PSYCHOLOGICAL ASPECTS

of the

POST - ENCEPHALITIC SYNDROME

IN CHILDHOOD

by

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PART I

THEORY AND METHOD OF THE STUDY.

Chapter 1: INTRODUCTION

This thesis will be concerned with an analysis and interpretation of the personality and behaviour of children who have suffered from acute Encephalitis of varying origin between birth and the third year of life.

These children suffer from difficulties of social adjustment, and of establishing predictable and organised patterns of interpersonal and object relationships. Such difficulties are related to the children's varying inability to share in a common world of meaning and symbolic values, and to control their actions and movements in their contact with their environment. Development of stable cognitive schemata, necessary for sensori-motor reaction, language and representation, seems to be impaired or arrested in these children as a consequence of Encephalitis in early childhood.

It will be the task of this thesis to analyse and interpret:

(a) the multiplicity of symptoms from a phenomenological point of view,
(b) to evaluate their meaning in relation to the child's behaviour
(c) and to make a contribution to the knowledge of the stages of cognitive development in childhood with emphasis on patterns of interpersonal relationships.

(a) The post - encephalitic syndrome in childhood.

Encephalitis belongs to the group of toxic or infectious diseases of the brain. Forms of Encephalitis after virus infections dealt with in this thesis affect the white matter of the brain with usually no specific localisation. Different neurological theories have been advanced as to the etiology of encephalitic reaction of the brain substance as well as to the

mode of infection, and a great amount of uncertainty still exists. The brain is affected to different degrees; destruction of nerve substance can sometimes be severe whereas in other cases no brain pathology whatsoever can be detected in spite of a definite diagnosis of Encephalitis. Following Encephalitis in childhood, after-effects can be severe in those children who survive or there may be only minor personality changes, or there may be complete recoveries. (Ford, 1952)

The attention of psychiatrists and neurologists was drawn to the severe and permanent after-effects of this illness when, during the years following the First World War, waves of epidemic Encephalitis occured in many countries of the world. In the process of investigations carried out, it became obvious that these after-effects were not specific to the epidemic form of Encephalitis but also occur in children after a number of specific and unspecific acute infections of the brain, notably virus diseases such as Pertussis, Mumps and Measles, and also after vaccination, pneumonia and upper respiratory tract-infections. It was noted that children attacked by this infection of the brain may well show changes in their personality make-up affecting interpersonal relationship, cognitive behaviour and especially control of motor activity and representative behaviour.

<u>In the early stages</u> immediately after the acute illness, the following phenomena have been observed by the writer:

1. The change in the behaviour of previously normal children is usually a gradual one, but may also take place over a period of a few days - sometimes only a few hours - after the acute illness. This change is most noticeable in the sphere of social relationships. The child fails increasingly to communicate with the parents and usually ceases to respond to affection, language and gesture. The parents often describe this by saying they have " lost their child ".

2. The child will stop playing, ability to handle objects will deteriorate or objects will be either thrown away or incorporated into repetitive or compulsive patterns of mouvement.

3. The use of speech as a means of communication decreases, usually in a gradual process. Expression in language may cease altogether in severe cases and the child seems to suffer from increasing anxiety and frustration, which is accompanied by

excessive restlessness.

4. Rhythmical movement patterns can be observed, rocking and head- and particularly- eye movements are often included. The gaze of these children becomes vague or fixed on objects or on their own movements.

5. Verbal response can be so poor that the children are thought to be deaf.

6. Imitation become difficult and postural attitudes deteriorate into rigid and involuntary patterns.

7. Many children will begin to grasp everything within reach, are continuously on the go, climb and run with great skill, but their movement of free action in representative space becomes strikingly limited.

According to the degree of impairment, some degree of speech may be regained over the years. However, even in less severe cases investigations reveal permanent deficiency in the understanding of symbols, the perception and organisation of representative space with consequent insecurity in action and verbal expression.

In interpersonal relationships, lack of stable self-identity is signifiant and is usually connected with regressive behaviour in the form of affective dependence on the other person or a constant urge towards self-realisation in action unrelated to the other person or to social situations in general.

In the later stages sequelae become permanent and the following phenomena seem to be outstanding, although they vary in degree in each child according to (a) the severity of the initial illness, (b) the age of the child when Encephalitis occurred, (c) the educational facilities and interpersonal relationship the child was offered after the illness:

1. Interpersonal relationship remain unstable as the children cannot appreciate the mediating character of language, gesture and expression. They therefore tend to seek for modes of interpersonal relationships which correspond to early forms of affective affiliation.

2. The more disturbed children are restricted to primitive motor activities through not being able to transform early postural patterns into mediating transactions in gesture and action upon objects and language.

3. The post-encephalitic child is easily bound to the material qualities of objects, either by being fixed to them in perception or incorporating them into its own movement pattern. Frequently sensory stimuli are avoided.

4. On the affective level the children seem to suffer from anxiety and insecurity due to lack of self-identity and loss of body-boundaries.

5. If speech is retained or eventually regained, it usually shows many characteristics of aphasia, predominantly loss of a " perceptual attitude " towards speech which would allow of sharing of speech with others in representational space, or use of speech in conversation with others.

6. Actions remain " body-bound " and show all degrees of poor organisation with deterioration into compulsive and involuntary patterns.

(b) Other Investigations and Observations regarding Causes and Sequelae of Encephalitis in Childhood.

Children with post-encephalitis syndrome have been investigated and described by a number of authors, who realised that these children presented a special behaviour problem, not only as to care and schooling but especially as to the understanding of their erratic and unpredictable behaviour within the social settings of family, school and institution. These studies have yielded a large number of observations and tabulations of symptome in psychiatric and neurological terms:

1. The causes of Encephalitis in childhood and their nervous complications were described by Turnbull and McIntosh (1926) as early as 1926, but also by Wilson and Ford (1927), Jorge (1932), Flexner (1930) and Glanzmann (1927). According to these authors the causation of Encephalitis is by no means clarified, but occurring sequelae show common features irrespective of different etiology, as for instance after Mumps, Pertussis, (Lurie and Levy 1942) Measles and respiratory infections, (Boenheim 1925). These authors state that the after-effects of the acute illness range from severe neurological and psychological impairments to complete recovery.

2. Behaviour disturbances as sequelae of epidemic Encephalitis have been tabulated by Gibbs (1930), Ebaugh (1935) and Hohmann (1922): These authors found emotional instability,

impulsiveness and restless over-activity (Gibbs) and motor phenomena such as tics and compulsions " so frequently observed as to warrant the search for a structural background ". (Hohmann, 1922).

Kennedy (1924), in his study of sequelae of epidemic Encephalitis, suggested that the sequelae were more severe when the illness attacks very young children. This has also been stated by Patterson and Spence (1921), Gibbs (1936), Asperger (1938) and Meyer and Byers (1952) with respect to the sequelae of Measles-Encephalitis.

Kennedy (1924) described four major syndromes:

(a) Respiratory syndrome with hyperpnoea, spells of breath-holding with various forms of hyper-activity through the spells.

(b) The Parkinson-syndrome, that is a general disturbance of postural expression and inability to transcend primitive postural attitudes and organise them freely according to the requirements of changing situations. The author observed slurring of speech, inability to adjust movement, mask-like face and tremor of the tongue, arms and hands.

(c) Disturbance of sleep and nocturnal hyperkinesis.

(d) Personality changes with anti-social tendencies, restlessness, irritability and emotional instability. The children were unmanageable, quick-tempered, quarrelsome and often unaware of their surroundings.

In his summary Kennedy (1924) suggested that the lack of restraint of these children does not necessarily imply any great degree of mental impairment.

Crothers and Lord (1938), in studying a group of children recovered from known Encephalitis, have made the important observation that abnormalities in mental functioning were not evident in the usual quantitative appraisal of intelligence in terms of mental age or intelligence quotient. According to these authors, the deficiencies of these children are mainly related to inter-relationship with the surroundings and dynamic situations in general.

The conclusions of Meyer and Byers (1952) in their study of sequelae of Measles-Encephalitis will be quoted as they pertain particularly to this present thesis: These authors found that there were few neurological abnormalities but the learning

ability of these children was " often noticeably diminished by their lack of staying power and difficulty in completing a prolonged task. The younger children showed greater difficulties in adapting themselves after the illness by attempting the acquisition of the more elementary adaption with defective tools.".

In dealing with personality changes and behaviour disorders, the authors concluded: " The patients impulsively reacted to immediate stimuli, details acquired disproportionate importance in their decisions and the relation of body and background became confused." They further suggested " that the personality changes never arose as completely radical ones but appeared as over-emphasis of personality traits already present."

With regard to the criterion of recovery, Meyer and Byers have suggested that " complete recovery in childhood implies the ability to acquire new knowledge and new adaptions and unless this capacity is fully restored, frustration and disappointment are likely to overbalance the situation in school, home and social contact."

Finally, and most important for this thesis, the authors asked the question: " Should the term post-encephalitic behaviour be used to describe the complex behaviour which has been heretofore attributed to the disease, or should it be defined in terms of more concrete psychological deficits whose presence led to the maladaption ? ".

Matějcek, Doutlik and Janda (1964) investigated behaviour of 60 children who showed after-effects after para-infectious Encephalitis. They found disturbed intelligence and disharmony of individual mental functions in 10 cases, irritability, emotional instability and other neurotic symptoms in 22 children, impulsiveness, hyper-activity, even psycho-motor restlessness in 13 children and the contrary, namely hypoactivity (passiveness, apathy, slow responses, sluggishness) in 5 children. Pre-disposing factors were discovered in 52 % of the cases studied but were found to have no bearing on the severity of the acute illness nor on its sequelae. Parents' reactive behaviour was found not to have any great significance in relation to the behaviour-patterns of these children.

Engel (1951) has investigated behaviour difficulties of 41 children with post-encephalitic syndrome after Encephalitis of thirteen different established origins.

Focusing on disturbance in interpersonal relationships and of self-identity, the author described two types: (a) children with predominantly motor disturbance (hyperkinesis and restlessness) and (b) torpid type with predominantly perceptual symptomatology.

In summary the following phenomena were observed amongst the restless children:

(a) Continous and aimless over-activity with repetitive movement patterns in the more severe cases.

(b) Primitive play-behaviour with incorporation of objects into fixed motor patterns or destructiveness. Restraint " caused only greater commotion."

(c) On the verbal level limitation of speech and use of speech in ego-centric fashion. Avoidance of verbal confrontation, with parrot-like repetition of questions, or quick and ill-adjusted answers.

(d) Inability to distinguish the personal pronouns " I " and " you " in the less disturbed children.

(e) Contact with others rather by touch, clinging on to the other person's arm or sitting on the other person's lap. Regression of the visual field of perception into perception of lower sense activity.

(f) The borderline between the childs self and the environment has been found to be indistinct or obliterated.

As to the " torpid type ", Engel has made the following observations:

(a) These children engage in stereotyped motor patterns with ritualisation of daily activities.

(b) Obsessional play with water, beads or coins has been frequently observed.

(c) On the verbal level the children remain dependent on affective relationship and show lack of expressiveness and modulation in their speech.

(d) Lack of impulse and motivated action with obvious need for identification with other peoples' actions.

(e) Lack of self-identity resulting in the child's identifying himself with others or becoming fixed to objects in perception.

(f) In the less disturbed children lack of distance between self and ideas has been observed.

Engel concludes that invariably a combination of the two types exists in one and the same child and that, even more significant, a child may change from the one type of behaviour to the other or alternate between the two. He suggests that the behaviour of post-encephalitic children can be basically understood by using the concept of disturbed differentiation between self and environment.

Asperger (1952) has come to similar conclusions by describing the inability of the post-encephalitic child to transcend his own actions and the givenness (Gegebenheiten) of his surroundings.

Kanner (1960) has emphasised the restlessness of these children and " the ill-regulated constant push which expresses itself in repeated changes of goals, explosiveness and aggression " particularly in children suffering from sequelae after epidemic Encephalitis. In the majority of cases mental impairment can be shown and in severe cases the development of these children is arrested.

Strauss (1947), who includes the post-encephalitic child in the larger group of brain-injured children, has found: instability, lack of inhibition, impulsivity, hyper-activity. These children are bound to external stimuli and " made to act without weighing all the consequences." From a more neurophysiological point of view, this author has made valuable observations with regard to psycho-motor disturbances and concludes that the brain-injured child suffers from being seized, possessed, and controlled by an outside force.

The most detailed studies from a psycho-pathological point of view have been made by Bender (1942). In her investigations of two series of fifty children, she has summed up three major problems of their behaviour:

(a) Motility disturbances with hyperkinesis.

(b) Personality disturbances related mainly to hyperkinesis and deficiency in social orientation.

(c) Specific intellectual defects in gaining patterned behaviour through perceptual experience.

As to hyper-activity in these children, Bender's investigations resulted in the hypothesis that the intellectual defi-

cits of these children are dependant on those motility disturbance and difficulties in the perceptual field. Central to these difficulties seemed to be " specific imperception of the body-image which is a performance of total integration of various perceptions."

Presence of primitive postural responses, convergence of the outstretched hands, disturbance of associated movement in walking and talking and in ocular-muscular control have been thought to be diagnostic of Encephalitis in the dimension of motility and posture.

Hyperkinesis, a main symptom, which is clearly of organic origin and not modifiable by psycho-therapy, has been understood as organic-drivenness of brain-stem origin, a concept introduced by Kahn and Cohen (1934). Bender (1950a) suggested that the whole problem of post-encephalitic behaviour disorders can be reduced to problems of impulses. She described motility disturbances as connected with the child's inability to perceive his own body and actions. The constant drive of the post-encephalitic child to make contact with the world, Bender suggested to be due to the lack of final patterns which would give satisfaction both in movement and perception. " This in turn leads to increase in drive to contact and to experience contacts which accounts for the hyperkinesis with the drive to touch, see, hear, feel and finally devour and destroy every object which cannot otherwise be appreciated."

In connection with interpersonal relationships, Bender (1956) described the effects of motor disorders with abberations of drives and impulses in social interaction: " The continuous flow of impulses which are poorly patterned, a short span of attention and aggressive behaviour against persons and objects, make the training of these children a difficult problem." She described the hyperkinetic child as being the most unwanted child who easily suffers from neglect and lack of social and educational opportunities, a fact which represents both cause and effect of those motor disturbances. Bender, however, also stresses the fact, that some children with post-encephalitic syndrome appear rather apathetic and, therefore, may also appear mentally defective. Others show alternation between such behaviour and sudden outbursts of ill-patterned impulses. (Bender 1956).

Through hyperkinetic activity, Bender suggests, the child

makes an " effort to continually contact the physical and social environment and re-experience and re-integrate the perceptual experiences in a continuous effort to gain some sense of orientation in the world."

This can be seen, for instance, in the tendency to come into contact with persons and things by clinging to adults or affective or aggressive behaviour with other children and touching, handling and destroying things. (Bender 1956)

In a more comprehensive and general study on the psychopathology of children with organic brain disorders, Bender (1956) has emphasised the close relationship of motor development to affective security in the normal young infant: Development of postural security, freedom of movement and maturation of language are discussed as dependent on a social, emotional equilibrium between the child and the mother. Anxieties, frequently observed in brain-injured children, are related to interference with normal maturation " in any such fields as motor function, perceptual integration or the ability to relate to reality."

Contrary to other writers, this author in her studies on sequelae after epidemic Encephalitis, has come to the important conclusion that the behaviour of these children largely depends on emotional attitudes of the surroundings. Immature patterns of behaviour in these children can lead them to become deprived and isolated children, manifesting asocial behaviour. (Bender 1956)

Bender's interpretation of the behaviour of these children centres on the disturbance of body-image perception. No deficits of perceiving, as such, have been found but inability to integrate various perceptions to the body-image, which is defined by Bender " as the total integration of various perceptions of the whole organism concerning one's own body and its relationship to the world." (Bender 1956). These results also emerged from the authors interpretation of the Goodenough Test which das been done with these children. (Bender 1940)

Bender (1956) has also described disturbances in patterned perceptual motor functions, that is, difficulties in spatial orientation, visual and auditory memory and in baragnostic sense perception. All these perceptual disturbances, is has been suggested, are closely related to the problem of hyperkinesis where the continuous but apparently meaningless

contact with the physical and social environment seams to prevent the child from integrating his perceptual experiences and from transcending primitive forms of visual motor experience.

(c) SUMMARY

The observations and interpretations can be summarised as related to

I: Three psycho-social dimensions in which disturbances occur:

(a) Disturbance in interpersonal relationships.
(b) Structural disturbances in motor and perceptual relations with the world of objects.
(c) Disturbance in patterned behaviour with lack of awareness by the child towards his own actions with consequent insecurity and lack of stable self-identity.

II: Various motor and cognitive functions in which disturbances occur:

(a) Behaviour of these children is disturbed in object relationship as well as in relation to their own body (body-object).
(b) Perceptual and motor activity does not seem to be sufficiently differentiated to allow perception of space independent of the child's own activities.
(c) Lack of objectification seems to be accompanied by poorly defined body-boundaries and lack of distinction between the child's self and his environment.
(d) There seems to be a profound instability of cognitive structures which would allow meanigful adaptation to new stimuli. Lack of " staying power ", concentration on a task and " boundness " to immediate and proximal stimuli seems to be related to this instability.
(e) Apparently meaningless patterns of movement seem to be in the foreground of motility-behaviour and are attributed to imperception by the child of his own actions and body (Bender).
(f) Over-activity and stimulus- " boundness " in the post-encephalitic child can change into apathetic behaviour, avoidance of stimuli and passiveness of motor-actions.
(g) Lack of patterned perceptions and movements prevents the post-encephalitic child from establishing a stable space perception and visuo-motor activity remains poorly differentiated (Bender).

III. Four affective dimensions in which disturbances occur:

(a) The children show deficiency in social orientation and remain dependent on primitive relationships both in action and language.

(b) Understanding and execution of mediating activities through language, gesture and expression seem to be reduced.

(c) A stable representative space does not seem to be available for the child's interpersonal transactions and its sharing with others.
The post-encephalitic child therefore tends to regress into " object-fixations " (Engel 1957) or identification with the other person's actions and speech (inability to distinguish the pronouns " I " and " you ".)

(d) Immature patterns of behaviour might lead these children to become deprived and isolated, showing tendencies of anti-social and aggressive behaviour accompanied by frustration.

In the following chapter the structural dimensions in which these disturbances occur will be discussed in their relevance to the theories of cognitive and social behaviour in child development.

Chapter 2:

THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

(a) Introduction.

(1) Prototypical disturbances in post-encephalitic children and the relevant dimensions of normal development.

The results of previous investigations and the observations carried out on the children who constitute the subjects of the present study point to different relevant dimensions of cognitive and affective disturbances which seem to be prototypical in these children:

The most disturbed children of group A (cases 1 - 5) show significant cognitive deficits in the following dimensions:

(a) In their relation to objects and the perception of their own bodies and actions.

(b) In the development of the mediating and symbolic quality in the understanding of interpersonal transactions (gesture, expression, language).

(c) In the development of the child's own mediating activities in action, gesture and language.

(d) In space-time relationship in as much as generalised space and objectification do not seem to be established as a stable and autonomous schema of reference for action and perception.

Such difficulties which are essentially of a perceptive nature must be expected to result in patterns of primitive behaviour in which the children utilise early modes of interpersonal relationship, perception and motor-activity.

To understand these atypical children attention will, therefore, have to be directed to the normal process of objectification and the emergence of a first cognitive schema of reference.

The theories which are to be presented and which will deal with development during the first year of the infant's life, will show that objectification, generalisation of space and a stable schema of reference are essential cognitive structures which allow the emergence of mediating or representative behaviour in action upon objects, play, imitation and language.

The children of the second group, Group B (cases 6 - 1o) retain to some degree the possibility of mediating behaviour and are able to use language as a means of communication. They, however, show characteristic disturbances of language, imitation and gesture leading to misperception of other peoples' behaviour as well as of their own activities. They remain dependent on primitive affective forms of interpersonal relationship since they are not able to grasp fully mediating representative activity. Self-other relationship, therefore, has undergone de-differentiation and remains unstable and highly affect-bound.

As background for fuller understanding of these disturbed children, the discussions of this Chapter must therefore be directed to:

a) the normal development of interpersonal perception,
b) representative behaviour in general and the development of body-image perception and
c) internalisation of language towards thought in particular.

(2) Purpose: The theoretical framework will deal with the above mentioned dimensions and aspects of childhood development. Purpose of this discussinn will be:

(a) To provide summaries of previous investigations and theories related to cognitive and affective development in childhood in the context of social relationships.

(b) To present views put forward by different authors as a frame of reference to which important issues arising in cognitive deficits can be referred.

(c) To establish a terminology used by different authors and related to normal development in infancy and childhood which can be referred to in the interpretation of pathological behaviour. Brief summaries of the terms used will also be mentioned in the Glossary appended to this thesis.

(3) Preliminary Assumptions: As assumptions are necessarily involved in the exposition of a theoretical framework, it is advisable to discuss the essential point of view on which this framework rests. As indicated in the chapter dealing with the method employed in this study, the essential stages of childhood development have been regarded as conditioned by the child's transactions with his human environment and as insepa-

rable from the dimension of social relationship. This basic assumption has guided the choice of authors quoted and this approach is indebted to phenomenology as conceptualised by Husserl (1913), Scheler (1923), Binswanger (1962), Strauss (1956), Merleau-Ponty (1965a, 1965b), Heider (1958b) and others.

In general, development has been regarded by the present writer as increasing differentiation and re-integration of the initial unity of affectivity and perceptual acts which constitutes primary intentional relatedness. This unity has been further conceptualised as constituting the close bond of interpersonal relation between the child and others, the dimensions of " Mitwelt " (Binswanger 1962, May 1958).

Cognitive development and self-other relationship proceed by progressive differentiation of this original matrix of primary intentionality which is not yet representative, but of reciprocal character from the beginning. Such differentiation does not only lead towards a stable cognitive structure of objectification during roughly, the first six months, but also continues to transform intentional relatedness towards communication in speech and representative behaviour in general.

Primary intentionality has been conceptualised as a perceptual dimension which from the beginning contains potentialities which later appear as the child's more conscious transactions with the world in sensori-motor activity, language and representative behaviour. The term primary intentionality is akin to the notion of " intentionale Beziehung "(" intentional relatedness ") introduced by Brentano (1874) and further investigated by Steiner (1960). According to Merleau-Ponty (1964) primary intentionality constitutes an " a priori " function which precedes object-notion and the self-related perceptual consciousness, significant for the child's behaviour after the emergence of schematisation and cognitive structuring. Intentionality always remains related to Ego-activity and development which is modified and becomes related to a Self emerging during the stages of development. Elementary forms of interpersonal communication are conceptualised by different authors in the notions of " embeddedness affect " (Wallon 1949) and " sympathy " as a primary perceptual-affective activity as used in the terminology suggested by Steiner (1932). It should be noted, however, that

contrary to Piaget, the present writer has not assumed this function to be biologically founded but has regarded it throughout as an " a priori " of transcendental Ego-activity which becomes related to cognitive structuring and undergoes metamorphosis. In all these stages of transformation, however, intentionality remains available as the unique function of man's reciprocal relationship with others and the world of objects.

Arrest of re-integration and/or deficit of cognitive structuring and differentiation of primary intentional relationships could be expected to lead to severe disturbances in interpersonal transactions, in relation to objects and in a stable self-notion. Understanding of such disturbances can be expected to be fruitful for therapeutic attitudes in social contacts which always involve structuring and assessments of reciprocal intentionality.

(4) Aspects discussed: With respect to the children of Group A discussed in section 1 of this chapter, this survey had to centre on the process of objectification and an understanding of the transformation of early sensori-motor and interpersonal behaviour towards mediated and representative self-other relationship. The role played by the emergence of a stable body- or postural schema as cognitive structure will be discussed.

