24-1/1	B20-5/5	F31-1/1		
F 6-5/5	F32-1/1	E24-3/5	E20-3/3	F31-3/3	Decoder	
A32-5/5	E32-3/3	E17-3/3	E20-4/4	F29-5/5	Reliability	
					= 88.66%	

ROOM 'A'

First Observation T1

Second Observation T2

<u>DESK SCORES</u>						<u>PUPIL SCORES</u>					
Desk No.	T1	T2	Desk No.	T1	T2	Pupil No.	T1	T2	Pupil No.	T1	T2
1	20	20	21	41	58	1	20	18	21	41	17
2	20	6	22	42	18	2	20	58	22	42	75
3	14	8	23	50	4	3	14	14	23	50	12
4	12	70	24	65	14	4	12	4	24	65	20
5	6	38	25	5	20	5	6	10	25	5	9
6	8	38	26	5	9	6	8	1	26	5	20
7	4	5	27	6	6	7	4	16	27	6	20
8	11	6	28	22	21	8	11	21	28	22	23
9	47	75	29	23	31	9	47	38	29	23	34
10	-	17	30	21	47	10	-	38	30	21	25
11	41	20	31	18	91	11	41	6	31	18	18
12	14	12	32	73	39	12	14	5	32	73	41
13	33	38	33	18	25	13	33	6	33	18	47
14	16	-	34	31	34	14	16	20	34	31	31
15	14	18	35	13	41	15	14	70	35	13	39
16	18	17	36	26	18	16	18	8	36	26	91
17	26	1	37	35	20	17	26	38	37	35	9
18	-	10	38	14	9	18	-	-	38	14	20
19	17	21	39	11	23	19	17	17	39	11	21
20	21	16	40	7	20	20	21	18	40	7	6

M=23.

ROOM 'B'

First Observation T1

Second Observation T2

Desk No.	<u>Desk Scores</u>			<u>Pupil Scores</u>							
	T1	T2	Desk No.	T1	T2	Pupil No.	T1	T2	Pupil No.	T1	T2
1	41	39	21	10	15	1	41	61	21	10	30
2	-	-	22	3	16	2	-	-	22	3	3
3	19	16	23	12	29	3	19	9	23	12	35
4	24	31	24	7	29	4	24	11	24	7	35
5	20	3	25	18	61	5	20	16	25	18	30
6	14	30	26	-	-	6	14	15	26	-	-
7	16	35	27	32	11	7	16	29	27	32	31
8	38	35	28	18	9	8	38	29	28	18	16
9	28	12	29	20	9	9	28	13	29	24	9
10	7	11	30	28	19	10	7	13	30	28	20
11	25	16	31	32	13	11	25	13	31	32	71
12	25	71	32	16	13	12	25	13	32	16	16
13	24	9	33	16	13	13	24	9	33	16	12
14	25	20	34	17	13	14	25	19	34	17	11
15	23	13	35	15	82	15	23	13	35	15	9
16	6	10	36	-	-	16	6	18	36	-	-
17	14	12	37	-	-	17	14	26	37	-	-
18	73	10	38	12	16	18	73	82	38	12	12
19	-	-	39	11	13	19	-	-	39	11	13
20	21	15	40	11	18	20	21	4	40	11	10

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