With respect to the second group of children (Group B), the views of different authors will be presented in as far as they are related to the normal development of interpersonal perception in representative space and the development of mediating behaviour, including development of a stable body-image, imitation and play, referential speech and relationship of external to internal language.

These aspects will be discussed in the following sections:

(a) The development of objectification including
  (1) Development of a stable object-notion
  (2) Emergence of a stable body-schema
  (3) Perceptual equilibrium (auto- and allocentricity)
  (4) Significance of schematising, generalisation and cognitive structuring
  (5) Affectivity and social relationships.

(b) Postural or body-schema and body-image.

(c) Representative and symbolic behaviour including
  (1) Language as medium of communication
  (2) Imitation
  (3) Play
  (4) Social relationship in representative space (interpersonal perception).

(5) Presentation of Survey of Relevant Literature.

In the presentation of literature which follows, emphasis is on those aspects which seemed to be relevant to this thesis. An attempt has been made to show the features common to the various theories rather than to provide a critical analysis of them.

Where it seemed necessary the present writer's own comments have been added and should be read as preliminary notes which will facilitate reference in the concluding chapter. Furthermore, those forms of deficient behaviour will be mentioned which appear frequently in the observations of the children under consideration and which are related to the dimensions discussed.

A.) Development of Objectification

Piaget (1953, 1955, 1962), in his studies on child development, has discussed the process of objectification in close relationship to the emergence of a generalised spatial universe in which the child discovers his own body as an object amongst others. Piaget formulated two basic functions which he thought to be biologically founded and the dynamic interrelationship of which he considered basic for all cognitive processes. According to his theory, assimilatory schemata are present at birth, related to the primary function of assimilation. Such assimilation as a primary activity becomes increasingly related to accomodation which differentiates assimilatory schemata and transforms them, in order to give rise to new assimilation. Piaget held that accomodation is, to begin with, brought into action by external objects. Although this latter postulate can be doubted, Piaget has made an essential contribution to the understanding of cognitive development during the first year of life by insisting on the primacy of assimilation of the environment to the child's activity.

Progressive differentiation of assimilation, according to Piaget, results in increasing accomodation of " objects " to several schemata (" things to be grasped, sucked, touched and seen ") and objects become increasingly exteriorised in regard to their relation to the subject.

The author describes the increasing " de-subjectification " of assimilatory activity through which a space emerges which " encompasses heterogeneous images which previously corresponded to the various classes of sensations in a single environment." " Images " become detached from the activity itself, externalised and inter-related. Qualitative images are consolidated into prominent and substantial objects. Above all, " the child discovers his own body and links it in space with other bodies, shaping a totality of reciprocal relations between his own movements and those outside."

Piaget remarks about the early stages of pre-objectification, that objects have for the infant no peculiar or apparent qualities and it can be concluded from Piaget's study that the early perceptual world is configurated predominantly by the child's assimilatory activity, which means that it becomes either assimilated to existing schemata or remains unassimilable, thus " creating an uneasiness whence comes, sooner or

later, a new differentiation of assimilation." (Piaget 1955)

Following Piaget's thinking the early world of the infant is not yet object-centred and perceptions are part of intentional-affective relationships and of predominantly assimilatory nature. Initially, the infant remains wholly identified with this process of assimilation and the sensations appearing within it. Piaget, in his more general discussions, has therefore postulated that the consciousness of the infant is initially " a peripheric consciousness " and becomes gradually body- and object-centred through increasing accomodative activity. Simultaneously self-other relationship becomes established (Piaget 1953).

The term " egocentricity ", also used by Piaget to describe the subjectivity of the child's early perceptual transactions with the world, seems to be more accurately - and better suited to the child's early motor activity.

Piaget has described the child's increasing ability to transcend early egocentric movement in which the " object " is still part and parcel of the movement itself. Increasingly, the action ceases to be experienced as the source of the external world, as the child begins, for instance, to place his own hand-movements among those of external objects. Detachment of objects from action, according to Piaget, " marks the beginning of true objectification." (Piaget 1955).

Piaget's concept of the mechanism of early assimilation is of particular importance for the understanding of object-relationship disturbance in post-encephalitic children. He suggested that in the early stages of development when the infant is still looking for the sake of the activity of looking assimilatory schemata are not yet differentiated via accomodation so that globality of perception results.

At this early stage, Piaget suggested, the environment is incorporated into the schemata, losing its specific character by becoming identical with the body and its activities. In accordance with his postulate of assimilation being biologically founded, Piaget calls this form of behaviour in early infancy " Physiological Assimilation ". (Piaget 1953) Such primitive modes of perceptual functioning will be seen to appear in the behaviour of the children discussed in this thesis.

During the stages of cognitive development, according to Piaget, " rational accomodation " comes gradually into

existence: objects are no longer incorporated to the subjects activity but the subject subordinates his activity to the object. (Piaget 1953)

Summarising the development of objectification as an essential and initial form of cognitive behaviour, Piaget speaks of objectification of assimilation, through which perception becomes exteriorised and differentiated. This is to say that assimilation becomes eventually generalised via accomodation, thus bringing into perceptual appearance a generalised space and objects " out there ."

It is of particular interest for this study to realise the role which objectification plays in connection with the development of imitation and mediating motor activity. It must be expected that objectification, once it is estabilied, has significance for the development of intentional activity as well as for referential activity in which objects can become referents. Furthermore, once the body-object is perceptually established during the process of objectification, the body seems to gain a new significance as medium or tool for self-expression.

Although Piaget does not explicitly deal with these aspects, his interpretation of the development of true imitation implies the importance of the role of objectification in the early stages. The author describes close functional relationship of perceptual and motor activity in the early stages of the infant's imitative behaviour. Only those models are imitated which allow direct " transfer " to the child's own assimilatory schemata. In such situations the law of the coherence of the perceptual and motor act as " Gestaltkreis " (v. Weizsäcker 1950) becomes manifest in the early form of primitive circular reaction.(Piaget 1962)

Significantly, according to Piaget, imitation proceeds towards maturation by increasing primacy of accommodation over nearly pure assimilation. Piaget emphasised that during this process the body of the other person must become objectified and not merely assimilated. It ceases to be identical with, and thereby transferable to the child's own body and his imitating activity. Objectification in general or object-notion of the body thus becomes a " negative " notion as prerequisite for the emerging positive notion in true imitation in which the self-other notion is established and maintained. It

is from this form of " imitation which follows objectification that deferred imitation, and thereby image formation, develops." (Piaget 1962)

It follows from Piaget's interpretation that it is generalisation of assimilation towards body-object notion, as a " negative " achievement, which allows the positive notion of the body as medium of self-related action, experienced as different from the action of others.

Piaget has not especially discussed the important concept of cognitive structure in relation to objectification as he was fundamentally concerned to show the living equilibrium of assimilation and accommodation. His concept of objectification of assimilation and consequent exteriorization of perception towards a stable object-perception seems to point, however, to a notion of a cognitive structure which is endowed with a degree of autonomy and permanence.

Mc V. Hunt (1961), in his detailed analysis of Piaget's work, has attempted to show that Piaget's formulations are relevant to one of the essential problems of developmental psychology, namely the genesis and formation of stable autonomous structures as frame of reference for the child's perceptual and motor transactions in generalised space. Mc V. Hunt suggested that generalised space, external to the body and independent of its action, inter-coordination of such schemata as sucking, looking, grasping, differentiation of means and end in action can come into being only, if an autonomous cnetral process can be presumed to exist to represent these relationships.

In summarising Piaget's interpretation of delopment of objectification, Mc V. Hunt concludes:

(a) The permance of objects on their own which the child achieves at the age of 8 or 9 months is related to the discovery of a universe independent of himself and thereby his ability to discriminate the " me " from the not me.

(b) Stimuli which before acted as impulses for accommodation and thereby modification of available assimilatoy schemata cease to be affect-bound and limited to the range of familiar circumstances.

(c) " Objects " become objects in the true generalised meaning and accommodation becomes differentiated from assimilation;

this is revealted in:

1. Interest in novelty and curiosity.
2. Search for new means.
3. Imitation of the unfamiliar .

It will be seen that the deficits of the post-encephalitic child are particularly related to the dimension called objectification and the variety of behavioural phenomena connected with it as summarised by Mc V. Hunt (1961).

The deficits of the children under consideration will be seen to be related to discrepancies between the environmental influence and the availability of modification and accommodation of these influendes to existing schemata (Matching). Hunt has referred to this important issue of matching which has not been explicitly formulated or clarified by Piaget.

It will be noted that Piaget's investigations into the emergence of objectification were guided by his interest in this process as a cognitive achievement and he has not investigated the role which interpersonal relationships play in this process. It seems that the favourable affective environment in which the subjects of Piaget's observations were placed was taken for granted by the author and did, therefore, not play any noticeable part in his discussions of the results obtained. However, it must be suggested that Piaget failed to recognise the importance of affective and intentional relationships the child establishes in the first month of life and thereby the role such relationships play in early perceptual functioning and behaviour.

Although Piaget has neglected the affective and interpersonal components in the development of objectification, spatialization and personal autonomy, Wolff (1960) in a comparative study attempted to show essential links between Piaget's and psychoanalytical theories. According to both theories, adaptation to reality seems to emerge from a relationship of external and internal forces which become eventually stabilised as autonomous structures or " Ego-structures ", independent of immediate control by " drive-discharge considerations ". (Hartmann 1958)

Werner and Kaplan (1963) in their investigations on " Symbol Formation ", have discussed objectification as being closely related to the child's development of perceptual and

motor activity in a social context. Prior to true objectification, non-representational forms of sharing arise if mother and child contemplate things together. By such shared activity and also by touching and pointing to " things " their reference character becomes already potentially established. True reference, however, becomes possible only with the notion of things as " objects of contemplation ", " ego-independent entities ". The authors describe how " things " are, to begin with, only part and parcel of changing affective-sensorimotor patterns, and sensory and motor apprehension are still closely interrelated.

In a way different from Piaget's approach, the authors discuss objectification as being, from the beginning, closely related to symbolic media (e.g. speech) into which " objects of contemplation " are eventually incorporated.

The authors make the important distinction between action upon or with things and contemplation of things. " Things of action " must become " things of contemplation " in order to enter the field of symbolic or referential activities. " Objects of contemplation " arise only gradually from the child's early affective affiliation with the mother, by increasing addresor-addresse " distancing ". Only if such " distancing " is achieved in the process of objectification can objects be shared in perceptual and motor communication and at the same time become referents for referential activity.

The authors refer to another form of " distancing " equally important for the emergence of " objects of contemplation ". Whilst to begin with, lack of differentiation characterises referential or medium of representation - object (referent) relationship - a process takes places by which mediating activity becomes "de-substantialised" and autonomous as to the object to which it refers. Differentiation of bodily movement seems to parallel such developments from formation of immediate affective-motor transactions towards referential activity related to a referent (object).

The authors, referring to the detailed observations of Shinn (1900), stress the necessity of stable affective interrelationships as prerequisite for the important "shift" from the incorporation of things into the child's own motor-affective behaviour to the realisation of the object "out there".

Werner and Kaplan have realised the importance of the intimate contact between child and mother "to the point of iden-

tity" and detachment from affective states of need and anxiety for the emergence of "things of contemplation". This "primordial sharing situation" related to affective functioning prepares the way for the later "sharing situations" once objectification is established.

The authors seem to regard the emerging object-notion not only as a development towards cognitive self-realisation and perception of generalised space, but also as a medium or referent for communication and "sharing".

From the aspect of affectivity, objectification undergoes different stages which seem to reappear in cognitive regression, a condition which is frequently exemptified in the children discussed in this thesis. Werner and Kaplan refer to the study of Winnicott (1953) who emphasised the role of "transitional objects" in the development of objectification, for example food offered by the mother, or security-engendering objects such as a special pillow or a teddy bear.

In summarising, two processes leading towards objectification are of particular importance for this present study:

(a) The increasing "distancing" from the child's own motor-affective and perceptual activity with shift of affective-motor activity towards subordination of such activity to visual regard.

(b) The shift from "near-identity" relationship with the mother towards increasing "distancing" in self-other relationships in which objects become media of "sharing" as "things of contemplation".

Werner and Kaplan have conceptualised development of object-notion as schematisation through which early sensori-motor patterns are internalised. In such schematisation "objects are given form, structure and meaning through inner-dynamic schematizing activity which shapes and intertwines the sensory-postural, affective and imaginative content of the organismic state." The authors suggested that rupture of the bond of perception to the process of schematisation results in loss of meaning.

Witkin (1962), following basic developmental concepts by Levin (1935) and Werner (1965), has shown that developmental differentiation implies clear separation of what is identified as belonging to the self and what is identified as external to the self. Self is experienced as having defi-

nite limits of boundaries. Such experience is regarded as conducive to greater autonomy of functioning "from within" as opposed to the reliance on external nurture and support which is typical of the relatively undifferentiated state.

The author describes global experience as in contrast to an analytical, structured and articulated experience. Witkin makes the important statement that increasing limitation of global perception "of contexts" towards accentuation stimulates the infant's activity "from within" in mastering newly emerging structured and articulated experiences. "The achievement of a segregated structured self provides internal frames of reference for viewing, interpreting and dealing with the world from the position of an autonomous agency, enjoying an existence apart from the field rather than fused with it." (Witkin 1962).

It is suggested that this notion is identical with what can be called a first cognitive structure, which is principally a perceptual unity of reference relating exteroceptive perception to interoceptive experience of the child's own actions, thereby creating self-notion.

Important for this study seems to be Witkin's suggestion that raised stimulus barrier or heightened neural threshold provides a rudimentary form of defence against prolonged intense stimulation in the child's transactions with the world.

It must be suggested thet the availability of such mechanisms is essential for the eventual emergence of self-independence, an autonomous cognitive structure and true volitional acts as "activity from within". (Witkin 1962)

A study by Schachtel (1963) is concerned with the child's cognitive development and investigates different dimensions of affect-transformation and differentiation of perceptual functioning relevant to this present study. The most important aspects dealt with by this author are the following:

(a) Cognitive development is understood as emerging from early stages of "affective embeddedness" and pleasure-non-pleasure feeling.

(b) Interpersonal transactions and affiliations play a decisive role in the development of perceptual attitudes and behaviour.

(c) Cognitive behaviour becomes manifest by a shift from autocentric to allocentric modes of perceptual functioning.

Some more detailed discussion of Schachtel's views seems to be necessary: The author, in his criticism of Freud's (1959a, 1959b) theories, has made the important suggestion that already in the early stages of affective affiliation between child and mother two distinct modes of affectivity can be distinguished. The author sees these modes as related to the development of perceptual maturation towards object-notion. "Embeddedness affects" seek to retain affective relationship to the human environment without reference to objects of the external environment. Schachtel observes however, that even in the early sucking period the infant employs a different mode of affective behaviour which he has called "activity affect."

Such behaviour is described as directed and sustained and Schachtel suggests that these affects appear increasingly and modify embeddedness affects in the direction of objectification, thereby transforming early interpersonal relationships. Contrary to Piaget, the author suggests that activity-affects leading towards accommodation are present at birth and not induced solely by outside stimuli. It is through the inter-relationship of embeddedness- and activity affects that a gradual shift takes place from a positive affective valence to what constitutes a negative valence in the first instance: The world of objects. In this process the child develops towards objects an affective attitude which is no longer global and goes beyond the service of need-satisfaction and pleasure-non-pleasure feeling. This achievement of affect-transformation seems to be important in the growth of cognition in three ways:

(a) Focal attention becomes possible which serves to constitute objects, allows the child to "hold on" to them, approaching them repeatedly from different angles, making other aspects of the object apparent to him besides its need satisfying qualities.

(b) Even though objects no longer directly impinge on the sense organs, they retain, however, their original function of providing the affective and emotional motivation to bridge the gap between the organism and the object.

(c) Increasing activity affect constitues a self-notion in which the child recognises the not-me. Thus the child emerges from an early stage of massive embeddedness in which there is

no distinction between subject and object, within and without, pleasure-non-pleasure and in which sensory qualities are fused.

Referring to the importance of interpersonal transaction in the development of cognition, the author mentions transitional states of anxiety initiating new accommodative activity and separation from embeddedness. (Escalona 1952) Such states are frequently encountered in the post-encephalitic child in his search for objectification. It emerges from Schachtel's interpretation that in such situations of anxiety the child reacts either by employing regressive behaviour with limitation of life-space towards embeddedness, or by employing activity-affect towards focal awareness - in other words, adaptation to the environment change which interrupts earlier "familiarity". The author suggests that prolonged anxiety can be expected to appear when activity affect is not strong enough. In turn, the parents' reaction to such a situation might act as a further interference with objectification via activity affect, and prevent stability of focal awareness.

Schachtel suggests that learning about object-constancy is probably closely linked emotionally with the degree to which the infant experiences the constancy, that is "dependability of the most important object - the mother."

It will be seen that the author treats the emergence of objectification by including affective-perceptual behaviour as a unity of functioning. This becomes particularly obvious in his interpretation of early interpersonal play in which, according to him, objects arise as being shared and in which a reciprocal relationship between child and mother comes increasingly to centre on the objects of play, or at an earlier stage on the child's own body as object.

Temporary abeyance of affective needs are of importance for the development of object-notion.

As frequent reference will be made to these terms in the interpretation of behaviour of post-encephalitic children, Schachtel's terms of auto- and allocentric modes of perception must be discussed in more detail. His conceptualisation of the early perceptual activity of the infant seems to be closely related to the views of other authors discussed earlier. Significantly, however, Schachtel includes in modes of early perceptual behaviour those diffuse sensations which seem to be related to the body-interior and are at the same time linked to affective-perceptual modes directed towards

the environment (embeddedness-affects).

In discussing autocentric perception, the author refers to the so-called lower senses which include taste and smell, proprioceptive, thermal and pain perception. Such perceptions "which should rather be called sensations" show generally felt organ-localisation, have poor indicative value and are closely linked to pleasure-non-pleasure feelings with relative lack of objectification. The world of auto-centricity is further characterised by the presence of negative reactions towards new stimuli as they seem to interrupt a state of more or less complete embeddedness, protectiveness and satisfaction of needs. It is essential to realise that, according to Schachtel, auto-centric perception, as a mode of experience, includes the lower sense-perceptions as well as the experience of embeddedness in the human environment and that both experiences seem to form a perceptual unity, the world of primary auto-centricity in early infancy. In the words of the author "life organisation and mental organisation only constitute, in effect, one and the same thing."

From the beginning, however, allocentric perception is initiated by activity affect and increasingly constitutes the perceptual world of the infant, leading towards the emergence of "reality" and thereby objectification. Schachtel emphasises that allocentricity comes about by a changing attitude of the perceiver and not under the impact of objects themselves, and appears already on the 9th day of the infant's life. Being found only in man, allocentricity is characterised by a loose connection between perception and pleasure-non-pleasure, comfort-discomfort, attention-repulsion feelings. Its basic importance for the development of objectification and consequent development of thought, memory, affectiveness and communication is described by the author.

Disturbance of shift from autocentric to allocentric perceptual behaviour or breakdown of allocentric behaviour seems to be of such fundamental importance and significance in the behaviour of the children studied that the mechanism of this developmental shift needs to be further discussed.

Schachtel, as well as Werner, has provided a framework of interpretation by introducing the terms indicated above and by describing such shifts as for instance in touch, from interoceptive perceptions (autocentric) to the exploratory use of touch as related to objects (allocentric).

In early mother-child relationship the child seems to experience autocentrically in all the body-near transactions with the mother, being caressed, touched, rocked, by sucking, and the experience of objects which touch his body. These perceptions are by no means yet objectified but seems to form an affective unity with the mother. Such affective-intentional relationship, it will be noted, is ill-defined to begin with and eventually becomes objectified through activity affect and accommodation.

The experience of "looking for the sake of looking" can be suggested to be autocentric and related to affectivity in a similar fashion in which body-interior is experienced. However, the activity of looking for the sake of looking seems to be closely related to the child's intentionality, a primary perceptual function, whereas the processes of the body-interior are not. Both perceptual experiences, however, are, to begin with, poorly accommodated, but increasing activity affect and allocenticity (accommodation in the sense Piaget uses the term) lead towards objectification in the visual field and, on the other hand, body object-perception in which the child gains a "distance" from early autocentric body-sensations or perceptions.

Seen in this context, increasing objectification separates the autocentric unity of affective or intentional affiliations and body- or lower sense perceptions; and the body-interior as well as objects "outside" come to be affectively "negative" entities, necessary for self-other differentiation. Spatial arrangements come into focus in allocentric perception and the child's identity with modes of autocentricity (poorly localised, poorly communicable and not articulated) becomes differentiated and articulated towards notion of self and generalised space including the child's own body.

Autocentric or interoceptive perception seems to become increasingly objectified during early cognitive development and at the same time generalised. The child gains an increasing perceptual "distance" to his own body-interior which parallels accentuation of perception of the body-exterior (the body-object). It will be noted that such perceptual attitude towards the lower-sense-perceptions or autocentric perception does not result in a perceptual consciousness, which could be compared with a consciousness related to the environment (object-notion). However, it can be suggested that the globa-

lity of autocentric perceptions of the body-interior becomes differentiated in the process, creating a structure of reference or a cognitive structure. Autocentric experiences can from then on be related to this structure as a stable reference which allows transformation of autocentric modes towards allocentric perception. Body-nearness through proprioceptive sensation can thus become distanced and movement and postural attitudes are transformed in order to serve exteroceptive or allocentric perception (as in the shift in touching). Stability of such a schema related to autocentric and proprioceptive or kinesthetic experiences gives the child the opportunity to transcend the body-nearness of perceptions.

Such shifts transcend the world of "nearness at hand" (Werner 1965) and of autocentric perceptions in which only the immediate environment is real, the physical impact of which is felt on the child's body (Schachtel 1963).

From these discussions it emerges that transformation of auto- to allocentric perception will result in a fundamental change of the child's experience and perception of his own body and the bodies of others. Such transformation has an important bearing on self-other relationship.

Wallon (1949) has described development of intero-and exteroperception in the infant and their eventual inter-relationship. Introducing the term "syncretic sociability", the author suggests that at the beginning of life all perceptions relating to the external world cannot yet collaborate with introceptivity. He argues that the differences of bodily-states are closely linked to the perception of others and their actions upon the child and in this sense the introceptive body functions as extroceptive. In describing the infant's increasing visual awareness of his own body and the bodies of others during the first six months of life, Wallon suggests the emergence of a postural schema through which extero- and introceptive perception can become related, establishing a form of objectification which creates a distance from the child's own introceptive perceptions and links them to the date of the body in space. Exercise of relation of proprioceptive and exteroceptive perceptual data <u>creates</u> a sensorimotor material which transcends the early undifferentiated functions of the motor-sensory apparatus. Wallon stresses the necessity of a bodily equilibrium, the union between introceptive and exteroceptive perception, for all perception in

general. This development occurs between the third and sixth months.

Steiner (1960), in his work on the inter-relationship of sense modalities, has suggested that perception as a cognitive act is always related to at least two sense modalities for instance intro- and extero-ceptivity. This relationship constitutes perceptual consciousness. It can be expected that disturbance of such relationship, as will be seen in the children with post-encephalitic syndrome, results in lack of objectification and self-other relationship in communication, including body-object perception.

Merleau-Ponty (1964), referring to the work of Wallon (1949) and Lhermitte (1939), suggests that in the postural schema or body-schema, consciousness of the body necessitates structuring of the globality of interoceptive perceptions into which the child is no longer "swallowed up." Visual perception by the child of his own body and subsequently the bodies of others results in a transformation of early "syncretic sociability" or "precommunication". From an initial community, the author states, there arrives a segregation, a distinction of individuals "both by the objectification of one's own body and the constitution of the other in his difference."

From a psychoanalytic point of view, Spitz (1960), in his study on the development of early object-relationship, has suggested an early matrix of communication between child and mother in which early affective and perceptual modes can be observed as well as communicative activity, the "body-language."

Spitz regards such early forms of communication as primary data which must be interpreted as being precursors of later symbolic functioning. Increasing objectification which Spitz also calls a process of "diacritic perception" transforms the behaviour of early affective communication towards cognitive communication in which representational behaviour and symbolic activity arise. As to the early forms of communication, Spitz discusses a number of dimensions of which the perceptual-affective aspects are of particular interest for this study:

Following suggestations of Wallon (1925), the author describes early modes of perception as "koinaesthetic" attitudes in which a "somatopsychic" unity is established which includes body-interior and visceral perceptions as well as

global, diffuse perceptions of the environment. Both forms of perception are strongly affect-bound and are, therefore, largely dependent on maternal attitudes.

Spitz elaborates in detail on the development of the child's affective relationship to the mother and seems to suggest that such development is closely if not causally related to the emergence of a stable object-relationship. The appearance of anxieties seems to parallel development of diacritic perception and objectification which eventually results in transformation of early affective embeddedness towards formation of "organisators" as manifestation of a stable boundary of the self over against the environment.

Such "organisators" seem to be identical with a stable cognitive schema of reference.

Affect-crisis and anxiety during the first year of the infant's life can be regarded as a developmental crisis in which the mother becomes increasingly an "object", participating in an increasingly generalised and objectified world.

Lack of a stable cognitive schema can lead to regressive appearance of prolonged anxiety, while disturbance of maternal attitudes, such as over-protectiveness, non-acceptance, lack of affective support, may lead to delay of diacritic perception and thereby objectification.

The early space of communication has been investigated by Metzger (1958) who attempted to show the particular quality of perceptual functioning in pre-objectified space. According to the author, it must be emphasised that this space which he calls "Urraum" does not yet contain "things" and this not only because of a lack of focussing power in the infant. However, notion of an "opposite" appears early in perception and is more or less accentuated and such "opposite" experience is either acceptable or not acceptable, and in the latter case calls for reaction of withdrawal or pushing away. This is very similar to Piaget's notion of the environment being not assimilable.

Metzger suggests that the perceptual acts of the newborn are characterised as "intentionale Bezogenheit", a form of perceptual intentional relatedness which is expressed by acts of attention, astonishment and groping in the visual field.

The infant's perception is <u>not directed towards simple stimuli</u> but towards what the author calls "unities of events" (Geschehenseinheiten). Early perceptual images are synesthe-

tic and of physiognomic nature and gradually disappear with the emergence of a "world of things." Action and appearance of the mother are preferred and prototypical goals of the direction of early perception.

According to the author, perception by the infant of his own body follows similar patterns, and "qualities of a whole" (Ganzheitsqualitäten) are perceived which are not yet differentiated.

Metzger, in terms of "Gestaltpsychologie", has suggested that early perceptions do not show figure upon figure, no detailing of figure and serialisation of figures side by side. Not more than one figure appears which is formulated within the background which is hierarchically ordered.

The author's notion of "Urraum" seems to correspond to an early space of perception and communication which is constituted by affective-perceptual intentional relationships, in which spatial data are still immanent in events in time and only appear during the child's increasing sharpening of "opposite" experiences and accommodative activity. The infant seems to be intentionally largely identified with his perceptions, proprio- as well as exteroceptive alike, and therefore also identified with its content. Increase of perceptual or accommodative attitude towards "his" intentionality seems to differentiate the activity itself as well as the perceptual content towards objectification. Such forms of early perceptual behaviour are clearly indicated in Piaget's notion of pure assimilation in which, for instance, light becomes an "aliment" for the child in the first stages of sensori-motor development.

It can be further suggested that the structure of such early perceptions can be regarded as a precursor of later symbolic activity (Spitz) once it has been metamorphosed or transformed via objectification. Such transformation can be related to the development of true-space relationship and its development and will be further discussed in the interpretation of the behaviour of the children under consideration.

Observation of the behaviour of these children and the survey of relevant research have suggested the importance of a close analysis of the children's relation to their own bodies in comparison with development of body-schema and body-image in normal children.

B.) Body- or postural Schema and Body image Development.

It must be apparent from the previous section that objectification as a general cognitive process includes the development of the child's perception of his own body and the bodies of others as "object". Emergence of body-objectification can be regarded as the phenomenological appearance of that which, structurally, becomes manifest as the body-schema during the first year of the child's life. It must be expected that body-object perception plays an essential part in development of body-image, a dimension vital for symbolic behaviour and for interpesonal perception and communication. Furthermore, the developmental inter-relationships between body-image, imitation and language will have to form part of this investigation into deficit-behaviour in the dimensions indicated.

Schilder (1935), in his work on the body-image, has made relevant suggestions about body-image development in early childhood although he has not discussed this aspect explicitly. The author recognised the close identificational relationship of the child's own body and actions to the body and the actions of others and postulated that sympathetic communication (appersonalisation) with the experiences of the other allows for a reciprocal relationship which is social from the beginning. Early forms of imitation arise from this mechanism of identification, and "my body-image and the body-image of others are primarily closely connected with each other." Such forms of early imitative behaviour bear within them already the nucleus of later purposeful imitation. Schilder further suggested two basic modes of action, one based on identification and the other on reaction towards objects, which seems to show that the emergence of object-related action is bound to the perceptual awareness of such objects towards which the child is acting, thus modifying early identificational activity in a significant manner. Relationship between action upon object and action via identification seems to be interrelated in transactions with the social environment. The

author's interpretations implies that there is metamorphosis or transformation from early shared body-image perception towards individualisation of body-image perception which allows the body to become a tool or instrument for body- and self-mediated communication in true imitation, language and expression. Development of perception of body-object would appear to be an essential stage in this process.

According to Schilder, conflicting situations arise in social life between the two forms of action as social relationships are based not only on identificational action but at the same time on action where the full object-character of the other person is preserved. Disturbance of this interrelationship are undoubtedly significant in the observed social behaviour of the post-encephalitic child. Following the author's assumptions and observations, a stable cognitive structure of objectification seems to be necessary as a structure of reference in all identificational transaction, not only for the maintenance of the other as "object" but also for the child's own self-independence in transactions related to the body-image dimension.

Once this structure has been created in the course of early childhood development, body-image becomes increasingly perceptualised and at the same time exteriorised as shown in the child's development of drawing a human figure. Perceptualising or development of a perceptual attitude towards the body-image appears to be related to the development of internal speech which will be discussed in the following section.

The children investigated in this study show deficits in their body-perception and consequently in the perception of the other person's body in mediating behaviour. It must be suggested that the dimension of body-perception and body-image is of fundamental importance for the everyday interaction of the child with the other person, his self-realisation and the development of mediated, representational behaviour in reciprocal communication. Breakdown of such communication is shown by all the children under consideration, and the study of the forms of such breakdown may well provide an insight into the functions of interpersonal perception and its genesis in early childhood.

By approaching the behaviour of the children phenomenolo-

gically, it becomes obvious that in normal development interpersonal perception also arises from an early perceptual matrix of pre-communication in which self-other relationship can be regarded as a unity to the extent that the intentions of others, manifest in actions, speech and gesture, become directly transferred to the child's motor schemata or assimilated. Such transfers or "impregnation" (Merleau-Ponty 1964) show the close affective intentional relationship between the infant and his human environment. It must be suggested that subsequent understanding of symbolic behaviour is already contained in this primary matrix and develops through increasing objectification which itself modifies assimilatory activity. This has also been suggested by Piaget in his description of the development of image formation arising from imitation (Piaget 1962).

Merleau-Ponty (1964) has suggested revision of the traditional concepts of self-other relationship, which had been based on the assumption of a self which at not stage can be shared. The other, therefore, can only be understood on the level of lived behaviour by projection of own experiences. Merleau-Ponty elaborates on the early matrix of interpersonal perception in which the infant transcends experiences of his own body continually, and lives or partakes in the intentional activity of the other. Such perception is fundamentally of assimilatory nature, not yet sufficiently accommodated and therefore giving rise to the impregnation of the child's own activity expressed overtly in what is called imitation.

Such perceptual acts, according to Merleau-Ponty, arouse reorganisation of motor conduct. Correspondence between perception and motility would constitute what Steiner (1932) has related to the primary activity of sympathy which is a perceptual-motor and at the same time intentional-affective function, which subordinates motility and postural behaviour.

Merleau-Ponty (1964) goes on to show that after the sixth month of life a phase intervenes in this process which is in sharp contrast to this early relationship, characterised by the development of the child's perception of his own body as an entity in space and, significantly, also of the other person as "having a body" which comes into the focus of the child's attention at this stage. This form of separation in which the body seems to create a wall between self and others significantly marks a new period of true communi-

cation, an "outburst of new sociability and social sensibility", and it is during this new period that the actions of the child and those of others are clearly differentiated and at the same time recognised in their symbolic value and referential character.

Early unity becomes transformed towards the unity of representational activity in which the self remains relatively stable in its transactions. Merleau-Ponty's study indicates that objectification engenders in the child the tendency or disposition to overcome the first self-other separation through a new dimension of true communication in which his own intentionalities as volitional acts can be more clearly separated from others by means of increased objectification which establishes equilibrium with earlier forms of integration.

It is this form of equilibrium which appears continually to break down in the child with post-encephalitic syndrome, giving rise to either objectification without integration or to regression to early modes of syncretic motor-perceptual functioning with avoidance of objectification.

Merleau-Ponty (1964) in a discussion on the crisis of the third year, indicates the close relationship between self-other affective relationship and stability of self and the earlier development of the first self-notion related to body-object perception. The appearance of the child's experience of an ego in the eyes of the other seems to parallel, on a different level, the early experience of the body as something to be looked at by others, or the transformation of the introceptive me to the visual me as described by Lacan (1949).

Sherif and Cantril (1947), in their detailed survey of Ego-development in early childhood, have shown the importance of the child's growing perception of the visual body-object for Ego-development by quoting different authors:
Tiedemann (1927) described the increasing awareness of the child of his body-exterior in children whom he observed. At the age of 2o months the children could point out different parts of the body.
Shinn (19o7) and Wallon (1949) observed the importance of the child's experience of the "large and complex consciousness of the somatic self" (Shinn) and of the notion of self-non-self through body-object notion essential for Ego-develop-

ment and reciprocal transactions with others (Wallon). Isaacs (1930) suggested that in early stages of infancy the other person is closely identified with the child's body-interior perceptions (intestinal movements, pain, breathing). Objectification of the body and its inclusion in a general space of external objectified experience contributes to dissociation of early affiliation and allows for true social communication and representative behaviour.

The notion of body-objectification is linked to the notion of body-boundary, a dimension which has been investigated experimentally by Fischer and Cleveland (1958). The authors have shown that adults with low-barrier scores behave differently in their social transactions when compared with persons with high-barrier scores who can experience themselves as "protected in the midst of danger and who are not likely to be flooded with disrupting anxiety". Social transactions need definite body-boundary realisation but at the same time fluidity, that is an organisation of equilibrium.

The authors, however, emphasise that body-boundary is not identical with body wall limits and that the normal person might experience body-image boundary-contractions and expansions. From the author's concept of body-boundary it emerges that body-boundary represents a dimension important for social interaction and related to the interaction of objectification and integration in interpersonal perception. Fischer and Cleveland have made a number of suggestions about the development of body-boundary in infancy which are particularly relevant to this study.

(a) The first hazy boundaries, developing in the infant, are probably not associated with the body-walls (body-exterior). Boundaries tend to be experienced as encopassing an area somewhat interior to the actual body-wall.

(b) The child seems, to begin with, to internalise and thereby socialise, figures in interpersonal relationships as images which guide behaviour and which, being internalised, are closer to the body than are objects exterior to the body.

Internalised schemata of others seem to be related to forms of body-interior perceptions. (The term body-interior, as used by the authors, includes all the internal viscera, the skin, the striate musculature and the vascular components of these two systems.)

(c) Low-barrier score-personalities seem to be related in their psychosomatic behaviour to body-interior perception, high-barrier score-personalities to the exterior; in other words to a system which is more inclined to volitional, goal-seeking and self-steering attitudes.

(d) If the body is regarded as a "unique projection screen" intermediate between outside and inside, it can be expected that the development of this "screen" results in different stages of plasticity.

(e) Extreme high-barrier score might interfere with interiorisation and identification, where excessively low-barrier-scores would foster interiorisation and identification which excludes objectification but calls up internal (visceral) reactions and perceptions.

(f) Lack of definite body-image boundary is typical of early parent-child relationship.

In summary the authors suggest that security goes with definite boundaries through which the individual feels free to look for relationships in which his aim is not primarily to find protection. With such boundaries established, he might establish contacts "in which he actively offers things to others and establishes a reciprocal give- and take pattern."

From a developmental point of view, body-boundary would appear to emerge by the achievement of relative stability of a cognitive structure and Self-other differentiation through increasing activity-affect (Schachtel) and thereby accommodation towards objectification. Lack of such stability can be expected to result in appearance of low-barrier score behaviour and predominance of autocentric perception (Schachtel). This latter form of behaviour will be frequently seen in the children under consideration and represents a form of cognitive regression.

Furthermore, the eventual achievement of distinct body-image perception and conceptualisation necessitates relative stability of body-boundary as a form of "individualisation".

Nacht (1952), in a psycho-analytic study, has suggested that body-image probably begins to shape in its unity from the sixth month on. He assumed that diffuse internal body-perception must be capable of being "consolidated" and projected outward in action before the unity of the Ego in the dimension of body-image can be established. This stage

corresponds to the emergence of objectification. Nacht has suggested that it corresponds to the age when the pyramidal system matures and when the myelisation of the fibres of co-ordination begins to take place. Similarly, Merleau-Ponty has related the appearance of the connection between introceptive and exteroceptive sense-data in the child's sensori-motor functioning to the process of maturation of the C.N.S. occurring between the third and sixth month. (Merleau-Ponty 1964).

Insecurity of body-object objectification can be expected to result in specific breakdown of self-other relationship as observed in the children of this study.

In normal child development body-object objectification and the emergence of a stable body-schema is accompanied by the development of overt motility patterns: Primitive postural responses are increasingly differentiated from actions and this process of differentiation proceeds from head to foot and in proximodistal direction (Mussen 1963). Mass activites which include all parts of the body are increasingly transformed towards specific and selective motor acts to the extent that a stable postural or body-schema becomes established. Freedom of the child's exploratory, perceptual and motor attitudes may be expected to depend directly on the established stability of a body-schema, and the development of the body-schema in turn seems to be related to increased allocentricity (Schachtel) and generalisation or objectification of early mass-motricity. (Wallon 1941, König 1957).

Breakdown of body-schema can, therefore, be expected to result in de-differentiation of selective motor and postural activity and re-appearance of primitive postural attitudes in the service of autocentric perception as observed in post-encephalitic children.

Bender (1956) in discussing brain-injured children has also made the important obeervation that these children's continued dependence on primitive posture is sooner or later felt as a matter of compulsion and an obstacle to the individual's freedom of movement to "which he may react with rage and destructiveness". Lack of postural security can therefore result in movement patterns which are of choreatic, athetoid or merely hyperkinetic character and which are frequently seen in children with post-encephalitic syndrome.

C.) Representative Behaviour (speech, imitation, play, interpersonal perception).

In this section a number of authors will be quoted whose investigations are concerned with the development of:

(a) Speech as medium of communication, and

(b) Representative behaviour and symbolic activity (play, imitation, representative interpersonal perception).

(a) In quoting and discussing the selected investigations, the focus has been on those aspects of speech-development which seemed to be particularly relevant to the understanding of deficits occurring in children with post-encephalitic syndrome. These aspects are the following:

1. Speech as a representative autonomous form of interpersonal relationship and its particular function as referential, that is referring to objects.

2. The regulatory function of speech in mediating and subordinating sensori-motor activity.

3. The relationship of internal and external speech and their differentiation in the course of child-development.

These aspects have been chosen as the children discussed in this study show deficits in speech-behaviour which are related to these dimensions of communication by language. It was further postulated that deficits in these dimensions are connected with deficits related to body-image perception and therefore with profound disintegration of representational behaviour and social relationships. Language behaviour of these children has been regarded as the most essential tool of social relationships, originating from an early unity of a speech-system which includes addressor and addressé and proceeds towards addressor-addressé "distancing". It has been assumed that perception of language-behaviour thereby becomes representational in character, shared and referential (Kaplan and Werner 1963).

To 1.: Dealing with the development of the autonomy and referential activity of speech Werner and Kaplan (1963) have noted the functional identity of early "motor gestural depiction" and "vocal depiction" and described the process of in-

creasing distancing which results in differentation of vehicle and referent. On the level of vocal depiction this process results in conventional naming and on the level of social relationships in distancing between addressor and addressé.

From early imitation of primordial sound material, shift of function takes place towards depictive imitation. The child's early speech "understanding" shows the character of "affiliations" closely connected with postural attitudes and physiognómic speech understanding. The authors indicate the genetic relationship between verbal and motor distancing, resulting in differentiation of referential-referent relationship. The authors emphasised that this process goes through transitional stages and physiognomic forms of speech as vehicle of language develop in spite of, to begin with, disparate external forms (physiognomic versus conventional). Following Werner's and Kaplan's discussions, it can be assumed that lack of speech-objectification will lead to delay of conventional naming and thereby inadequacy of referent-notion.

The process of the increasing subordination of objects to the medial entities of language and gesture seems to be of particular importance for the evaluation of deficient speech-behaviour of the children discussed. The authors emphasise that in the early stages the child can proceed to gestural and verbal depiction and referential activity only by having established a repertoire of well-structured and relatively stable sensori-motor patterns. Stability of a postural schema as cognitive structure of reference therefore must be regarded as a condition for verbal and gestural referential behaviour which is no longer object-bound and has also transcended early affect-bound imitative motor behaviour.

Merleau-Ponty (1964), in his phenomenological approach to the problem of the child's relation with others, has suggested that the child's speech is initially part of the entire syncretic relationship with others. The first one word sentences aim as much at the actions of others as at the child's own actions or "conducts". The child's relationship to speech at this stage is part of its plasticity of vision which allows the child to recognise gestural structures in general in a form of intentional relationship which precedes self-other differentiation and with it, objectification. It can be assumed that at this stage no stable postural schema

is yet available and "postural impregnation" takes place in which verbal behaviour is closely related to postural and motor conduct. Significantly, according to Merleau-Ponty, syncretic speech-behaviour in crying, where the infant imitates the crying of others, disappears to the extent to which visual perception (objectification) of the other develops. Up to the sixth month the visual perception of the other person's body, and the scrutinising perceptual exploration of parts of the other's body, play an essential part in the metamorphosis of syncretic behaviour in speech and imitation and self-other relationship. Such metamorphosis results in the emergence of sign-referent differentiation, addressor-addressé distancing (Werner and Kaplan) and symbolic consciousness in general (Merleau-Ponty). Deficits of such differentiations and re-integration in speech-behaviour, social relationship and imitation will be seen to constitute prototypical behaviour patterns in post-encephalitic children.

Vygotsky (1962), in his discussion on the mediating quality of early egocentric speech, has postulated that the medial character of speech develops from an affective-connative directness towards an object closely related to the intentional tendencies of gestures. Early speech behaviour is essentially social and dependent on affect-connative interpersonal relationships.

It emerges from Vygotsky's study on the development of ego-centric speech-behaviour that the cognitive structure which leads to objectification is essential for the unfolding of representational speech which becomes a medium of Ego-expression and helps to organise action. Such speech-behaviour is used by the child in his attempts to solve problems, to overcome obstacles and to plan activities. According to the author, "objects" emerging from objectification provide important motives for Ego-expression in speech. Referring to studies of Wallon, Piaget, Delacroix (1924) and Bühler (1927), the author emphasised that clear awareness of sign-referent relationship is not established immediately, and for a long time the word appears to the child as an attribute or property of the object rather than a mere sign. Only later on objects become subordinated to the autonomous medium of the child's speech.

Lack of subordinating activity of language or lack of relation of ongoing speech to objects will be seen in post-

encephalitic children as form of cognitive regression in speech-behaviour.

Disturbance and regression in the subordinating representative quality of speech have been studied by Luria and Yudovich (1959) in their detailed investigation on a pair of twins. The authors describe in detail the behaviour of the twins which, to begin with, was characterised by three important disturbances:

(a) Lack of necessity to use language in a representative fashion in their communication with each other due to the twin-situation.

(b) Use of amorphous and elementary synpraxic speech interlocked with action.

(c) Fixed relationship of the word to visible objects which meant that the twins could not transcend objectification and behave connatively, that is integrating objects through the medium of verbal behaviour.

The children did not use the word for organisation of meaningful activity of planning, were unable to understand the spoken word as an independent medium and would do so only when the word was related to objects visible and present in actual situations. Simultaneously, speech was bound to concrete action and did not become "an object of perception" (Luria and Yudovich).

It can be concluded that in the twins studied by the authors objectification did not provide the incentive or motivations for metamorphosis of early syncretic language behaviour towards the representative and subordinating autonomy of speech.

The authors interprete the improvement of the twins by intensive remedial measures and separation as the achievement of a perceptual or theoretical attitude towards the medium of language and its structure. To the extent that action and objects became integrated through the medium of language, understanding of the word became possible, and a story told could be related.

Luria has recognised the significance of representative speech for the development of object-relationship. Objects, by being related to the "secondary signalling system of speech" gain further isolation from the immediate environment, change their immediacy of stimulus-character and become

set into a category of other objects with similar meaning.

At the same time representative speech alters the relative strength of stimuli acting upon the child and, most important of all, begins to regulate his behaviour according to the influences madified by speech. Verbalisation by naming facilitates adequate action upon different objects.

In dealing with the regulatory function of speech Luria has conducted simple experiments which have shown the importance of representative speech for orientation in more complicated sensori-motor activity and tasks. Significantly, at later stages of normal child-development from the age of six years onward, external speech makes way for a process of internalisation towards thought. In more difficult tasks, and especially in pathological behaviour, this process may be reversed.

In a number of experiments Luria and others have shown the regulatory role of speech and its development in childhood. At the age of 18 months verbalisations of adults are impelling the child's action, have no inhibiting effect once action is started and do not succeed in inducing the child to switch over to another action. Introduction of rewarding afferent signals, however, allows shift from one completed simple action to another. Luria argues that at this stage the rewarding signal acts as afferent "feed-back" introducing the condition for true voluntary movement or volitional activity. At a later stage the sanctioning verbalisation of adults has the same effect. Luria has suggested that the child proceeds towards utilising his own speech as a "sanctioning afferentiation."

The experiments have shown that, to begin with, the child's own speech shows impulsive character in controlling action (e.g. at the appearance of a signal the child succeeded in pressing the bulb twice by saying twice: "Go", "go", but did not succeed in pressing twice by saying: "I shall press twice".) Only at a later stage does the regulatory function of speech develop from the impulse side towards "re-organisation of the perception" of an analytic system of "elective significative connections" (Luria). Appearance of the significative element of speech is accompanied by shift from external to internal speech in the regulation of action and becomes manifest at the age of 4 1/2 to 5 1/2 years. The children investigated in the present thesis show specific deficits as to

relationship of regulatory speech to action.

Vygotsky (1962) and Luria (1961) have further described the development of language culminating in the appearance of internal speech towards the sixth and seventh year of life. Differentiation of external and internal speech, according to these authors, can be seen to be of vital importance for the development of thought. It will be shown that deficits of internalisation and differentiation are prototypical in the children discussed in this thesis.

Luria and Yudovich (1959) have expounded the view that inner language emerges from an increasing perceptual attitude towards speech. Vygotsky (1962), in describing the genesis of internal speech in great detail, postulated that at the stage of egocentric speech, internal and external language are not yet differentiated. The author has regarded egocentric speech as socialised from the beginning and utilised for overcoming of obstacles in the smooth flow of action. Although egocentric speech is not yet objectified with respect to the conventional relationship in designating objects, it is highly representative of the child's Ego-activity. It therefore plays a vital part in the child's progress towards establishing a social self with its representative patterns of conduct. Increased perceptual attitude towards his own speech heightens the child's self-awareness and eventually leads towards individualisation through which the child becomes capable of "thinking words instead of pronouncing them". This process clearly involves generalisation and objectification of the language-system as external manifestation becomes reduced and language serves the explicit function of thought. According to Vygotsky, objectification or generalisation of egocentric speech leads to thought-activity and consequent further generalisation towards conceptualisation.

Werner and Kaplan (1963), referring to Vygotsky's theoretical considerations, maintain that, at first, internal and external language are not only undifferentiated but that also speech for oneself and for others is still part of an undifferentiated matrix at the stage of egocentric speech. In referring to Vygotsky's investigations, internal speech develops with the appearance of three phenomena:

1. "Silence", as "distancing" from external phonetic forms.
2. Condensation, the confluence of diverse meanings in one form.

3. Domination of significance by "sense" or denotation by connotation.

In the course of these investigations the authors stress the close link of self with others for the eventual emergence of self-directed speech. By communication with others the child also eventually learns to communicate with himself. Self-directed speech becomes established through a stable balance between complete freedom and complete conformity as far as communication is concerned.

The authors, referring to experiments carried out by Kaplan (1952) and Slepian (1959), arrived at the important notion that polarisation of external and internal speech is more manifest when the object of reference is more distant from the addressor. (Visual stimuli for instance foster polarisation to a greater extent than olfactory stimuli). These observations show that relationship of autocentric to allocentic perception (Schachtel) and increasing dominance of the latter ober the first in childhood development influence polarisation of language behaviour with respect to self- or other relatedness. It can be expected that cognitive regression towards earlier autocentric perception (lower-sense perception) results in significant changes of self-other relatedness in speech, of de-differentiation in explicitness of referential behaviour and perceptual attitude towards the child's own speech.

Piaget's studies of stages of cognitive development have described the beginning of symbolic activity in speech-behaviour, imitation and play at the end of the sensori-motor period from about 18 months onward. (Piaget 1962). At the third stage of this period the child engages in pseudo-imitation in which continuity of contact becomes established by the child attempting to prolong a spectacle and to induce such forms of transaction with the human environment. At the fourth stage, with the appearance of objectification and means-end separation, the child accommodates to new words and gestures by employing perception of parts of the other's body in as far as they are used for gestural or verbal expression. Progressively, however, this transitory stage is transcended towards true reciprocity with decrease of visual attention and emergence of the experience of the child's own body and the bodies of others as mediating representative behaviour in speech and imitation. Such behaviour finally

leads to "deferred imitation" in which the child is no longer engaged in immediate imitation but becomes able to interiorise imitation towards the creation of images. The child learns to reproduce models which are no longer present. Language and gestural behaviour seem to have become an autonomous unity through steps of accommodation and objectification (the generalisations referred to by Vygotsky). Egocentric speech, already being representative speech, becomes an expression of the emerging social self which transcends sensorimotor activities in generalised space. The ownness or me-ness of the child's transactions in egocentric speech seems to be an important characteristicum of the child's symbolic behaviour, as described by Piaget, once it can be understood that representative behaviour does not primarily refer to clearly defined relationships to objects but to <u>the representative quality of acts of conduct</u> in which the self becomes a representative property which can be shared with others in representative space. This fact seems to account for the affectivity of freedom and joy, described by Piaget and Wallon, in which the child experiences himself as a centre of activity and at the same time wakes up to the experience of extraneous personal causalities. It will be noted that this experience seems to be markely different from what has been called "function joy" already present prior to objectification. Similarly, by being representative, it is different from the earlier behaviour of efficacy in which the child depends on the other's experience and his interpretation of his own acts as representative. The child still depends on schematas which he himself has not created and which, for their functioning, are in need of outer stimulation by not being sufficiently accommodated to. Only in representative activity does such behaviour become "self-regulatory" (Luria) and this represents one of the most important steps in childhood development which seem to be related to three important notions:

1. Representative behaviour cannot be genetically reduced to, or derived from, any other operation (Werner and Kaplan 1963) as it is originally related to ego-activity and primary intentionality which is metamorphosed through objectification, which acts as incentive and motivation but does not add anything to the <u>contents</u> of representative action and perception.

2. Representative behaviour can be conceptualised as re-organisation of sensori-motor material through various stages of objectification, generalisation or accommodation in terms of Piaget.

3. The child's body, to begin with, experienced as object amongst others at the stage of objectification, becomes transcended into a mediating property and gradually assumes image-character.

This thesis will attempt to show that disturbances and cognitive regression in language development are paralleled by disintegration of body-image perception and instability of self-other relationships. The differentiating role played by objectification and by a stable schemata of generalisation will emerge as of importance in such deficits.

As the children discussed in this thesis show deficits of imitative behaviour information about representative behaviour in general could be gained by the observation of the children's imitation, play and social relationships. Cognitive regression in representative space has shown significant patterns of behaviour. These patterns will be interpreted against the background of the normal development stages of imitation, play and social relationships in childhood, briefly summarised in this section:

Imitation:

(a) On the early syncretic level, imitation appears as "near-identification" closely linked to affectivity. The dynamic unity of other peoples' actions in gesture and verbalisation can be easily "transferred" to existing motor schemata of assimilation as assimilation and accommodation are not yet differentiated at that stage (J. Piaget 1962).

According to Wallon (1949), at this stage the infant employs his body in a mediating capacity for the inward formulation of gestures in a fundamental correspondence between perception and mobility. By using the term "Mimesis" the author describes the unique system which unites the child's own body with the bodies of others and the "postural function appropriate to the needs of expression". Such early behaviour is linked to the essential attitude of sympathy which Wallon understands as a primordial and irreducible phenomenon. (Piaget speaks of "interest" as the affective aspect of

assimilation). At this stage self-other relationship is only at the beginning of its unfolding but begins to emerge through increasing accommodation (Piaget) which modifies and structures schemata of assimilation towards the perception of the child's own body and the bodies of others as different objects in generalised space.

Steiner's (1932) notion of antipathy, an activity directed towards differentiation and development of object-notion, seems to be akin to Piaget's notion of accommodation. It can be assumed that such early forms of imitative behaviour in infancy and "co-activity" (Werner and Kaplan 1963) contain already the elements of true imitation at the second stage and deferred imitation of the third (Piaget 1962). Deficits of representative behaviour can be expected to result in cognitive regression towards elements of early stages of imitation.

(b) The second stage of imitation emerges once objectification has been established and allows two essential steps:

1. Increased "distancing" between the child and those he imitates.
2. Development of imitation as a social function in representative space. Imitative behaviour enters the interpersonal field of transactions as distinct from action upon and perception of objects. (Schilder).
3. Imitation from then on is freed from affect-boundness and <u>need</u> to imitate.

(c) At the third stage "deferred imitation" (Piaget 1962) makes a decisive step towards internalisation of imitative behaviour in which the "Gestalt" of immediate perception of the other person's gesture can be metamorphosed to representative signs and images without immediate utilisation in actions.

Vice versa the child's own expressive activity becomes a potential of self-expression in a representative medium. Interiorisation of imitation results in the emergence of symbolic and mental images and the image becomes, as it were "the draft of potential imitation". (Piaget 1962). Piaget seems to regard interiorisation of imitative behaviour as akin to interiorisation of speech.

These stages suggest the continuous link of imitative behaviour to language and body-image development, particu-

larly in the last stage where speech becomes internalised and body-image perception more explicit and individualised. Such development must be regarded as essential for maintaining a social self as a representative property in interpersonal transactions.

Play:

(a) The study of the development of play points to the close link between social relationships and the emergence of object-notion in early play-situations. At this stage objects of play arise in early affective-motor transactions between the mother and the infant which include the child's own body. Through increasing objectification the objects of play gain increasing independence and become media and referents in social relationships. During the first stage, however, object play remains bound to the child's affectbound, repetitive, autocentric movement patterns. During this stage "transfers" take place frequently, when the other person is expected to participate by taking up the child's own motor patterns, repeating or completing them.

(b) The second stage is characterised by the emergence of the object as "object of contemplation" (Werner and Kaplan) and transformation of early "person-constancy" to "object-constancy" (Schachtel).

Pure motor-play is increasingly replaced by play upon and with objects and at the same time verbalisation enters the play-situation. Play gains thereby constructiveness and continuity by planning to the extent the representative medium of language becomes available. (Luria and Yudovich). The necessity of participants becomes limited as the child becomes free as to choice of objects as well as to creation of play-situations of "make-believe" to which objects are subordinated. On this level of representative play, participation becomes established as "sharing" by acknowledgment and understanding of the make-believe situation and no longer by motor-affective affiliations.

Representative Interpersonal Perception:

Merleau-Ponty (1964) has discussed stages of the emergence of a social Self in childhood and in particular the stage of the "crisis at three years". The author suggested

that at this age the child adopts a viewpoint of his own and retains self-identity in a diversity of situations and roles.

Referring to pathological instances, Wallon has described the child, who engaged in his own self-related activities, but is yet aware of the activity of the other person towards him, especially in such situations where the child is looked at. According to Merleau-Ponty, such experience can become an experience of alienation of the immediate "me", de-realisation, if the relationship between the extero- and interoceptive body-experience is only poorly established. Such forms of experience, as will be seen in the children described in this thesis, lead to typical patterns of behaviour and point to the importance of Ego-intentionality as related to the body-object, as medium in representative behaviour and Self-other relationship.

In his study on interpersonal perception, Heider (1958b) has elaborated rules pertaining to perceptual functioning in social relationships. He stressed the uniqueness of interpersonal transactions in which the other one is perceived as action-centre "who can do something to us." In the causal network of the environment such an organism, endowed with spontaneous intentionality, therefore plays a role different from the role which objects play. Heider has used the term intentionality for describing actions emerging from the centre of a person "which can provide the terms in which the lower layers are interpreted, making it possible, for instance, for a movement to be perceived as a personal action." A person, therefore, cannot become a mere "manipulanda" (Heider 1958a).

The author further suggested that the perception of the other person is of immediate cognitive character, which means that the notion of representative behaviour in social relationship belongs to <u>the immediate data of perception</u>. In order that such perception can be perceived, mediating phenomena (movement, apparent gesture, mimic expression, as well as the spoken word) are essential but not determining in perception of the other in his uniqueness as Ego and "action centre". Relationship between <u>mediating phenomena</u> (for instance the body) and <u>centre of action</u> must be perceived as dynamic wholeness within empiric immediate perception which in ordinary parlance is called "understanding".

In analysing this process, Heider seems to recognise

Mead's notion that the social self is object and subject at the same time, that it can be shared with others and the equilibrium between subject- and object notion constitutes the act of body-mediated intentionality (Mead 1955).

Representative space, therefore, seems to be characterised by self-other relationships which are functioning reciprocally and differ from object-relationship in generalised space.

Cognitive regression in self-other relationship can be expected to manifest itself in a breakdown of action-centre-mediator relationship in the perception of others as well as in the child's own social transactions, with consequent instability of self-notion and imperception of body-image.

As all children described in this thesis will be seen to show severe disturbance in the form of cognitive regression in representative behaviour, it seems to be necessary to enlarge on the genetic transition from sensori-motor activity to representative behaviour. Piaget, in his detailed investigations of the emergence of the mental image in childhood development, has been able to show that accommodative imitation, by becoming interiorised, provides the bridge between sensori-motor transactions and the beginning of representative behaviour leading towards conceptualisation. Accommodation, by becoming active and dissociated from assimilation, constitutes the "negative" of the object to which assimilation is applied and subordinates reproductive assimilation which creates external or interiorised imitation (Piaget 1962).

According to Piaget it is through this operation that a first system is created which is able to evoke post data which enter consciousness as symbols to which present perceptual functioning can be related.

This system can be called self-regularoy in as much as assimilation of actually perceptible data is no longer the only function as in sensori-motor space, but a representative space begins to unfold, characterised by inwardness, internalisation of action towards the image, self-notion and symbolisation.

Such a system seems to create distance from immediate experience and the possibility of "sharing" of a representative medium in interpersonal transactions.

According to Piaget, accommodation, by no longer being

only related to present data, gains an additional function by being employed in imitative accommodation to non-present data. Similarly, assimilatory activity is no longer directed only towards perceptual assimilation of present objects but also towards the assimilation of symbols. "Signifiers" thus become symbols or images which are not only used for relation of present experience to the past but which also act as "drafts" for future behaviour (Piaget 1962).

Such relationships, characteristic of representative functioning, presuppose differentiation of assimilation and accommodation and at the same time an achieved relative equilibrium in sensori-motor transactions.

Although to begin with, as Piaget has shown, equilibrium is not stabilised and reality is either predominantly assimilated to the Ego without accommodation (symbolic play) or accommodation to or representation of models is not assimilated (imitation), differentiation of accommodation and assimilation is necessary for symbols to arise. It is through this new dimension of representative behaviour that earlier accommodations can persist as signifiers and earlier assimilations as signified and that the mental image provides a background to which perceptual experiences can be related.

It must be suggested that the body-object undergoes a fundamental transformation as actions become related to accommodation e.g. interiorisation through which the body eventually achieves image-character and at the same time can be open to being assimilated to the intentions of the Ego.

Piaget (1962) has suggested that in representative behaviour successive actions are merged into a mobile epitome of the action as a whole in interior representation, "the draft or preliminary scheme of the action." Interiorisation of action in representative space corresponds to interiorisation of bodily activity by auto-centric modes of perception which eventually become generalised and lead to object-notion and me-ness in sensori-motor development. This achievement of generalisation in sensori-motor development seems to be a prerequisite for later interiorisation of Ego-permeated action as image through which the body can become a medium for representative activity. Present situations, including body-object and actions, gain the particular transparence and time-relatedness into which the purely perceptual accommodations and assimilations become extended once they have

reached sensori-motor equilibrium.

It will be seen that the children described in this thesis do not reach the stage of imitative behaviour which transcends reproductive imitation towards accommodative imitation, the prerequisite of interiorisation (Piaget 1962). It has been assumed that the emergence of accommodative imitation is closely related to differentiation of the child's own action and body from the action and body of others. Furthermore, it can be suggested that intentionality, as related to assimilatory activity, is no longer limited to transactions with the environment but becomes increasingly engaged in activity of assimilation directed towards the body-object. In turn, through internalisation or accommodation, the body-object no longer partakes only unconsciously in sensori-motor transactions but becomes increasingly accommodated to the child's own intentions, thus forming a new unity of representative behaviour.

As Piaget has shown, the child in the first stages of representative behaviour, still frequently takes into account sensori-motor behaviour and it is only through the increasing equilibrium of representative accommodation and assimilation that the child learns to subordinate fully present perceptual data to representative dimensions. Piaget's investigations imply that progress of representative behaviour depends on the child's being able to rely on a relatively stable sensori-motor equilibrium and equilibrium of auto-allocentricity through cognitive structuring.

A number of other authors, investigating the laws of representative behaviour, have attempted to show the relationship of intentions or a centre of "pure action" to the body-medium. Heider (1958a) has observed the essential difference between object-relationships and interpersonal transactions. The author has given a functional analysis of human behaviour which he suggests is characterised by relatively great variance of means and relatively great invariance in regard to the distal goal. It can be suggested that variance of means presupposes:

1. A body-schema through which body-perception (autocentric perception) is generalised, and
2. "Interiorisation" of the body as a medium of Ego-activity.

From a genetic point of view the latter development follows the first and eventually results in the character of actions not only as presentic but as "drafts" for future action as well as interiorised towards the "image". The "image" character of action through accommodation to the body-medium guarantees action-centre-medium relationship in ongoing action and can, at the same time, be utilised for the perception of the other's behaviour as representative. Such perceptions subordinate the body-medium perception (the phenomenal body) under Ego-intentionality which gives significance to action with the body-medium as "signifier". Action, therefore, is perceived as meanigful.

In Heider's terms, "the objective event structure of intention and action is represented by the meaning the other person has in our phenomenological world." (Heider 1958a).

Michotte (1963), in his experimental studies on the development of phenomenological causality, has suggested that the experienced relation between the "pure activity" and the body-object leads to the experience of self in action and constitutes the notion of causality. In terms of Piaget, such experience of action seems to replace the early notion of efficacy characteristic of the stage prior to objectification. From then on, it must be assumed, objects are no longer linked to purely sensori-motor transactions but increasingly related to a self-regulatory system which becomes increasingly "interiorised."

"Interiorisation" can be understood as assimilation of the body-object to the Ego or intentionality, but at the same

time is accommodated to and thereby differentiated from "pure action." Equilibrium of such relationship seems to constitute symbolic or representative behaviour.

Michotte has made the important point that the experience of me-ness or self does not result from something which is the self. Pure action in as far as it does not belong to any object has a qualitative character and constitutes the experience of me-ness in its manifestations through the body-object which, however, does not become identified with it. It is in this process that the self assumes the status of being representative and thereby related to others in representative space. Such self experience is genetically precoded by the experience of me-ness through objectification, where the me is constituted in the differentiating notion of me-not-me in an objectified world. The child has not yet contributed to this first experience of me-ness, whereas the representative self is characterised by experience of Ego-involvement and reciprocity in interpersonal contexts. The child becomes subject and object at the same time and enters "a universe of discourse, a system of common or social meanings." (Mead 1955).

Mead has emphasised the fundamental reciprocity, discussed earlier on, by characterising the functions of discourse. To behave in a representative fashion or to understand representative behaviour of others does not seem to be a matter of projection but of a change of attitude, since representative relationships seem to have emerged by differentiation of a primary unity of self-other relatedness and decidedly not by a self separated from another. (Mead 1955).

"Gestures and symbols", Mead suggests, "have the same or common meanings for all members of a group whether they make them or address them to the other individuals, or whether they overtly respond to them as made or addressed to them by other individuals." In this process, Mead suggests, "interiorisation" means delay, organisation and retention of responses as to the immediacy of stimuli and situations. Action can become a mere "potentiality" which allows memory, foresight and anticipation and,significantly,"the individual's taking the attitude of the other towards him." These abilities Mead relates to the abstraction of "body-schema" which constitutes the autonomy of representative acts.

Deficits in representative behaviour in the children of

this thesis must be expected to show up particularly in social contexts and will be seen to show typical patterns of compensatory behaviour. Lack of "interiorisation" and lack of a perceptual attitude towards their own body will be seen in these children to result in loss of self-identity. The children's behaviour seems to bear out Mead's notion that "selfhood resides in the capacity of the minded organism to be an object to itself."

In a study on disturbance of symbolic activity and "handling" (representative action), Krauss (1930) has suggested that, from a genetic point of view, time-consciousness emerges when action becomes interiorised and the "signified" (in Piaget's terms) becomes differentiated from the "signifier". Krauss relates the appearance of a historic time-experience to the emergence of intentionality manifest in action and its internalisation as self-notion in which the self experiences the possibility of anticipation and is no longer identified with presentic behaviour. Disturbance of interiorisation of action results in lack of relationship of a person's acts to its effects, manifest as lack of the experience of me-ness and therefore responsibility for his own action. The patient described by Krauss remained bound to presentic behaviour, which reduces time to a sequence of moments and simultaneously to a "tranquilitas" in relationships, which no longer bear the mark of self-involvement and are therefore of quasi-neutral character. The presence and immediacy of situations remain unrelated to the past as well as to the futur, dimensions of time, which only seem to emerge with the notion of a representative self in symbolic and representative behaviour. In Piaget's terms, representative space, instead of being progressively structured towards mental operations, disintegrates to purely sensori-motor space and its corresponding interpersonal behaviour patterns. Reduction or limitation of representative space as discussed in the foregoing section as "shrinkage" (Goldstein 1939) towards presentic sensori-motor space constitutes a prototypical form of regression in the interpersonal transactions of post-encephalitic children.

It will be seen to be a permanent feature of behaviour in the more severely disturbed cases indicating arrest of Ego-development as described by Kanner (1960). In the less disturbed cases ongoing interpersonal transactions in repre-

sentative space frequently disintegrates during the process, indicating instability of a representative self which remains dependent on affectivity typical for the early stages of development in a purely sensori-motor space of action and perception.

Chapter 3:

The Method

(a) Introduction.

The variety of behaviour patterns observed in children with post-encephalitic syndrome is not determined by organic factors alone but by the activity of the total organism and the total personality inter-relation with the environment.

The present writer has been guided by the primary question: How do these children experience their environment, what kind of contact do they establish in social contexts and how do they appear to the observer whose reactions seem to influence the children's behaviour to a considerable degree?

Further, these investigations were carried out in order to show up the patterns of abnormal behaviour in those children in comparison with the processes occuring in normal childhood development as presented in the previous chapter.

Lastly, it has been recognised that understanding of the behaviour of these children can be utilised for therapeutic attitudes if the children are studied by a method which allows phenomena to appear in social as well as in non-social contexts and which does not limit the children's expression in a variety of situations.

This approach differs fundamentally from the initial considerations of Strauss (1947) which took up a purely neurological viewpoint in his study on a similar problem. He concentrated on perceptual and mental abilities of brain-injured children, leaving open the possibility of a different approach and different interpretations.

Bender (1950, 1942, 1956) described the perceptual disturbances of post-encephalitic children as a defect in gaining patterned behaviour through perceptual experience and emphasised the disturbance of equilibrium as related to interpersonal transactions with the environment.

The most obvious and most important disturbance of post-encephalitic children, namely a profound disturbance and disintegration in social relationships will be at the centre

of the present investigations and seems to demand a psychological approach. In order to do justice to the ever changing behaviour patterns of post-encephalitic children the present writer felt it essential to employ a method of observation which takes into account the reactive behaviour of the observer to the primitive motor-affective behaviour patterns of the child, the different modes of social relationships, including sensori-motor activity, expressive and symbolic behaviour and speech as means of communication.

(b) Special difficulties.

The method of observation encounters three main difficulties which can be enumerated as follows:

1. The symtomatology of post-encephalitic children is complex and does not really lend itself to clear classification. The present and previous investigations have found disturbances particularly on the interpersonal level (disturbance of language as means of communication, deficits in imitation and symbolic behaviour and consequent disturbances of representational and abstract thought formation). Furthermore, escaping classification to an even higher degree, disturbances of social relationships are present on the emotional or affective level. The behaviour of the children under consideration seemed to vary unpredictably from aggression to withdrawal, restlessness, tics and mannerisms and other forms of regressive motor and perceptual behaviour.

In any reasonable approach to this complexity of behaviour, the question must arise whether the symptoms should be regarded as direct result of the acute illness in early infancy or as a result of the child being wrongly and inadequately handled in an unfavourable environment. Previous investigations mentioned in the foregoing chapter show that the different authors have laid emphasis on the classification of symptoms from either neurological points of view or by the use of poorly defined psychological concepts. No clear methodological approach seems to have been established which would allow of ordering of the manifold phenomena and assessing the predominant symptoms which constitute the syndrome of the child's disturbed relationship to his environment. In terms of social significance, the data of observation could hardly be referred to neurological theories and the function of the brain as, for instance, Strauss (1947) has done in his studies on the

brain-injured child.

Whilst, however, the question of causality must finally be asked, it has been attempted to adopt an approach which will allow the phenomena to speak for themselves so that their relation to one another will emerge. A basic and prototypical disturbance (a syndrome) of personality development may thus be defined. It has been postulated that in all the children of this group this basic syndrome may be discovered.

2. Emerging from the first, a second difficulty is encountered as to the "pureness" of obeservation. It arises out of the profound disturbance of social inter-relationships which tends to limit not only expression by these children but also the observer's approach to them. Especially in the case of the more severely handicapped children, who cannot speak, the use of experiments tests and especially projective techniques as a means of quantifying the results of observation, is extremely limited.

Passive observation of these children reveals only stereotyped patterns of behaviour with marked lack of initiative, and the observer was, therefore, frequently forced to intervene and to help these children during the day. This has always involved a change to participant-observation and therapeutic attitudes. Participant active observation, therefore, came to the fore and forms the main trend of this study. Such observations cannot be regarded as "pure" in the sense that the observer remains in the background or is altogether absent from the actual situation in which the child is engaged. In the chapter on active observation the difficulties involved in this method will be discussed in more detail.

3. A third difficulty is connected with the psychological make-up of these children, which appear to be specific for this group compared with other groups of handicapped children. Their actions are highly unpredictable, adaptability is highly unstable and the affective involvement is predominant as compared with truly cognitive behaviour. A child might one day act intelligently and adapt itself to the demands of the environment, but might fail in a similar situation the next day. At one time a child might establish a faily balanced contact with his teacher, yet within minutes the same child might withdraw or become aggressive or negativistic when

approached by the same person. In school a child might be able to read fairly well one day, but might fail to read even familiar words in the same text the next day with apparent signs of frustration.

During this study the present writer has therefore been led to pay particular attention to these labilities of affective equilibrium and judgment must be guarded, and careful. Only tentative conclusions should be drawn and ever renewed receptiveness must be achieved with respect to the data observed. Compared with other groups of handicapped children as, for instance, Mongol children, hydrocephalic or microcephalic children, sensory-disturbed children and children with palsies, there does not seem to be a stable level of behaviour disturbance in the encephalitic syndrome in childhood which would allow any fruitfil assessment of mental age or intelligence. Actions of these children frequently deteriorate during the action itself and seem, therefore, to be constantly in need of organisation through and by the other person. These children give the impression of lack of freedom in achieving stable relationships to other human beings and objects and are, therefore, fundamentally dependent on the goals and organisations provided by their environment (Bender 1956).

It will be seen in this study that the psychological make-up of the children observed makes it difficult if not impossible for them to achieve a temporal-spatial "wholeness" in the perception of the other human being as a social participant. This would mean that these children are unable to organise personal events in such a fashion that spatial data can be perceived as parts of acts and intentions in time which alone would allow for security within their interpersonal relationship (see section on representative relationships in chapter 2).

Openness towards the immediate perception of social events, a particular relation of the self to the world, does not seem to depend fundamentally on the formation of abstract conceptual thought, but seems to precede it in the stages of childhood development (Mead 1955).

The present author has therefore been led to consider the disturbances of these children as rooted in an emotional or affective disturbance on the level of early affective equilibrium. This would also account for their unpredictability and their affective involvement with the observer, which makes

the evaluation of observed data difficult. This important aspect will be dealt with in the section on "Details regarding Active Observation".

(c) Development and Validity of the Method Employed.

During the observations, data on the behaviour of these children have been systematically collected (for instance, during writing or reading as well as in simple everyday manual activities, for example washing themselves and getting dressed or undressed). The data obtained have been viewed rather as an expression of the personality of the child as a whole and not so much as specific disturbance of, for instance, reading and writing. In all observations it was endeavoured to come eventually to an understanding of a unity or syndrome of behaviour which remains prototypical in a variety of different situations, events and activities. The phenomena observed had equal importance to begin with, whether the observation was directed towards the child handling a brick or writing, whether washing himself or working with a spade in the garden. This phenomenological approach was guided by the hypothesis that the development of the child passes through different stages of cognitive development and thransaction with his environment, and that these stages can be taken as a frame of reference for observations of the behaviour of post-encephalitic children.

The aim was to understand the post-encephalitic syndrome in childhood as a developmental disturbance caused by the impact of an acute organic disturbance with consequent interruption and modification of normal psycho-social development.

Following this hypothesis, lack of differentiation, for instance, of the child's own body from the world of objects around, can reveal itself in its different stages through observations in such different situations as the manner in which the child uses a flannel or a toy, how he relates to the spoken or written word or the way he copies from the blackboard.

Furthermore it could be assumed that the growing relation to the environment in the normal child is accompanied by a development of interpersonal relationships which, from the beginning, act as a background in a steady process of socialisation involving the self and the other.

The complexity of observations and the assumptions mentioned gradually made apparent certain directions of observation

which led to the following questions:

1. How do these children experience their bodies and what form does their relation to the environment take?

2. What modes of perception and actions towards the environment (objects) are employed by these children in order to deal with it and master it?

3. What kind of interpersonal relationship does the post-encephalitic child establish and how does he deal with other people's intentions related to this own self?

As frame of reference use has been made of Binswanger's basic modes of relationship (May 1958).

1. What is called "Mitwelt", the world of inter-relationships with human beings.

2. "Umwelt", the world of objects about us, the natural world.
3. "Eigenwelt", the world of self-awareness, self-relatedness, which is uniquely present in human being.

"This world," May writes, "is not merely a subjective inner experience; it is rather the basis on which we see the real world in its true perspective, the basis on which we relate."

Following these three directions of observation related to those three modes of relationship, a first guide as to the order of the observed phenomena clarified itself. This order could then be related to a frame of reference established by developmental psychology.

It could further be hoped that this order might prove to be of therapeutic and educational value. These directions have already been suggested in the Summary of post-encephalitic behaviour disturbance.

The records of the observational data have therefore been analysed in terms of the following groups of observations:

1. Posture and sensori-motor activity.
2. Expression, language and gesture.
3. Imitation, play and symbolic behaviour.
4. Interpersonal relationships.

With respect to the validity of the method employed, it must be emphasised that this approach, being phenomena-centred, is not fundamentally concerned with the establishing of general laws nor with the development of a theory. Its aim is to

structure the phenomena of observation by deloping the method which does justice to the phenomena, arriving at a prototype of personality disturbance in the post-encephalitic child. This would constitute a syndrome, modifiable in degrees and in specific situations.

In the investigation of only a small number of children, the present writer has followed to a great extent Goldstein's methological approach in his investigations of brain-injured adults where he states: "Impotant though it may be to seek repeated confirmation of our findings through new case material, such confirmation adds nothing essential to our knowledge, although patients must be subjected to investigations which offer a guarantee of unequivocal statements of facts as well as of theoretical interpretations. Under such conditions the conclusions drawn from one case will likewise have validity for others. Since the basical laws are the same, the multiplicity encountred in various instances will be readily understood once the basic laws are recognised." (Goldstein 1939).

Goldstein's methological approach to a specific organic disturbance of behaviour shows his indebtedness to Goethe's method of intuitive understanding of, as he has called it, "archetypical phenomena of organic life: "Nothing is behind the phenomena but everything is within them." This method as used by Goethe may be applied to other scientific observation and interpretation of organic phenomena. It includes the notion that the act of the observer's perception contains, however concealed, the solution to the scientific problem. Goethe's "Anschauende Urteilskraft" cannot, therefore, be employed without involving the observer and investigator in an activity of intuitive thought through which the prototype appears within the phenomena observed. Such data are then of preliminary value in the interpretation of observations of organic life, however much these date are in need of conceptualisation as commonly understood.

It became obvious during the observation regarding interpersonal relationships that self-observation and appraisal of the observer's own actions, not methodologically necessary as far as inorganic life and behaviour is concerned, became a condition sine qua non for any interpretation of behaviour in participant observation.

In adopting such a phenomenological approach to the post-

encephalitic syndrome in childhood, "law" is expressed without elimination of the individuality in which it appears. In prototypical behaviour the individuality can be expected to manifest itself in all its possible variations, yet always to return to itself. In contrast to inorganic life, the prototype reveals itself within the phenomena as the dynamic law and does not manifest itself as a stable law outside the manifestations as observed phenomena. "The material, however, for the knowledge of this prototype can only be obtained by the isolating methods of empirical investigations." (Goldstein 1939). Where personality disturbance cannot be referred to an established objectified theoretical frame of reference, as for instance the function of the brain, it may still be understood in terms of psychological phenomena, primarily those pertaining to ego development.

Goldstein's notion of "prototypical behaviour" has certain limitations as his concept of "the whole" of the human organism seems to require a more definite concept of the ego. The present author has been led to postulate that the prototypical behaviour in the post-encephalitic child appears as a limitation and disturbance of ego development. Yet, the ego expresses itself in these limitations.

Goldstein's concept is fruitful, provided that "organism" is understood as being specifically the human organism endowed with a centre of intention, the ego. It will be attempted to show that it is justified to investigate only a small number of children, expecting that the post-encephalitic syndrome will reveal itself as a pattern of behaviour whose limitations can be related to the ego development of the normal child as a frame of reference.

In order to arrive at prototypical behaviour patterns, it became necessary to gradually recognise so-called primary symptoms. They are not of necessity the most frequent one (although in point of fact they invariably are) but lead on into a more penetrating insight into typical patterns of action and means of perception in these children.

Secondary symptoms will then reveal themselves as more accidental and variable, related to specific and extraordinary situations and will therefore prove to be less relevant to the personality structure of these children.

In order to take hold of such differentiation, it was necessary to give the children the utmost facilities for

"self actualisation". (Goldstein 1939). Rigid regulations, overpowering stimuli, set experimental situations on the one hand and unordered and unorganised social settings on the other are adverse to the free unfolding of the child.

A stable background in interpersonal relationships appears to be the essential condition in which the personality of such a child can reveal itself.

(d) Active and Passive Observation.

Two forms of observation were employed in this study:

1. In passive observation the observer remained without social contact with the child to the extent that he did not interfere with what the child was doing and did not make any demands on it. This kind of observation could be employed in the playground, in the dormitory and during inside play. It also became possible when the writer could observe any participant contact between teacher and child and could note the course of such inter-relationship. This happened frequently as the majority of these children were unable to engage in meaningful activities when left alone and tended to withdraw or enter into selfcentred activities. Most of the period of passive observation has been spent in observing the children during play and their daily routine activities with their teachers. This meant that the children were in contact and reacting all the time to the teacher's demands. This type of indirect passive observation, therefore, forms part of this study.

Although direct passive observation is limited, it can reveal important data in all children with respect to their lack of independence, their relatedness to objects and the different degrees to which they are able to participate in a common world of symbols and language. Such direct passive observations also yielded data on the relation of the post-encephalitic child to other handicapped children with whom they lived together.

Frequently, however, contact with the teacher had to be established for therapeutic and disciplinary reasons and this turned passive observation into active participant observation or indirect passive observation. In indirect passive observation, the observations of the participant teacher, as well as those of the observer have frequently been recorded.

Active participant observation frequently has to turn

into passive observation and vice versa. This fact appears to be significant in as much as the children observed are unable to maintain stable behaviour patterns and the approach of the observer has, therefore, frequently to be changed.

2. In active observation, actions and attitudes of the observer play a decisive rôle as to what can be observed in the child, and the analysis of this rôle is of importance:

It had to be established and decided upon that the observer would not include any preconceived theories in his observations,

It had to be agreed upon that, to begin with, the observer realised that he lived together with the child in a common world as only then the break-downs of this initially accepted common world of togetherness can come to light.

It had also to be assumed that this "Mitwelt" represents a special category of relationship which emerges with autonomy in the relationship of selves or egos to each other.

The distortions and interruptions of this world became a focal point of active observation, and the question had to be asked: "What does this distortion or break-down of interrelationship mean for the child and the observer?"

With this question in mind, the important rôle of the participant observer could be realised in as far as the post-encephalitic child seems constantly to ask for understanding on the part of the participant observer and interpretation of his own actions. Eventually this might lead to the demand of the child that the participant observer should interpret the child's existence in general. This phenomenon clearly pointed to mechanisms of identification which were constantly encountered in participant observation. It became clear that the observer's experience of break-down of togetherness with the child is immediate, can be called naive and therefore appears as a phenomenon amongst others.

Whilst active participant observation progressed step by step, the next question had to be asked: "Why do these distortions of interpersonal relatiomship appear?" A number of reasons offered themselves: The observer's attitude might be inadequate for the child, or the reason might be found within the personality structure of the child, or as frequently observed, both child and observer contributed to this break-down. All the children observed seemed to fail to attain the necessary degree of representation and seemed to lack

stability of cognitive structures.

In the course of further participant observation, the fundamental difference in inter-relationships to things and people came to light.

The above suggestions point to the necessity of self-realisation for the understanding of the other person, which only gradually comes about in the second stage of cultural and social embeddedness within childhood development. After the acquisition of language, the child becomes able to perceive the other person in the unity of a perceptual act without, however, being able yet to apply inference and analysis of what has been perceived. It is exactly this unity of representational perceptions which constitutes the uniqueness of human inter-relationship. Details which transpire during such social transactions come into focus only when the immediacy of perception is dissolved for the sake of reflection. For the observer, reflection is necessary as he has to employ a method of isolation or analysis within the wholeness of interpersonal perception. Only at this stage of reflection, errors of interpretation begin, when the naivety of immediate perception and experience is given up or lost. If the nature of communication is of such immediacy from a perceptual and cognitive point of view, the inability to reciprocate this act is striking in the children studied. Immediacy of experience of the other person disintegrates in specific and typical forms. Stability in interpersonal relationship is never reached. The children's records show that the majority of them tend to perceive the other human being as a "manipulanda" (Heider 1958b). The affective intentions of the other person as centre of possible actions seemed to be experienced without the mediating phenomena coming into focus experienced as "outside" or "opposite" the child. (This leads to what has been termed identification). On the other hand the same child might be forced to perceive these mediating phenomena without being able to transcend them towards symbolic understanding. These two modes of interpersonal relationship were most frequently observed during the observations. This behaviour has consequences for the handling of these children in daily life: It is apparent that the difficulty of these children in "understanding" the other human being's intentions becomes less obvious if the observer shows the utmost clarity in his intentions towards the child. The

less he is able to do so, the more the inability of these children to perceive mediator and action-centre as a whole comes to the fore. This leads in turn to an upset in the emotional balance and security of the observer, resulting in his becoming vague, more selfconscious, insecure and finally retreating.

Furthermore, the more subtle the mediating activities are, especially in gesture, language and thought, the more often the post-encephalitic seemed to fail. Simple action manifest in the spatial world of objects constitutes the level at which interpersonal relationship can be initially established.

Lack of equilibrium in the perception of the other person as person is paralleled in nearly every case by the child's inability to express his own intentions and desires in a more subtle fashion.

In summary it will be seen that active participant observation includes not only full relationship with the child but also self-observation, that is, taking into account the observer's reactions and experiences necessary for mutual openness in interpersonal relationship. Once this is recognised, methodological problems as limitations mst be understood:

The situations which were frequently encountered resemble closely the patient-observer situations described by Sullivan (1949): "Clinical research is participant observation addressed to the improving of the living of the "patient" but also adequate enough and well enough reported to permit approximate representation by others who find themselves in significantly similar situations." In following this aim the study of patterns of prototypes of social inter-relationships in these children through active participant observations can attempt to arrive at adequate descriptions of phenomena which will be presented in this study as "interpretations". In the field of child psychiatry this method has recently been adopted in the studies of schizophrenic and autistic children, whereas is has been neglected as a method in nearly all the other fields of handicaps and disturbances in childhood.

Asperger (1952) has suggested thet "besides the concrete behaviour of the child which can be observed and objectified, the term 'contact' comprises the intimate relations between subjects and subjects, which cannot be described other than subjectively." He further makes the important

statement that "the study of modes of contact and interpersonal relationships might lead to a systematic psycho-pathology of infancy and childhood."

Since all the observations made are of qualitative value and involve the observer, the data on self-observation must be regarded as consistent with the method employed, which means that they must be viewed as empiric phenomena amongst others. In order that this could be achieved however three fundamental facts of self-observation had to be realised and reckoned with:

1. Observation must be guided by hypothesis, which however must be regarded as preliminary and has to remain adjustable to the phenomena observed.

2. The observer has to recognise and note his emotional involvement and modes of mutual identifications which lead to the recognition of

3. Phenomena of transfer which have to be dealt with in the interpretation of data on self-observation.

By having in mind these fundamental facts, participant observation can guard itself against "subjectivity" without having to abandon the important dimension of "Mitwelt" in order to arrive at interpretations which can become fruitful to other observers. It is this kind of observation supplemented by passive observation and finally leading to the use of experiments which emerge from the observations which have been employed in this study.

These children frequently found it easier to order the world of objects but failed in interpersonal relationship where intentions have to be acknowledged and understood. The present author has been led to see that language forms the bridge of communication in which objects as well as other human beings are included. Recognition of intentions and the give and take within human relationship appear to influence in a particular fashion the meaning of the world of objects, both as to perception as well as in action towards it. During active participant observation, affective modes of interpersonal relationship could be observed most frequently, and the observation increasingly centred on the evaluation of those relationships as forms of cognitive behaviour.

Active participant observation appearsto be able to provide the tool to investigate modes of interpersonal relation-

ships which affect also object-relationships only if a certain hypothetical view is offered under the guidance of which observations can be made and a frame of reference found.

Random observation of the post-encephalitic child, detailed in the records, showed that these children struggle for the attainment of self on the level of social and cultural embeddedness. It depends largely on the accuracy of observations, their interpretation and consequent therapeutic attitudes, whether the child continuously fails or whether a bridge can gradually be built. It is necessary, therefore, to enlarge on aspects of active observation.

(e) Details regarding Active Observation.

The extent to which active observation has been employed has depended largely on the nature and behaviour of the individual post-encephalitic child. His possibilities of communication are limited, especially when the stage of language has not been reached. But even if speech is at the child's disposal, any contact tends to be erratic and the observer is frequently left to his own ingenuity and devices to establish communication. It became, however, obvious that all the children observed have a genuine longing for interpersonal relationship different, for instance, from the child with schizophrenic syndrome. The relationship, however, frequently lacked stability and the give and take in sharing-situations. The post-encephalitic child might demand the bodily presence of the teacher or ask him to act for him in certain situations, such as to write for him during the lesson. The child might remain glued, as it were, to the teacher's side for a whole afternoon, yet fail to respond to any kind of communication or any suggestion of inter-action, as for instance playing with a ball.

Another child of this study, who does not speak, would look intently at his teacher while he spoke to him and yet the teacher might record: "Gordon looks at me as if he would look through me."

In another similar situation, the same child would look intently at a button on the blouse his teacher was wearing and would finally try to take hold of it. The teacher would record: "He looks at the button on my blouse but not at me."

During these situations, these instances could not have been recorded if the teacher had not entered fully into active participation. Only by doing so could he become aware

of the lack of understanding in the child of his own intentions and comprehend to some extent the painfully experienced limitation of the child's interpersonal perception. Such situations frequently occured during observation and the teachers statements have provided valuable clues which, however, require further interpretation. To give another example of the variety of behaviour patterns observed: A child may be asked a question and can only repeat the question without venturing an answer. On an other occasion the same child would not even repeat the question, but a third time he would be able to answer correctly. In all three instances the participant observer will be able to realise different degrees of communication in the same child, and his own disposition and attitude towards the child might even largely determine the reactions he gets from him. In other words, the teacher's intentions may be entirely disregarded, (communication by identification takes place through repeating of the question). In the other instance his intention expressed in language will be understood; this would mean that the character of a question is realised by the child and the child's representational activity is able to meet that of the participant.

As Heider (1959b) has suggested, the rules relevant to interpersonal relationships appear to be different from the laws which govern perception and understanding of object-relations and become apparent only in participant observation.

In dealing with Goethe's phenomenological methods of observation within organic nature, Steiner has pointed out, regarding the method of psychological research directed towards another person: "The oneness of individuality is given to man empirically as are its single forms of behaviour. Every manifestation of our personality, as experienced in self-observation, is connected with this centre of our person and being. If we abstract any form of behaviour from this connection with the personality, it ceases to be a soul-phenomenon. It then falls under the concept of organic or inorganic nature." (Steiner 1949).

The observation and recognition of the other person's centre of intentionality, derived from and including self-observation, would then also fall under empirical data and belongs, therefore, justifiably to the field of phenomenology; Allport has also emphasised this need for self-observation

when he writes: "The outline of the needed psychology of becoming can be discovered by looking within ourselves, for it is knowledge of our own uniqueness that supplies the first, and probable the best, hints for acquiring orderly knowledge of others. True, we should guard against the fallacies of projection;of assuming that other people have states of mind, interests, and values precisely like our own. Yet it is by reflecting upon the factors that seem vital in our own experience of becoming that we identify the issues that are important." (Allport 1955).

PART II

DESIGN OF PRESENT THESIS

Chapter 1:

The Subjects

(a) Introduction.

For the purpose of this study 10 children were chosen whose history and behaviour justified the diagnosis of post-encephalitic syndrome. In all these children the acute illness occurred in early infancy, that is before or at the age of three years.

The children were resident at a school for educationally severely subnormal children and had been at that school for periods varying between six months and seven years.

It will be seen that the chronological age of the children showed considerable differences at the time when this present investigation was carried out. In the light of the purpose of this thesis this fact must be considered as an advantage as it will make it possible to discover prototypical behaviour of post-encephalitic children which is independent of the age of the child and can be found in all children although to different degrees.

The following table shows the names of the children, their chronological age and the time these children had spent at the school at the time when the investigations were carried out.

Table I

Subjects

Name	Chron. Age	Period at the school
Freddy	7.0 years	6 months
Gordon	9.4 "	3 years
John	9.5 "	6 months
Percy	10.5 "	2.5 years
Jill	11.8 "	2 years
Eric	13.6 "	3 years
Gerald	14.8 "	7 years
Martin	17.5 "	3 years
Roy	18.2 "	3 years
Charles	20.0 "	2 years

(b) Histories of the subjects investigated.

First History.

Freddy was born on 3/5/58. During pregnancy the mother suffered from high blood pressure and was medically treated.

The labour lasted 24 hours and the birth itself was uneventful. His birth weight was 7 lbs 6 ozs.

Freddy was breastfed for 5 months; the mother described him as a healthy looking child who was very affectionate. He smiled at the age of 6 weeks and reached out for objects at 3 months. He was sitting up unaided at 9 months and walked unaided at 12 months.

At the age of 15 months Freddy developed an otitis media, screamed a great deal and had a high temperature for several days. During this time he had his first conculsions. Since then Freddy has had convulsions whenever he has had a high temperature. The diagnosis of encephalitis was made in retrospect.

After the acute illness Freddy became restless, was unable to concentrate or maintain any interest for a long time. The mother described herself as becoming over-protective and worried about Freddy's behaviour.

The mother described his speech development as being slow but could not remember when he started to speak. His speech was indistinct and when he had learnt to speak sentences he used to turn the words round and put them in the wrong place. Freddy became a very restless boy with spells of lethargy which the mother described as laziness. Freddy's intelligence was found to be sub-normal at the age of 6, and he attended a special class for a short period. In school his span of attention was found to be extremely short. He did not make any contact with the other children except for occasional aggressive behaviour towards them. Freddy showed spells of excitability with restlessness and continuous talking, and was described as uncontrollable during these periods. He was medically classified as a brain-injured child with minimal physical disabilities (lack of co-ordination of gross movements and clumsiness in action).

Second History.

Gordon was born on the 19th April 1952. He is the first and only child of a German father and South African born mother.

During the first month of pregnancy the mother vomited a great deal but the confinement was normal and no instruments were used. Gordon weighed 8 lbs 6 ozs. He was a quiet baby who was breastfed for three weeks and there was never any difficulty in feeding later. At three months Gordon smiled and sat up at six months. He crawled at the age of nine months. He was easy to handle, slept well, played with his toys and babbled a good deal. He startet to walk when fifteen months old and spoke single words, naming the objects around him. When seventeen months of age he developed what was at first thought to be a cold but he developed a high temperature. The diagnosis of an otitis was made and on the same day Gordon became delirious and restless and had two convulsions. After antibiotic treatment the temperature went down at the and of a fortnight but Gordon was a completely different child afterwards: He would not talk at all, used to rock for hours, neglected his toys and made constant strange noises. He became highly frustrated, bumping his head against doors and walls and would lie awake for hours during the night, rocking and making strange noises. He was so restless that he would not sit still at meals, gave the impression of being fearful and did not make any contact whatsoever with his parents. At the same time Gordon became very aggressive. He would bite into and destroy everything he could get hold of. Later he was zwice admitted to institutions for the deaf but was so unmanageable that he had to be dismissed. The diagnosis of a post-encephalitic condition was medically established only relatively late when different tests on his hearing did not disclose any deafness.

Shortly before Gordon came to the present School in 1958 the father wrote an extensive report on his behaviour at home since his illness:

"Gordon is continually on the move. He never sits for a minute on his chair during meals, but takes a bite, puts it back, runs away and comes back to take another bite. He climbs over fences with the greatest ease and determination, runs into the street and crouches underneath standing cards or looks at the tyres, windows or mirrors as if investigating

everything. On such occasions he will never find his way home again by himself. If he sees something he wants he tries hard until he gets it. He is especially fond of sweets, or any shining object like a tin. He cannot play but puts the wooden blocks in his mouth instead. One day he managed for a short time to push a toy car to another child and receive it back again, but suddenly he jumped up, took the car and threw it across the room and ran away crying. He is fascinated by the colour of his ball, holds it close to his eyes, but does not play with it. When I played with him with bricks he would look at a brick from all sides, then put it into his mouth, grab one or two and run away with them. Gordon screams easily when one touches him and retreats into the corner of the room. He listens when one calls him and will sometimes come. In the night he is often restless, rolling his head in the pillows and making a strange noise like "Ga - ga - ga - ga". After such nights he is especially restless and displays tempers the next day. Gordon loves to grasp paper, cardboard boxes, toothpaste and brushes. He grabs everything, examines objects with hand and mouth and throws them away after some time. At times he seems to concentrate upon one thing, then suddenly leaves it to turn to another entirely different object without any obvious order. Gordon remembers where I have placed the tin of sweets. If he wants to have a sweet he does not point to the tin but runs to the place, takes my hand and leads it to the tin.

He is very restless when he wakes up in the morning; he cries and must be taken on my lap like a small child. He will take my book away while I am reading or climb on my back, pulling my hair, or will try to bite my hand. He hardly ever looks straight at a person's face but usually out of the corner of his eye. When I smoke a pipe he comes and takes it out of my mouth and puts it into his own, trying to draw on it the same way I do."

Third History.

John was born on 17/9/56. Pregnancy was uneventful, labour lasted for 24 hours, no instruments were used. His birth weight was 7 lbs. He was breastfed for 3 months and the mother described him as a quiet and affectionate baby.

The mother reported that he smiled at the age of 2 months and reached out for objects at the same time. He sat up unaided when 6 months of age but started to walk freely only at the age of 1.6 years. He spoke when he was 2 years of age.

At the age of 2.6 years John developed an otitis media with a high temperature. In the course of the illness he started to have convulsions, was admitted to hospital where the diagnosis of a diffuse spreading Encephalitis was made.

From then on John had frequent psycho-motor attacks, used to run away, wandered about aimlessly and became difficult to handle. When reproached he used to bang his head or bite himself. He had to be helped to get dressed and washed.

At the age of 7 John went to school but did not make any progress. He was restless, inattentive, had temper tantrums and occasionally kicked the other children.

He was transferred to another school where the same difficulties recurred. Finally he had to be dismissed again.

The mother described John as a child who longs for sympathy and likes to help in little household tasks. The relationship to the father seems to be disturbed and the mother described the father as being unable to deal with him and hitting him occasionally. On a few occasions John showed aggressive behaviour towards his father.

Fourth History

Percy was born as the second child on 10th April 1954, his mother beeing 33 and his father 57 years of age. His sister was then two years old. The mother reports that during pregnancy she was constantly nauseated. After two hours labour the birth was medically induced and confinement was normal. Percy weighed 9 lbs., thrived and was breast-fed for six months. He sat up when four months of age, walked at the age of eleven months, spoke when fourteen months and was quick in learning new words. At two years old he spoke in small sentences.

When 2 1/2 years of age Percy was vaccinated against Diphtheria and Whooping Cough. After one injection his arm became badly swollen, his temperature went up very high for a day and he was threated with antibiotics. He began to be restless, jumped about aimlessly and stopped talking except for a few words uttered in a very low voice. He was tense and frustrated, would move his arms and head rhythmically and did not sleep at night. He would get out of bed, start to play with his toys silently, making strange noises. During the day he seemed to be fearful, his face showing a frightened expression all the time and would shrink back when one came near him, especially when he was touched. Percy did not show any considerable improvement but developed compulsive habits such as spitting, flicking his fingers and rocking forward and backward. He abandoned speech altogether and his social relationship became limited to objects related to his mother such as sweets, her handbag, and other belongings.

Fifth History.

Jill was born on 21st March 1953. Her mother was 29, her father 33. She is a second child, the first being a normally developed boy born in 1948. During pregnancy the mother was very thin and was put on a liver diet and vitamin B, but otherwise the pregnancy was uneventful. The birth was normal and no instruments were used. Jill's weight was 5 lbs 4 ozs and she was breastfed for three months. When changed to the bottle she had, for a short time, a slight gastroenteritis with slight temperature but after two days she recovered. She thrived, sat up at eight months, crawled at one year and stood up for the first time when fifteen months of age. She started to walk when eighteen months old but walked freely only when two years of age. Jill started to speak clearly when twenty months old and picked up words very quickly.

When two years of age Jill was vaccinated against Whooping Cough, Diphtheria and Smallpox. Two hours after one injection she became ill, would not eat or drink and had a high temperature for some days. She was very sensitive to light and did not sleep at all. When the temperature subsided she would neither talk nor walk and had to be fed. She had entirely lost contact with her parents, began to rock violently for eight hours a day and bang her head against the bed. She started to have screaming fits of long duration without any apparent reason. She became more and more aggressive and self-destructive, started to throw everything dwon from cupboards and tables and began to tear whatever she could. She had no relationship with other children.

In 1959, when the diagnosis of encephalitis was confirmed in retrospect, the mother reported:

"Jill sleeps better now when she is strapped in; she tries to make contact with other children and will occasionally play with her ball. She will sit at the window quietly for some time as if she wanted to look out. Jill is strongly attracted by the colours of flowers. She will gaze at them for a long time, then pick them and eat them. She moves her hands continually in a rhythmical movement or grips her skirt tightly and moves it. If approached or interrupted in this activity she will scream and still has screaming fits which can last for two hours. If one gently takes both her hands and keeps them quiet, she will look and listen, and I have the impression that she understands then what one tells her.

Occasionally she will say a few words like "mum", "Up", and "Go". Sometimes she indicates what she wants by pointing in the direction of the object but will not name it.

Jill is very sensitive to touch, smell, noises and music. She will scream and yell when she hears "sad" music but will listen to any gay tune. All prolonged sense impressions, it seems to me, are too much for Jill and she will have an outburst of temper for a while. She is then quite unapproachable, begins her rhythmical movements with her hands and I lose her entirely when she starts this. She cannot "digest" any sense impressions. She gets full of them and then lets go. She is continually on the move and even in the night she moves very often and cries, and I feel she is utterly frustrated."

Sixth History.

Eric was born on the 17th March 1951 as the first and only child. Pregnancy was normal, birth was medically induced but no instruments were used. His weight was 5 lbs 6 ozs and he was breastfed for 4 months. The mother described him as a delicate and sensitive child who, however, thrived, sat up at 10 months, stood holding on at 12 months and at the same time started to say a few words.

When 13 months of age he was vaccinated against Whooping Cough and Diphtheria. Immediately after the injection Eric became sleepy, did not take notice of noises so that his mother thought he was deaf. He no longer minded who fed him, stopped playing with his toys and started to fiddle a great deal with his fingers. He became unaware of his human environment. Three weeks after the injection he ran a high temperature for one day; from then on he was lethargic and seemed to be frightened to walk. Only when he was 2 years of age did he regain his walking ability but he hardly spoke and when he did he used a language of his own, similar to a baby's babbling. The only word which could be distinguished was "Mama".

When 17 months of age his hearing was tested and an Air Encephalogram was done: both tests showed normal results. At the age of 5 he was thoroughly examined in England and the diagnosis of a post-encephalitic condition was made in retrospect by the medical authorities.

During the years after his illness he remained withdrawn, took only mashed food, never played with toys and did not join the other children when he went to kindergarten. He was described by his mother as being bound to routine and fixed to special toys which he took to bed with him without, however, being able to play with them. He continued to speak his own language and his mother reported that he seemed to understand simple commands related to objects in space. If he wanted something he pointed to it or took his mother's hand and lead her to fetch it for him. Prior to his admission to the School he joined a Day Centre for handicapped children but made no contact with the other children.

When Eric came to the School he behaved like a visitor, made no contact with the other children but would sit on the floor, with his ball or a piece of string which he brought with him. He would let it run through his fingers, winding

and unwinding it without paying attention to anything around him. He was unable to dress or undress himself and did not know how to wash himself, although he made attempts if helped. He was wet during the night. He became attached to his "Dormitory Mother" immediately and followed her wherever she went.

At present no fundamental change of his initial behaviour could be observed.

Seventh History.

Gerald was born on the 25th February 1950 as the first child. His mother was then 28 and his father 32 years of age. Four years later a daugther was born and she is now a normal schoolgirl. The mother had a quiet and uneventful time during pregnancy. Gerald's birth was normal, no instruments were used and his weight was 7 lbs 14 ozs. He was a very beautiful child, was breastfed for nine months and thrived. He cut his first tooth early and was sitting up when ten months old. When thirteen months old he had a severe attack of measles with an otitis which flared up again and again, and a month after the measles, when he again had a high temperature, he started to have convulsions. The diagnosis of Encephalitis was then made. However he started to walk at the age of eighteen months but had petit-mal-attacks every day.

Eighth History.

Martin was born on the 16th Juni 1948. He is the second child, the first now a capable young man of 17 years of age. Pregnancy and birth were uneventful and Martin weighed 7 lbs 8 ozs. He was allergic to his mother's milk as well as to cows' milk, and had to be changed to special food. He thrived but when five months of age he contracted whooping cough very severely, had to go to hospital where he developed an Encephalitis with convulsions lasting up to two to three hours. When nine months of age he had another long lasting sequence of convulsions with a high temperature. He stopped crawling and using his baby speech and was paralysed for a few days. He startet to walk when fourteen months old. His speech had developed normally until his ninth month when he lost it entirely after another severe convulsion lasting for 36 hours, and only gradually picked it up again. He started to talk in small sentences when four and a half years old only, stringing words together. The last fit occurred when he was two years of age.

It was difficult to understand Martin's speech as he left words out and distorted them in pronounciation; he also did not fully understand the spoken word. His illness had left him with a slight weakness of the right arm, he was extremely hyper-active and had severe outbursts and temper tantrums when prevented, suddenly and unexpectedly, from following his strong drives and intentions. When he was six years of age his I.Q. was 48. Martin went to a day school when he was seven years old. According to the school report he was extremely extrovert, would always find little tasks to do but would not stay for any length of time at a job given to him. He had periods of restlessness when, at the same time, he was irritable and moody. His speech was indistinct and explosive and there was very slow progress in manual skill - copying forms, modelling with plasticine, needlework and painting. Martin liked to be read to but looked bewildered and unable to grasp things when he was asked to read. His teacher concluded a report at the end of the year by saying: "Martin has been a likeable boy, sociable and friendly in class, bright and cheerful by nature and blessed with a wonderful sense of service to others. It has been a pleasure to teach him."

As Martin was still not fit to attend even a special class or one of the special schools in the country, he went to

England in 1957 where he entered a special school as a day pupil. For six months he lived with his parents and attended school only in the mornings but it soon became obvious that he had to become a boarder. He obviously needed the rhythm of a daily routine to overcome his emotional instability and his being too easily excited by continually changing sense impressions. Martin was very dreamy for a whole week to begin with. He did not listen at all and if he did he could not understand what was wanted of him. It was obvious that he missed his parents for the first week or two. He did not comment on this, nor did he weep, but for nearly two weeks he seemed as if he had not yet really arrived at the place where he lived with twenty other children. Soon Martin had explored the possibilities within his new community and he became very keen to perform all possible tasks although always in a hurry. He understood what was asked of him as long as it referred to something concrete, but failed entirely to grasp any abstract thought conveyed by the spoken word.

Although he was most willing to help, his manual skill was very poor. He was unable to make his bed properly, he confused left and right, his movements were very awkward and he became very excited when he did not manage what he wanted to do. Martin always needed to be guided and supervised and shown what to do next. It was necessary to explain to him in advance any change in the routine, otherwise he would become very restless, chase about on the lawn completely out of breath, or run about on the estate trying to find little tasks to perform but being unable to complete a single one.

Martin was always bewildered by any intellectual demand, or having to answer a question, or being confronted with a simple constructive task which involved intellectual operations. He would either start to stare with a vacant expression on his face and sweat profusely, or would show very strong uncontrolled emotional reactions and movements. In school there was the same striking contrast to be observed between his grasp of the practical situation and his extreme inability to understand anything abstract, which interfered with his school progress considerably. He had difficulty in concentrating, especially where forms, letters and numbers were concerned. Although his motor co-ordination was, generally speaking, well developed with regard to most of the practical daily life

activities, he showed considerable impairment in any finer work. He would manage a few stitches in handwork with a great deal of sweating and was able to concentrate only for a short time. In painting he was unable to achieve any composition as he did not survey the whole background of the paper but was continually drawn into details.

When entering the present school Martin showed all behaviour patterns previously described. At present Martin's understanding of speech has improved and he made slow progress in reading and writing. He is still emotionally unbalanced, showing occasional temper tantrums.

Ninth History.

Roy was born on 13th September 1946. Confinement was quick and uncomplicated; he was the third child, the older siblings being normal children. Roy walked at the age of 16 months, talked at the age of 18 months and developed into an active, independent child up to the age of 3 years.

In November 1949 the older boy, David, developed mumps and three weeks later Roy suddenly became ill, developed a high temperature and slept all day. Clinical examination was negative. A week later Roy's sister developed the clinical signs of mumps and shortly afterwards Roy became feverish, had visual hallucinations and became restless especially during the night. (At no stage did he show any clinical signs of mumps, but in 1951 tests revealed a positive mumps complement-fixation).

After this illness in 1941, Roy lost weight and no longer took any interest in his environment. His speech deterioratod and after three months there was no speech at all. He began to soil his clothes and the diagnosis of Encephalitis was made in retrospect. In 1950 Roy became increasingly irritable, developed screaming fits and tantrums if demands were made on him. He was restless during the night, took no interest in his environment, did not speak nor join the other children at a private nursery school. After having attended a number of private schools where he resisted any form of formal teaching, had difficulties in social adjustment and developed different types of obsessional behaviour, he entered the present school at the age of 15.

At present Roy attends a special class but has made little progress in reading and writing. He is irritable, shows temper tantrums, occasional aggressiveness and a variety of compulsive behaviour patterns.

Tenth History.

Charles was born on the 29th November 1944. He is the third child, two older sisters are both married. The pregnancy was uneventful and he was born a full-term baby weighing 6 lbs 8 ozs. His birth was normal. He was breastfed for two months and then supplemented. He thrived, was a well developed baby taking notice of everything, sitting up at six months and starting to talk at twelve months of age. When he was 2 1/2 years old Charles developed a severe bronchitis. He vomited a great deal and ran a high temprature. After the first injection of Sulphonamides he had a convulsion lasting fifteen minutes. He did not get better for three to four weeks and changed greatly in his behaviour. He became listless, lost interest in his surroundings, his left leg was paralysed and only after two or three months did he start to walk again. Six months after his illness he was given a tricycle but never learnt to pedal properly with the left leg. He had almost entirely stopped talking and only after eighteen months did he begin again to use single words. He spoke his first sentences when five years of age.

Charles went to kindergarten but did not join in the play with the other children nor did he remember any nursery rhymes. He did not seem to understand the meaning of any kind of play. After a short time in an ordinary school he had to be taken away as he could not fully understand the spoken word, was unable to concentrate due to being distracted all the time, and was constantly teased by the other children. When ten years of age Charles was sent to a special school where he learnt to say the alphabet, count up to ten and copy letters. He then could not dress himself, had special difficulty with buttons and shoelaces, his movements were clumsy as far as finer movements were concerned and his left hand was weaker than the right. At this special school he learnt to speak English very well, German being his mother tongue. His memory was described as very poor and his lack of concentration especially hampered his progress. (According to a report of the headmaster of the school).

In 1955 Charles was examined by neurosurgeon. History, examination and E.E.G. confirmed the diagnosis of a post-encephalitic condition. The E.E.G. showed a "generalised cerebral atrophy with no localised morphological change and thus no local major distortion. The damage is microscopic and

therefore one of function and not of form." The pneumoencephalogram did not show any pathological result nor did the investigation of the cerebrospinal fluid.

In 1957 Charles was admitted to a special school in England where he stayed for two years. The reports of these two years give the following indications in regard to his behaviour:

"Charles' very pleasant appearance and behaviour covers a great deal of uncertainty and the fundamental handicap in his powers of reasoning and concentration. Most of his activities are fairly superficial and small tasks are only carried out for a short time and without real concern. For this reason he finds it difficult to make friends with the other boys of his age. They seem to sense his lack of depth and application. Although essentially sanguine in his behaviour, Charles suffers from intense fits of weeping and melancholia. He is uncertain in his grasp of facts and events and it seems that past experiences are constantly wiped out. He forgets about people whom he know before, he will never mention anything in the past. It seems that past experiences have no place in his mind. He remembered people very well, however, when shown photographs of them. By his good will Charles makes up for a good deal of his handicap in reasoning, constructive thought and concentration. In school Charles manages to write to simple dictation but still confuses sentences and words in any attempt at free composition. He reads, too, slowly, and not fully understanding what he reads. He can now count up to 10 but does not grasp operations with numbers." (Report from 1957)

From the school report of 1958 the following should be quoted:

"Charles' fundamental difficulties lie in his lack of concentration and his inability to relate stories or events correctly in time. His lack of grasp of abstract thought is another fundamental obstacle. He does not fully understand cause and effect, his manual work is clumsy and leaves him rather bewildered by his inability to handle a tool properly. He has still not progressed in mental arithmetic but shows interest in subjects such as History and Geography."

Charles lived together with six boys of his own age in a small cottage and these proved to be more suitable surroundings for him as compared with the larger house where he

lived the previous year. The report of his House Mother reads as follows:

"Charles was most attached to the House Father and House Mother but in a rather emotional, immature fashion. He liked to be sheltered and tried to avoid any occasion for reproach or demand. He would occasionally get very ill-tempered when asked to make his bed, fold his clothes up tidily or wash himself and brush his teeth. In reading at home he just managed to glance at the word and to guess the content without taking the trouble to concern himself with the single letter. If he did not get the right word straightaway, he would blush, looking bewildered and expecting help, not knowing what else to do. If asked to do a small job too directly, he would react with an outburst of temper, slam doors or curse, but would come after a while to me with a "surprise": he had completed his task as best he could. His relation to time remained unformed. Days of the week, month, year and hours of the day were no realities of landmarks to him, and he only remembered gradually the tasks he had to do during the day, and at what time to do them; for instance getting the milk in the morning at the farm, going to school, sweeping his bedroom and the common diningroom."

At present Charles' behaviour largely corresponds to what had been observed in the previous years. He still attends school but has begun a training in housework and gardening.

(c) Diagnostic Criteria.

It will be seen that the diagnosis of Encephalitis in the abovementioned children was made at the onset of the acute illness in three cases. In 6 others the possibility of Encephalitis was medically confirmed in retrospect after the acute illness. In the remaining 1 case (Charles) Encephalitis was not diagnosed but present behaviour of this child as well as the abrupt changes of personality and behaviour in this early history, suggest strongly the possibility of an acute Encephalitis following Bronchitis. The rather abrupt change of personality, observed in the history of most of these children, has been regarded by Kanner as "a safe guide to diagnosis". In this case and in those cases in which the diagnosis was made retrospectively the following symptoms can be regarded as pointing to an acute Encephalitis: The onset with temperature, convulsions followed by an alarming state of withdrawal from sensory perceptions and human contact connected with motor symptoms and hemi-paresis in one case, restlessness, disturbance of sleep-rhythm and a rapid deterioration of language as means of communication. It should be kept in mind that apart from the etiology of epidemic Encephalitis the causes of Encephalitis in early childhood are so manifold that Stevenson (1942) could list 49 diseases which have caused Encephalitis, amongst them reactions after vaccination, and Mautner (1959) adds pneumonia, otitis and sepsis to the list. In his monography on infectious diseases of the central nervous system, Nilsby (1954) has made the important statement that the acute syndrome presented by infants is sometimes so diffuse that inflammation of the C.N.S. may not be recognised unless the possibility of the disease is constantly borne in mind. The phenomenology of perconality-change seems to be fairly uniform in different degrees and "even probably independent of the severity of the Encephalitis". Ferraro (1941), in an extensive study, has brought to light a great variety of causation of Encephalitis, including allergic reactions. According to the phenomena described in the histories of these children and owing to the fact that primary amentia, brain-injury , infantile autism and schizophrenia in childhood can be excluded, the diagnosis of Encephalitis seems to be established retrospectively with enough certainty to include the behaviour of all these children

in a study of post-encephalitic behaviour disturbances in childhood. Further, the hypothesis has been adopted that these behaviour and personality disturbances show fundamentally the same basic changes in the dimensions of interpersonal relationship, sensori-motor equilibrium, symbolic behaviour and language as means of communication, in spite of the different causes of the acute illness. (See also the suggestions of Bender (1942, 1956), Kanner (1960), Strauss (1947) and Kahn and Cohen (1934), who describe the symptomatology of the post-encephalitic personality disorders of varying etiology as an entity of organic personality disturbance).

(d) The environment in which the Children have been Studied.

All the children studied in this thesis live in a residential School for children in need of special care. The School is classified as an institution and cares for educationally severely sub-normal children of different degrees of sub-normality. The children investigated in this thesis live in the main house together with sixteen other handicapped children under the age of fourteen. Those over fourteen years of age live in the second house with fourteen other children of their own age group, and the two oldest of the pupils investigated live in a third house community with a group of young handicapped adults over eighteen years of age, whose life is ordered on a more adult level in its social setting. Thus the children do not live together only according to their age groups but an attempt has also been made to adapt their environment to the social requirements of their age through the marked difference of atmosphere in the three houses which are run quite independently of one another although set on the same estate. The children up to the age of eighteen are grouped in what we have called family units, groups of five to six children together in a dormitory, each group guided by a member of the staff who is responsible for his little family in all spheres of life throughout the day. Thus a "home life" is attempted within the frame of dormitory and house community from where the children go to school, special classes and treatments but to which they return after the common meals, social activities, plays, music, morning

and evening prayers and the celebration of festivals in which everybody takes part. Here "at home" enough space and material is provided for play, the rooms are properly furnished with tables, chairs, pictures, flowers and play facilities, cupboards for books, toys and clothing, to which the children generally have free access.

The regular everyday school life comprises play therapy for the younger children, a nursery class and classes with special lessons and tuition in the three R's in the mornings; artistic activities such as painting, handwork, singing, recorder playing, eurythmy, plays and games in the afternoons. A playground and sandpit are available for outdoor activity of the children and they are helped and encouraged to use these facilities.

During the day the children are led to take part as much as possible in the daily routine of a "home life". They are helped and encouraged to learn to carry out little tasks as, for instance, the laying of the table, carrying out the dishes after meals, sweeping, making their own beds, going on errands and helping their nursery "mothers" and "fathers." They are encouraged according to their abilities to be independent in dressing and undressing themselves and in washing themselves, in the use of fork and knife and in manual and social tasks occurring during daily life. Throughout many years of experience, the staff of the School has been led to consider that the profound sensori-motor disturbance of most of the children recorded can be overcome, particularly in those situations which resemble those occurring in the everyday life of the small normal child at home. Great care is therefore taken to ensure also a stable human inter-relationship between child and respective dormitory "father" or "mother" One afternoon in the week is entirely devoted to what is called "home life" where the dormitory "parents" spend the time with their group, going for walks, weeding or planting in the garden or playing with the children of their own group.

The children over fourteen years of age do a certain amount of work in the garden as well as in crafts such as weaving, basket and rug making and Charles, being a young man, has settled down to learn gardening.

It may be seen that the environmental set-up aims at fostering those situations which the normal child encounters in the family, the social demands on the child being in flexi-

ble relation to his possibilities.

The general attitude of the staff can be characterised as being open to accept the child fully in order to first understand his intentions and problems before moral judgments are made. The necessary discipline, especially for the more severely emotionally disturbed children, is established by an ordered social atmosphere which is mainly upheld by a certain regularity and routine in daily life events. These are however adapted to the needs of the child. Interference is more frequently asked for then with the average normal child. Changes of staff are not frequent which allows long-term observation and guidance. Furthermore, in spite of the considerable lack of communication through language with most of the children recorded in this study, they are always addressed and guided by the spoken word. Amongst the children studied only one (Roy) received tranquilising drugs during the time of the study.

Within the setting described, it was possible to observe the children in all situations of daily life. The initial records have been taken, whether in active or passive observation, irrespective of the situation in which the child was engaged, and no choice of special situations was made at first. Thus a child could be observed whilst getting up in the morning, during meals, during the rest-hour, during school and play as well as at the time of undressing in the evening and going to bed. Observations of the respective "fathers" or "mothers" have been included in the records.

Nearly all the children recorded go for regular holidays twice a year and the parents are encouraged to visit their children at the School whenever it is possible. This has always meant a certain amount of guidance of the parents, with the regard that the children observed in this study could intensify, or even regain, contact with their parents, siblings and homes, of which they otherwise would have been completely deprived.

Where it was possible, and where it could be done with reasonable objectivity, observations of the parents were included in the records of the behaviour of their children with particular attention to the parent/child relationship.

To summarise, three rather distinct sets of environments were available for the children observed:

1. The residential "home life" where, under the guidance of nursery "father" or "mother", the greatest possible security as well as encouragement is given to the child, and where the child is given the facilities and opportunities to enjoy experiences which resemble those of the average normal child.

2. The school life with specific situations of demands and therapeutic and educational facilities guided by the general attitude that each child is given the benefit of the doubt as to his possibilities to mature emotionally and learn scholastically.

3. The parents home during the holidays where the possibility is given that new parent/child relationships can be built up or old ones intensified or modified.

Murphy (1957), as well as Isaacs (1930), have outlined and shown the value of observation of the normal child provided that the environmental set-up allows the widest possible range of behaviour and personality expression. In the next section the limitation of such an approach will be dealt with in as far as handicapped children in an institutional setting are concerned.

(e) Advantages and Disadvantages of an Institutional Setting

It may be justifiably argued that the institutional setting in which these investigations have been carried out unduly influences the results of observation, and especially participant observation, in two fundamental directions:

1. Such a setting traditionally tends to be rigid, much time being taken up by routine activities and bodily care; the social set-up being likewise limited to an order of ever-repeated events which neither allows justice to be done to the individual psychological needs of the child nor for the child to experiment by himself freely.

2. The child is not with his family and therefore might miss those natural and vital emotional relationships which in the normal child form a background of security, which is important for any emotional and cognitive progress, especially in the early stages of development.

Studies on Institutionalisation of normal children by Goldfarb (1945) and others and a survey resulting in the

report of the Curtis Committee in England (1946) have shown that separation of children from their parents at an early stage can deeply affect the child's behaviour and development, resulting in cognitive and emotional backwardness and in social immaturity. However, as described in the previous chapter, the policy of the School in which these children have been observed has been guided towards an as near as possible elimination of those adverse factors, along lines which have been suggested for the care and training of severely subnormal children by Tizard (1960): In a three-years research project, severely handicapped children between four and ten years of age were transferred from a large institution to a small residential nursery in which they were divided into small groups or "families". They were cared for by "house mothers"whose training and experience are in the management of problems of normal children, rather than by nurses, and because of the small number of children in a group the house mothers are able to give individual children the affection and care they need to satisfy their physical, emotional and intellectual needs." "It is believed," Tizard continues, "that by living in a 'family' the children learn more easily the skills necessary for social life in a wider community."

Following the implications which Tizard mentions of this "ordered but free regimen upon the children," which resulted in particularly obvious improvements of social and emotional behaviour, it seems that the smaller unit offers more adequate individual attention than a larger institution, that the emotional and social needs can be attended to in a free setting, which resembles the family setting of average life, and that the psychological development of handicapped children is undoubtedly capable of being profoundly modified by changes in their management.

However, the study of the histories of all the children observed in this study has shown a severe breakdown of personal inter-relationship, profound disturbance of patterned behaviour and an instability of the relation of self to the world, and this seems to ask for a certain amount of regularity and guidance within the environmental setting dictated by educational and therapeutical considerations. Once such a setting is realised, long-term observation becomes possible in which the child is allowed to express himself and establish intimate relations with his "father" or "mother". Thus the

setting can also be regarded as being of diagnostic significance as it has to be guided in its form by the requirements of the child and is not set up deliberately. This stable setting, referred to in the previous chapter, has furthermore the advantage that within it the behaviour of the children can be studied in relation to its adaptive significance, provided the child is given the opportunity to exercise his possibilities of adaption, which is only possible if the environment is neither disorganised and overwhelming nor unduly restricted, but remains, in the words of Tizard: "ordered and free."

Pollak and Goldfarb (1951) have investigated patterns of orientation in children in residential homes for severe behaviour disorders and state: "that they have been always aware of the uncertain fluctuating orientation to self and to the outer world of severely disordered and especially schizophrenic children." Pollak and Goldfarb found disturbances of orientation in terms of space, time and human inter-action and have come to see that the adaptive significance of these patterns can be seen as "representations of the child's individual needs as well as effort to maintain constancy in an overwhelming stressful environment." Since the children observed in this study have shown similar patterns to those described by Pollak and Goldfarb, it has been obvious that in an institutional setting the teachers must remain open to the needs of adaption of the child which take different forms and which cannot be viewed, primarily, as defects or handicaps but individual modes of coming to terms with the self, the world of objects and other people. Kanner (1960), referring to the interpretation of symptoms, has suggested that initially, the following questions have to be asked: "Why does the child need this behaviour? What conflicts is he trying to solve thereby? What can be done to help him solve these in a more serviceable manner?"

To summarise, factors in an institutional setting which would be adverse to the social and emotional life of the handicapped child, would be sensory deprivation, deprivation of the natural parent/child relationship, over restricting disciplinary measures and lack of attention to individual social needs. These adverse factors, however, can be largely overcome in a setting which resembles the family unit. The advantages of observation in such a setting lie in the possi-

bilities of long-term observation in a fairly stable and ordered environment which allows the child to express himself in an atmosphere of security, acceptance and encouragement.

Chapter 2:

Records of Observations and Interpretations.

(a) Introduction

In the following chapter a record of the behaviour of each child will be presented according to the following dimensions:

1. Relation to objects.
2. Body-schema.
3. Social relationships.
4. Symbolic activity.

Observations in each of these dimensions will be followed by preliminary interpretation.

In a fifth section, relations among the different dimensions will be discussed providing a summary of the behaviour of each child in social and non-social contexts.

In this summary an attempt will be made to bring to light typical behaviour patterns which can be understood as compensatory, related to deficits of a cognitive structure, as discussed in the theoretical framework.

Special emphasis will be laid on aspects of interpersonal relationships, and relevant therapeutic attitudes will be indicated. Frequently, reference will be made to those issues of normal development which have been discussed in the theoretical framework.

The records of observation and the subsequent interpretations will be presented in an order according to the degree in which the general behaviour of the children was found to be impaired. The five children of the first group (Group A) showed severe deficits of sensori-motor activity, communication and speech development. The second group of 5 children (Group B) had meintained a certain degree of verbal transactions and sensori-motor activity but showed deficits in abstract and representational behaviour in general.

(b) Records of subjects in Group A showing severe impairment.

JILL, aged 11.3 years

1. Relation to Objects

During a fortnight's observation, Jill's motor activity impressed the observer by being self-centred, and objects were handled only when they were near Jill's body. Visual attention played an insignificant part in the patterning of action towards or upon objects.

1. In the morning when entering the bathroom, Jill takes hold of everything that happens to be near as, for instance, the flannel and towel. Her actions seem to be directed towards "holding on" to the objects by grabbing them, but there is no indication of freely handling or exploring the object.

2. Jill takes hold of her apron, swings it rhythmically forwards and backwards, and finally puts the corner of it into her mouth.

3. On joining the other children during play (the children are trying to set the table with a toy tea-set), Jill walks round the table and pulls everything down with seeming delight.

4. Jill has lost her handkerchief; she finds it, picks it up clasping it tightly, and moving it rhythmically to her mouth. Later on she does the same with the corner of the tablecloth and anything else she can get hold of whilst walking about the room.

5. During play hour, Jill walks round amongst the other children, moving her right arm rhythmically forwards and backwards, and later to her mouth and back again. She grasps every toy within reach, clasps it tightly and "incorporates" it into rhythmical, compulsive movement patterns. During these activities Jill appears to be tense, her facial expression giving a sad and tense impression, her lips tightly closed. Jill disposes of the objects she holds by throwing them away, and does not pick them up again.

6. During the evening Jill seems to be relaxed, her head is raised, her face smiling. She laughs, seemingly happy, walks round the room and tries to pull off everything that comes within reach (the tablecloth, a toy cup and a doll from

a chair). Having done this, she takes no further notice of these objects.

7. Jill is able to hold her spoon during meals but does not reach for it. She does not, however, succeed in subordinating her seemingly compulsive movement patterns to the intentional activity of leading the spoon to her mouth, and she therefore has to be fed.

8. Jill takes some bread from the plate, lifts it to her mouth with a jerky movement, bites off a piece and lets the rest drop on the floor.

Interpretation:

These fortnightly observations show a few significant characteristics:

Jill's contact with objects is not directed by visual attention and "things" do not therefore appear as"objects of contemplation" (obs. 1 - 6).

Action with or upon objects is strikingly limited to grabbing, holding on to, throwing and pushing, and "objects" lose their interest-value as soon as such actions have succeeded (obs.1-6, and 8).

"Things", once they are taken hold of, become part and parcel of ongoing movement patterns. They become "incorporated" motorically and thereby part of Jill's own body. (obs. 2, 4, 5).

In other instances objects are not "incorporated" but are made to "disappear". (obs. 3 and 6).

In these instances, object-relationship is attempted, but the objects do not achieve permanence in space and are seemingly not recognised by the notion of "out there". It can be assumed that lack of object-notion is related to Jill's disturbance of body-object notion accompanied by postural insecurity. A great number of observations could be made of Jill's postural attitudes in different situations, providing important clues to her body-schema disturbance:

2. Body-Schema

9. Early in the morning Jill walks out of her room, her whole body swinging backwards and forwards rhythmically as she walks. She is laughing, patting her face with her right hand rhythmically. She reveals no interest in anything in her immediate environment. This pattern of walking was fre-

quently observed, often accompanied by her taking hold of the corner of her apron and moving it rhythmically to her mouth.

10. When being undressed Jill is stiff and apprehensive, resisting passively every movement the teacher has to perform to get her undressed.

11. In bed, Jill rocks for hours forwards and backwards, sitting up with a tense expression on her face.

12. In the morning Jill is laughing and giggling, flapping the corner of her dress in her mouth, spinning herself round, lifting her head and turning to the right and left rhythmically, seemingly unaware of her environment. When spoken to, she stops these movements but resumes them again when she is left alone.

13. When she is bathed, Jill is obviously frightened, becomes tense, and holds on tightly to the edge of the bath.

14. In the morning Jill relaxes only when put on her teacher's lap, while the teacher attempts to dress her. As soon as she is put on her feet, she becomes tense, her whole body stiffens and she resists any movement. She has a frightened expression on her face, and cries. This situation repeated itself frequently during the fortnight's observations.

During the time of observation Jill thus showed two polar-opposite postural attitudes and self-related motor activities:

In one, Jill's head is lowered, the muscular tone tense; she shows strong, rhythmical, seemingly compulsive movements, her eyes are cast down and she resists any change of postural attitude enforced from without, and even screams when touched.

In another form of behaviour Jill seems to be open to her environment, laughs and giggles a great deal, flapping her dress in her mouth. She moves about in a seemingly exploratory fashion, being open to contacts (see also obs. 3 and 6) which, however, she does not actively seek.

15. During the day Jill is often found rocking forwards and bachwards, and flapping the corner of her apron rhythmically.

16. Jill walks stiffly and jerkily, her shoulders and head bent forward and turned towards the right.

Interpretation:

These postural and motor patterns may be considered prototypical, and could be frequently observed, particularly when Jill did not have the opportunity of making any form of social contact. The following characteristics seem to be significant:

(a) The movement patterns observed are rhythmical, repetitive and self-centred. They are of compulsive nature and the environment is perceptually excluded (obs. 8, 10, 14, 15, 16, 18).

(b) Jill's postural attitudes tend to be rigid, and increasingly so if demands are made by others (obs. 9, 12, 13, 14).

(c) In general, her movements appear to be body-bound and space of action is severely limited.

These postural attitudes were accompanied by two distinct forms of affective behaviour:

1). Tenseness of muscular tone and monotonous, repetitive movement patterns with "incorporation" of objects characterise a form of behaviour which will be called motor-affective defence (obs. 14). In such behaviour contact is rejected, and Jill resists any change of position in space and posture.

2). Another form of postural attitude, equally self-centred, is however accompanied by active exploratory movement and change of position in space, affective openness, smiling, giggling and laughing (obs. 14). In each case, however, affective and postural behaviour do not seem to be transcended towards cognitive behaviour and truly intentional or volitional activity which would pre-suppose means-end relationship. Experience of space does not appear to be objectified but limited to "body-space." It must be expected that such severe limitation of affective-motor activity results in disturbance of contact with the social environment.

3. Social Relationships

Obs. 12 and 13 show the close connection between Jill's motor-affective behaviour and the demands made by the teacher. She does not seem to be able to participate in her teacher's intention, and becomes increasingly withdrawn, emotionally

tense and seemingly insecure posturally.

17. Jill reacts to the spoken word by interrupting her self-centred motor activity (spinning herself round, rocking, flapping) and turning towards her teacher.

18. When Jill comes back from the playground, seemingly tense with lowered head and drawn face, her teacher talks to her. Jill listens and suddenly begins to smile. This pattern repeats itself frequently, resulting in Jill's smiling and relaxing affectively as well as posturally.

19. During mealtimes when her teacher speaks to her repeatedly, Jill looks at the teacher, and smiles. Her gaze, however, is vague and her teacher says that Jill looks at her without focusing, as if she looks "through" her.

20. In the evening when her teacher talks to Jill, she comes to the chair on which her teacher is seated, pulls her blouse, and puts her face near to the teacher's face, nearly touching it.

21. Jill walks up to a girl with whom she lives in the nursery, puts her face near to the girl's face and walks off again, laughing. (This form of contact repeats itself frequently).

22. Jill follows her teacher wherever she goes (frequent observation) but at other times rejects even being touched by her teacher, or taken by the hand for a walk.

23. Jill responds to the affective content of the spoken word and seems to recognise the intentionality within the word without understanding its meaning.

24. Jill, being alone in the dormitory with her teacher, puts herself down on all the children's beds, one after the other, giggling and laughing.

25. In the morning when getting dressed, Jill cries, pushes her teacher, resists co-operation and starts compulsive rhythmical movements of both arms, rocking backwards and forwards. When put on the teacher's lap and talked to, she becomes relaxed, smiles and co-operates.

26. Jill comes towards her teacher, seemingly attempting contact, smiles, and when spoken to places her head on her teacher's shoulder.

27. Jill laughs and weeps easily. When she laughs or smiles she seems to be relaxed posturally, and often walks towards a person in order to make some form of contact.

28. When Jill weeps or cries she appears to be tense, and involuntary, stereotyped movements increase in strength. She then stands, given up to her self-centred movement patterns.

Interpretation:

In her relation to other people Jill shows two distinct patterns of behaviour:

(a) Affective openness accompanied by increased postural uprightness, open facial expression (often smiling) and movements which show a direction of "towards". The general muscular tone is more relaxed, and stereotyped movement patterns are less dominant and compulsive (obs. 15, 16, 17, 23, 24, 25).

Such forms of behaviour are initiated by verbal contact, Jill seems to identify herself affectively with the spoken word, and is then able to escape momentarily from self-centred movement activity (obs. 15, 16, 17, 21).

There are no indications that Jill is able to objectify the spoken word, and she returns to self-centred behaviour when this form of contact is lost.

(b) Affective withdrawal, which is accompanied by crying or weeping, resistance to social contact, self-centred, stereotyped movement activity and postural tenseness (obs. 16, 20, 23, 26).

In these situations Jill seems to be identified with her postural and movement patterns without being able to transcend them. Apart from these two forms of disturbed relationship of self to others, Jill attempts spontaneous contacts which are limited to the outer bodily appearance of the other person. Such attempts are short-lived and Jill's perception and action remain focussed on the person as "manipulanda". (Heider). (Obs. 22, 25, 26).

Jill clearly cannot realise the other person as an independent centre of activity which she could "share" in a representative fashion, and her attempt at contact leads, therefore, either to identification or to being thrown back on her own body-self, which cannot be shared.

4. Symbolic Activity.

During the time of observation Jill did not show any verbal and gestural activity apart from sounds such as weeping and laughing. She did not engage in any imitative behaviour, and no play activities related to objects.

5. Relation between sensori-motor activity and social behaviour

(a) Behaviour in non-social contexts.

It is suggested, that deficit or breakdown of a stable body- or postural schema as part of a cognitive structure results in cognitive regression with typical behaviour patterns as described under section 1 and 2:

In summary, objectification and generalised space are not established and progressive development towards referential and mediated behaviour is arrested.

Jill, therefore, finds herself in a spatial universe which is characteristically restricted, and shows "shrinkage" (Goldstein) in relation to objects and especially in relation to social transactions.

Introspective perception of her own body and action (autocentricity) with marked deficit of allocentric modes of perception are characteristic of Jill's sensori-motor behaviour. In Piaget's terms sensori-motor equilibrium is severely disturbed in as much as assimilatory schemata seem to be closed in stereotype autocentric circular reactions and no longer modifiable by accomodation and not adaptable to changing situations. Accomodation and activity-affect (Schachtel) remain bound to autocentric perceptions in the service of maintaining postural security and affective "self-preservation" (Goldstein).

Postural-affective behaviour appears "closed" and not open to communication with others, as is typical for normal interpersonal relationships in early infancy. Jill, therefore, shows a severe breakdown of interpersonal affective-intentional relationships which normally form the early matrix of childhood development, preceding the formation of a cognitive structure, and the emergence of representative, reciprocal relationships.

(b) Behaviour in social contexts.

It is apparent that cognitive regression in the behaviour of Jill can not simply be understood as regression to an un-

impaired dimension of early affiliation. Jill's deficient behaviour as described in chapter 3, brings to light the importance of affective-intentional relatedness to the other person as a normal matrix of development in which accomodation takes place, and increasingly modifies assimilatory schemata.

Jill's deficient behaviour in this dimension is characterised by activity affect and accomodation being bound to autocentric perception and motor patterns and, therefore, being no longer available as a function open towards adaptation to the environment.

Even if, on rare occasions, the attitude of the other, by verbalisation and affect-related approach, allows Jill to free affectivity from boundness to postural patterns towards identificational behaviour (embeddedness-affectivity) such behaviour is not accomodated to and cannot be actively maintained. Jill remains dependent on the other person's undivided attention and intentionality and withdraws into autocentric behaviour as soon as the other person ceases to be available for affective identification.

Demands made on Jill cannot be accomodated to, as assimilatory schemata and accomodation (in the terms of Piaget) have formed a closed autocentric linkage unrelated to the equilibrium of a cognitive structure, and equally unrelated to the early functions of sensori-motor equilibrium. Forced accomodation is therefore resisted by affective defence (heightened muscular tension, anxiety and increased autocentric circular behaviour). Deficit in efficiency of affective-intentional relatedness to others is apparent in Jill's compensating approaches when she makes contact by touch or near inspection of others. Such observations show that neither sight nor touch are used in an allocentric fashion but function autocentrically, incorporating the other one into Jill's own body-space. Such forms of perceptual incorporation of others require nearness and are employed especially with other persons since, unlike objects, they cannot be incorporated into autocentric-motor patterns.

Body-object notion, however, is not achieved since autocentricity remains predominent. Attempted allocentric contacts regress toward autocentricity which severs Jill from what she obviously wants to achieve. Accomodation remains directed to herself and not towards others.

Close relationship between postural and affective behaviour is typical in deficit of cognitive structures. Releasing of affectivity from autocentric circular reactions and the temporary emergence of other-directed intentionality leads towards lessening of tension, smiling, and rudiments of allocentric and exploratory behaviour. These observations also indicate that in normal development affectivity undergoes considerable transformation via objectification by becoming disengaged from motor-postural behaviour and autocentric perception, and by becoming eventually linked to representative behaviour.

Jill's interpersonal transactions further suggest the importance of the early unity between the child's own postural behaviour and the transactions with others. In Jill this unity or equilibrium is broken in as much as she is bound to autocentric body-perception which excludes the other person. The other person, on the other hand, is nearly always unable to enter into such relationships with Jill as are typical of mother-child relationship in early infancy. Neither can the early matrix of "sympathy" be established, nor is a postural or body-schema available which would lead towards body-image perception and true imitation. This situation of being no longer able to utilise early interpersonal modes of transactions, and not being able to transcend them towards representative behaviour, seems to characterise cognitive regression and points to the importance of objectification and a first cognitive structure as structure of transformation from an early affective-intentional unity to cognitive self-other differentiation and representative behaviour in general.

GORDON, aged 9 years

1. Relation to Objects.

During a fortnight's observation Gordon showed a great deal of motor activity which was marked by his inability to subordinate his actions to the significance and meaning of objects.

1. In the bathroom Gordon grabs the tooth paste and squeezes it without attempting to unscrew the top.

2. During games he suddenly jumps up from his chair, grabs a brick, and throws it out of the window.

3. He washes himself with his flannel, but when given the soap, he squeezes it between his hands and then smears it on the walls and everywhere else.

4. Whilst in the workshop with his teacher he takes some wood out of the toolbox, puts it into his mouth and bites on it.

5. Gordon climbs upon a chair, opens the cupboard in which the children's toys are kept, then gets hold of some paper which is nearest to him and tears it up.

6. On a walk Gordon's teacher drops his pipe; Gordon picks it up, holds it tight and runs away with it. When called and asked to give it back, he hands it to his teacher.

7. During meals Gordon eats quickly and greedily; he takes his spoon by himself without looking at it. Whilst he eats he does not look at his food but adjusts his plate by himself so that he can empty it.

8. Gordon loves to pick up sticks outside, holds them close to his eyes for a while and then throws them away. He collects leaves and sometimes chews them.

9. Gordon seldom contemplates an object he takes hold of.

10. Gordon takes another child's brick, looks at it from all sides and then throws it out of the window. This situation repeats itself frequently during the time of observation.

11. Gordon comes near to the other children and brings his head close to them, looking intently at their face.

12. Gordon touches his teacher's hand and leads it to the butterdish as he obviously wants some butter on his bread.

13. During the play-hour Gordon grabs a brick, takes it up to his eyes and examines it from all sides. After having done this, he throws it away.

Interpretation:

These observations are typical of Gordon's sensori-motor behaviour. Gordon's actions described above give the impression of compulsions, and it was difficult to stop or divert him. His movements were extremely quick and hardly ever guided by visual attention.

A fairly consistent pattern could be observed, characterised by the consistent "incorporation" of objects into Gordon's motor impulses, the "drivenness" of his actions and lack of perceptual objectification.

Gordon deals with objects in the "all or nothing" fashion by either ignoring them or incorporating them. Such lack of achievement of object constancy in the sense of "a thing of contemplation" could be seen in Gordon's

(a) Destruction of objects (obs. 1, 3, 5),
(b) Incorporation by making them part of his body or movement (obs. 4, 6, 7),
(c) Making them disappear (obs. 2, 8, 10),
(d) "Near inspection" by touch and sight (obs. 8, 10).

The last form of investigation, Gordon significantly employed with other persons (obs. 11, 12, 13).

In the context of the foregoing observations and interpretations it is significant that Gordon does not employ sight and touch in an exploratory fashion which would give information about the nature of the object, but employs these actions on an autocentric level indicating "body-nearness".

Gordon acts as though he does not realise things as being "out there" and his relation to "things" is determined by his own affective-motor impulses. Objects, therefore, become - sooner or later - "obstacles" which must be either "incorporated into stereotype schemata or eliminated from the stimulus-or perceptual field.

Observation 1 in particular shows the boundsness of objects to Gordon's affective motor-schemata which are employed without further differentiated progress towards an adaptation to "things out there" as a beginning of representational activity.

Gordon's visual relation to objects (obs. 9, 10, 11, 13) appears to be in need of more detailed interpretation as his behaviour appears highly inconsistent. In the light of Werner and Kaplan's investigations on the emergence of "things of contemplation" as the beginning of referential behaviour and symbolic understanding, it can be seen that although Gordon employs sight to investigate objects, perception is used in an autocentric fashion and has not undergone the genetically important shift towards allocentricity (Schachtel). Objects, therefore, do not gain sufficient distance which would allow their handling as referents "and the subordination of action to such relatively stable objects of contemplation." Furthermore Gordon's dealing with objects also bears out the important notion that in normal development "distancing" transforms early affect-bound object-relationships towards cognitive behaviour in which objects are no longer part of the child's own affective motor-sensory behaviour but gain relative independence (objectification).

Gordon's behaviour shows that visual examination does not proceed towards establishing the independence of objects in a generalised spatial universe but instead regresses to autocentricity, that is, incorporation of objects to perceptual activity. Objects are therefore either materially incorporated (obs. 4) or thrown away (obs. 10 and 13). Even if object-notion is achieved it seems to remain unstable and can therefore not be transcended progressively towards representation.

14. When left alone Gordon, for many days, runs to the bathroom, grabs the tooth paste, squeezes it and throws it out of the window. When finally the tooth paste is hidden on a shelf, he continues his visits to the bathroom, searches everywhere - opening cupboards, looking on all shelves and finally taking a chair, climbing on to it and reaching up to the tooth paste on the top shelf.

15. In a similar way Gordon goes for the soap in the bathroom, squeezing it as soon as he takes hold of it; or he may search for sweets in his teacher's room. Once Gordon has started this pattern of behaviour, no verbal interference is successful.

Interpretation:

In these forms of behaviour Gordon's impulses towards the objects in question are satisfied as soon as he has reached them and his behaviour indicates a strong link between affective-motor impulses and a stimulus which, however, at no stage becomes objectified. There does not seem to be any differentiation of means and end, and the "object" stimulus seems to be part and parcel of Gordon's affective-motor schemata.

So far it must be assumed that the world of objects exists for Gordon only to the extent that it provides stimuli for autocentric perceptions in the process of Gordon's motor activity. Objects, therefore, do not enter Gordon's perceptual field as independent and are, therefore, only of interet if they enter his action field and body-bound perceptions. They are therefore not accomodated to, but incorporated into existing schemata of action which are compulsive and repetitive.

The foregoing observations also indicate that the social context in which Gordon's actions appear is of little interest to him, and that in many instances his compulsive behaviour excludes social contacts. His actions, by not realising objects as referents, appear to be highly body-centred and show no signs of employing the body as mediator for representative activity.

2. Body-Schema.

From the foregoing observations it can be expected that Gordon shows a considerable disturbance of relation to his own body as a tool for action and therefore part of an objectified stable spatial world. A number of behaviour patterns and postural attitudes were observed which can give further clues as to Gordon's body-relationship.

16. When left alone by his teacher, who turns to another child, Gordon starts to cry, kicks his shoes off and withdraws into rocking movements from one leg to the other, covering his ears with his hands.

17. Gordon holds his fingers near to his eyes, moves them up and down and watches intently. He rubs his ears with his hands, plays with his spit and wets his hands with it.

18. When left alone by his teacher for a short time, Gordon jumps up and down, spits at his hands and at the table

and makes strange guttural sounds.

19. On the playground with the other children, Gordon runs round aimlessly, joins the circle of the other children for only a short time, then runs off again only to come back and run off again, repeatedly.

20. At times Gordon is restless, breathes heavily, rolls in his bed.

21. Gordon lies on his bed in the morning, making humming noises, turning rhythmically from one side to the other. Then he sits up rocks forwards and backwards, his eyes staring and obviously oblivious of his environment. (Frequently observed during the fortnight.)

22. In the evening Gordon covers himself up with a blanket. He repeats this for many days.

23. He sits on his bed, moving his head rhythmically from one side to the other, covering his ears and humming.

24. On the playground Gordon climbs on the swing but is not able to use it adequately.

Interpretation:

These observations show some important characteristics:

(a) In all self-centred movement patterns, Gordon is entirely withdrawn and appears to be given up to the perception of his own activities.

(b) Such behaviour occurs especially when personal contact is suddenly withdrawn and attention turned away from him (obs. 16, 18).

(c) His activity does not include any objects (obs. 24) but his own body and action seem to become Gordon's only perceptual world which cannot be objectified and constitutes a body-space which is not related to a generalised space of objects.

From a perceptual point of view the analysis of the great variety of patterns observed reveals involvement of perception of his own movements, posture (rocking, rhythmical rolling, turning the head from one side to the other) touch (rubbing his ears) sound (humming noises). These forms of perception can be called autocentric and seem to correspond genetically

to those body-perceptions of the infant which include also visceral perceptions of the body-interior. Genetically those perceptions are closely linked to the mother and are gradually transformed to the extent that objectification emerges, and shift from autocentric body-bound perception to allocentric perception takes place.

In Gordon, however, autocentric perceptual modes have remained in the foreground of his perceptual experiences and objects are part and parcel of such modes of perception as shown in obs. 1 - 8. The variety of strange behaviour patterns quoted in obs. 16 - 24 can thus become understandable as regression to the level of autocentric perceptual modes which do not allow Gordon to transcend his body-perception towards objectification, which differentiates and integrates early global perceptions of the lower senses related to early body-perception (Schachtel).

3. Social Relationships

The foregoing observations demonstrate lack of stable object-relationship. Objects do not assume the notion of "things of contemplation" which can be "shared" with others by being referred to in action. The following observations show different forms of affective relationships to other people with or without objects being involved.

25. Gordon watches intently a small boy who plays with a wooden truck on the floor. He does not attempt to join in the play with the truck but tries to pick the boy up from the floor. As he does not succeed he gets hold of the truck, pushes it across the room, then suddenly stops and runs aimlessly about the room as if he had forgotten both boy and truck.

26. Gordon plays with his blankets, goes to the different children's beds, one after the other, lies down on them for a short while and covers himself up completely.

27. In the morning his teacher finds Gordon covered up with his blanket, laughing, obviously "hiding" and seemingly enjoying the game which he repeats frequently during the next two days.

28. Gordon's teacher helps him to get washed in the morning. He seems to enjoy being touched and rubbed with the

towel but to be unaware of his environment, holding out his hands to his teacher without looking. When his teacher turns to another child, Gordon starts to cry, kicks his shoes off and withdraws into rocking movements, covering his ears with his hands.

29. On a walk his teacher loses his pipe. Gordon picks it up, plays with it, runs off with it but hands it back to his teacher later.

30. Gordon clings to his teacher, tries to jump on her back, and takes her hand firmly wherever she is going.

31. The same day in the afternoon Gordon silently walks into his teacher's room, discovers his guitar on the chair and plucks the strings very gently. He seems to be relaxed, smiles, and after a while wanders off silently.

32. Gordon frequently tries to make contact with the other children. He pushes them or hugs them tightly or puts his eyes near to their faces as if to examine them.

33. Gordon listens to the voice of his teacher and when doing so is frequently able to interrupt his compulsive movement patterns. He is then able to sit quietly for a short time, but breathes heavily, his look vacant.

34. Gordon has a rest afternoon. When his teacher comes in with his clothes, he jumps up with obvious delight and flings his arms round his teacher's neck.

35. Gordon seems to be interested in objects related to him or his teacher. His clothes, his blanket, his teacher's pipe, guitar and leier (a musical instrument which is frequently played by the teacher for the children).

36. Throughout the day Gordon tends to cling to his teacher. He holds her hand, tries to make her jump with her and flings her arms round her neck or waist.

37. During the evening meal Gordon seems to be relaxed, holds his teacher's hand, making gentle swaying movements with his body. He points for the first and only time to the bread instead of grabbing it immediately.

38. When left alone for a short time Gordon becomes posturally tense, jumps up and down frantically, kicks off his shoes, runs through the flower-beds aimlessly, his head turned upwards, his eyes moving in all directions. He relaxes

only when his teacher holds him by the hand and takes him for a walk.

39. During gardening Gordon runs around aimlessly and then suddenly returns to his teacher and watches intently what he is doing: sweeping, digging, weeding. He seems to be entirely given up to what he sees his teacher doing but does not make any attempt at imitation or joining in. In between he suddenly runs off again only to return soon and resume his "observations".

40. In the evening Gordon is restless, rolls around in his bed, breathing heavily, making humming noises. When his teacher sits at his bedside, taking his hands and talking to him, he becomes relaxed and goes to sleep soon afterwards.

41. Gordon accompanies his teacher wherever he goes. When his teacher begins some work in the workshop Gordon seems to feel excluded, becomes tense and restless. In the dormitory when left alone, Gordon climbs out of the window, runs aimlessly around the house, but it seems that he is searching for his teacher.

42. During breakfast Gordon leads the hand of his teacher to the butterdish, indicating that he wants his bread spead.

Interpretation:

(a) The nature of Gordon's relation to objects in a social context shows that certain objects (the guitar, the leier and his teacher's pipe) become part of the teacher's world for Gordon. They do not gain recognition as independent objects but appear to become embedded affectively into his teacher's intentional properties (obs. 29, 31, 35).

(b) Persistence of embeddedness affect (Schachtel) appears frequently in Gordon's interpersonal relationships. This is marked by loss of self-identity and body-boundary when Gordon seems to "identify" himself with his teacher's actions (obs. 39).

(c) Breaking off of such forms of affective "surrender" occurs when his teacher directs his attention to something else (obs. 41 and especially obs. 28), or when Gordon is suddenly left by his teacher. Gordon, in such situations, withdraws into self-centred motor-patterns well known from

previous observations, in which interpersonal affective relationships are excluded (obs. 28, 38).

Such withdrawals in which Gordon shows signs of frustration with marked postural tensions and compulsive activities can be interrupted by his teacher's voice and bodily contact (holding Gordon's hand, sitting on his bed) (obs. 28, 33, 36, 37, 38, 40). In such situations Gordon becomes more open, his facial expression changes, his postural tone becomes relaxed and rudiments of referential or sharing behaviour occur (obs. 37 and 42).

(d) Apart from such affective-motor withdrawal and a polar opposite behaviour of "affective identification", Gordon's active contacts with his human surroundings are limited to contacts which do not penetrate beyond the body-surface. The other human being is encountered as a mere "manipulanda" (Heider) (obs. 25, 30, 32, 34, 36 and 42 where his teacher's hand is used in order to get at what he wants). In these forms of contact Gordon is finally thrown back to self-centred or autocentric perception of his own body.

To summarise, Gordon does not appear to have developed a perceptual attitude towards his own body which would allow stable self-identity, which could be retained in interpersonal transactions. He is therefore thrown back on his own body when he loses contact with the other person (motor-affective withdrawal), or has to identify himself with the other person who comes to "act for him". Both forms of behaviour are linked to characteristic postural attitudes: From a cognitive point of view Gordon's behaviour suggests lack of sensori-motor equilibrium and of a cognitive structure or schema which would integrate and relate autocentric and allocentric perceptions.

Disturbance and deficit in objectification result in persistence of genetically early modes of affective affiliation (embeddedness) in a social context which is, however, inadequate for Gordon's age. In such situations Gordon is temporarily identified with the other person's intentionalities in a form of "surrender" in which self-identity is lost. Both forms of behaviour in a social context (withdrawal and surrender) may be regarded as prototypical compensations for deficits in objectification.

4. Symbolic Activity

Language and Gesture:

During the time of observation Gordon did not show verbal, and only rudiments of gestural behaviour.

Imitation and Play:

Only in obs. 25 did Gordon show some indication of object-related play. He did not imitate.

5. Relation between sensori-motor activity and social behaviour.

(a) Behaviour in non-social contexts.

Gordon's behaviour in non-social contexts discussed in section 2 shows typical patterns of autocentric behaviour:

1. Persistence of autocentric modes of perception and predominance of such behaviour as compared with allocentricity.

2. A variety of autocentric repetitive and compulsive postural patterns involving head and eyes (autocentric circular reactions in the service of postural security).

3. Incorporation of objects into and limited motor schemata which are not modifiable by accommodation and therefore show strong affectivity in the sense of "self-preservation". (Goldstein).

At times affectivity and intentionality transcend boundness to circular reactions and objects become affectively incorporated even if not located in "body-near-space." Such affective-intentional relationships however do not become modified by accommodation towards the object but, once the object is reached and touched, it becomes immediately incorporated autocentrically as described in section 1.

Objects, by not becoming "things of contemplation" do not significantly enter into social contexts where they could function as a medium of sharing in sensori-motor space. They are either ignored or two forms of compensatory behaviour are employed:

1. The well known incorporation into autocentric circular reactions.

2. The object becomes part of the other person's affective-intentional field provided Gordon can identify himself with the other person.

In such situations (obs. 31, 29, 35) objects assume a temporary semi-object status as transitory objects (Winnicott 1953). They however lose this status as soon as affective-intentional identification to the other person is lost.

(b) Behaviour in social contexts.

Gordon's behaviour in a social context shows severe deficit of recognising and perceiving representative behaviour. Gordon therefore employs early modes of affectivity in cognitive regression with its typical characteristics:

1. Exclusion of objects and other persons (lack of activity affect and consequent accommodation).

2. Imperception of referential activities.

3. Breakdown of such relationship as soon as the intentionality of the other person is directed to something or somebody else, including Gordon himself, positing him as referent.

Breakdown of such relationship by not progressing towards modification through activity affect and accommodation results in withdrawal into typical patterns of autocentric circular reaction and self-preservation.

Other forms of interpersonal transactions can be seen in Gordon's employment of autocentric modes of perception by coming near to the other person, touching the other one or by holding his hand. Such behaviour does not seem to be object-related towards integration of the other one's body as a medium of action, but the other one becomes a "manipulanda" or a mere "percipienda" for Gordon's autocentric perception. In the same fashion the other person is expected to act for Gordon through which the other person becomes a manipulanda by becoming "Gordon's hand" to act upon objects.

Since autocentric perception has not undergone shift towards allocentricity, such behaviour patterns remain bound to Gordon's own body-experience and any move of the other one away from body-nearness results in breakdown of relationship.

Generally, attempts at accommodation and allocentricity are not sufficiently sustained and sooner or later regress into autocentricity. Identificational behaviour seems to prolong attempts at allocentricity which, however, remain unrelated to a cognitive structure which would allow for a stable equilibrium between auto- and allocentricity which means ob-

jectification.

The observations of Gordon's interpersonal behaviour show a high degree of affectivity involved in autocentric behaviour, which marks self-preservation. The degree of restriction of affective-intentional relationship with others depends directly on the degree of boundness of affectivity and intentionality available to autocentric circular reactions. In terms of Piaget, accommodative activity does not seem to have assimilatory schemata available for modification, in as much as these schemata are directed centrifugally or peripherically in early infancy. Accommodation thereby seems to be employed solely in motor activity and accommodation to such schemata represents exactly what is called autocentric circular reactions, in which the close link between assimilatory and accommodative activity seems to replace a mobile equilibrium, guaranteed by mother/child relationship in early infancy, and by a cognitive structure after objectification has been achieved. It must further be suggested, as borne out by a number of observations, that focusing of affective-intentionality and thereby assimilatory schemata through a therapeutic attitude of the other one, and relative maintenance of such relationship can affect Gordon's accommodative activity and allow for some degree of allocentric perceptual attempts and accommodation.

In the case of Gordon, ineffectiveness of such accommodative attempts, and the short space of time in which intentional relatedness to the other one can be achieved, intensify autocentric patterns of self-preservation, as observations have shown. Such interpretation of Gordon's deficits seem to highlight the importance of interpersonal relationship and therapeutic attitudes, and at the same time can provide prognostic clues.

GERALD, aged 14.8 years

1. Relation to Objects.

During the fortnight's observation Gerald's behaviour in dealing with objects showed a marked deficit of object-notion as well as behaviour patterns which compensated for lack of adequate object-relationship.

The following observations will be quoted as prototypical for Gerald's deficit in action upon objects:

1. In the morning Gerald follows the other children to the bathroom and reaches for his flannel after repeated verbal encouragement. He does not manage to take it from the hook, however, and when it is given into his hand he squeezes it tightly but does not know what to do with it.

2. When given one of his books by his teacher, he settles down with it at the table, turns the pages forwards and backwards between his hands but without looking at the pictures in the book.

3. During mealtime the spoon is pointed out to him and he is asked to begin to eat. He looks at the spoon but does not reach out with his hand to grasp it. When it is given into his hand, he begins eating immediately.

4. When asked to eat with a fork, Gerald uses his fingers to take food from the plate, as he can not adjust his plate to the movement of the fork. Towards the end of the meal some food is left on his plate on the near side, so that he apparently see it. He makes no adjustment of the plate and stops eating.

5. Gerald, with some help, succeeds in putting his rolled-up napkin through the napkin-ring. He, however, continues the movement, moving the ring along the napkin until it is off again.

6. When Gerald is asked to hand over his plate, he looks at his teacher, lifts the plate but does not hand it over.

7. The teacher shows Gerald how to put the lid on the mustard pot, then gives it to him and asks him to put the lid on by pointing to the pot. Although Gerald seems to realise the character of a command, he puts the lid on, takes it off again, intently watching his own movements, but does not

succeed in finally putting it on.

Interpretation:

These observations clearly show deficits of relationship of Gerald's own actions upon objects. Distance between his own movement and the object "out there" is not established, most clearly seen in obs. 3, where the fork is used only if it can be touched and is given into Gerald's hand. Significantly, once the fork has entered the near-space of his own body it is used correctly. However, as shown in obs. 4, the plate and the food on it cannot be perceived as true objects "outside" his own actions and can therefore not be adjusted but are subordinated to the on-going action, or the action is changed (taking the food with his fingers). The food as object "outside" in the immediate action is lost at the moment in which it is no longer part of the action-field. In the same way the book becomes not only a "thing of action" but the action does not progress or become modified but is rhythmicelly repeated (obs. 2).

As obs. 5 shows, action also does not become a means related to an end which pre-supposes differentiation of action and "object" (obs. 1 and 7).

Gerald is entirely involved in his own movements and lack of perceptual objectifications seems to be linked to a deficit in objectification of his own body and movement. (Relation to a stable body-schema of reference). Objects, therefore, also do not enter the important notion of being "shared" with others, and thus transfer of the plate fails (obs. 6).

In some instances, whilst failing to adjust his actions to the object adequately, Gerald employs compensating activities:

8. When asked to hand over his plate, he lifts it up but instead of handing it over, he puts it down, taps it with his knife, then taps the glass, the flower vase, the salt cellar. His teacher takes the knife and does the same and Gerald wtches all the movements with great intensity. When his teacher puts the knife down, Gerald leads the teacher's hand to the knife, obviously wanting him to do the same again.

9. Gerald gets his slippers from under the bed and although he has seen the other children putting them on many

times, he does not do so but instead taps the wall with his fingers, looking intently at his movements, obviously interested in the sound he produces by tapping the wall.

lo. Gerald is asked to take the fork at the beginning of the meal when the teacher points to it. Instead of taking it, he looks intently at the pointing movement and the mouth-movement of his teacher, comes near to her and touches her arm with his mouth.

Interpretation:

These compensating activities are particularly relevant from different aspects: As Gerald fails (obs. 8) to relate his action to the object, he begins to perform a different action upon the object (the plate), which he continues to apply to a number of different objects. The action itself, however, remains in the foreground of Gerald's interest and significantly this interest is extended to his teacher's action. Objects seem to remain insignificant, and are perceptually incorporated into the action.

In obs. 9 action, instead of being directed towards an object (his slippers), becomes a self-contained entity and its perceptual results (looking at it and listening to the sound produced) engender new movements constituting an autocentric circular reaction characterised by repetition and loss of object-relationship (the wall).

In obs. lo, instead of focusing on the object, Gerald becomes perceptually involved in the teacher's action. As the teacher's action is not perceived as pointing to "something out there" (as referent), Gerald can also not objectify the teacher's movement and thereby can only "identify" himself with it. Such forms of identification as compensating behaviour undoubtedly arise from lack of objectification. Where compensation takes place in a non-social context (obs. 9), "autocentric" movement patterns are employed with no object-regard (autocentric circular reactions).

It has so far emerged that Gerald's responses to objects in social contexts could be obtained only, if the objects were in "near-space" or if the other person pointed them out to him. It can further be said that things, by not being objectified as "out there", could not provide stimuli for motivated action and that such stimulation could only be

enforced by verbal or manual participation of the teacher. Even then stimulation towards action did not succeed if the object was brought into the "field of action", which means that it assumed body-nearness. Objects did not assume the character of "things of contemplation" and therefore could not be "shared" in a process of reference.

It is to be expected that in non-social contexts objects would be altogether obsolete perceptually, and the following observations could be made frequently:

11. When left alone Gerald engages in a variety of movements: He grimaces a great deal, pushes his hand into his mouth, rocks from one leg to the other, shrugs his shoulders, moves his hands and holds his head slanting to one side.

12. Gerald moves his fingers singly and together near his eyes and watches his movements intently.

13. Gerald moves the door of his room or the cupboard door rhythmically between his two hands, closely watching the movement of the door, his head slightly bent.

Interpretation:

These forms of behaviour, which were frequently observed during the fortnight of observation, show Gerald's involvement with his own movements and their perception. Such autocentric circular reactions have already been noted in obs. 9, when Gerald's movement was linked to its perceptual results, thus creating an autocentric motor-perceptual unity from which "objects" are excluded or into which they are incorporated, as for instance the door in obs. 13. Repetition and rhythmical execution is characteristic of such patterns of behaviour. Significantly, Gerald is bound to the perception of his own movements which therefore do not become externalised and thereby gain relationship to objects by being perceived in the same space in which objects gain their identity and constancy. (Deficit of objectification).

From the foregoing interpretations it may be suggested that Gerald's deficit of objectification is linked to a significant failure of perception of the body as object amongst others - in other words a deficiency in body-perception. Genetically, body-object notion seems to be a necessary step, even if only a transitional one, towards utilising the body for mediated action, or the use of the body and therefore

action as a tool for ego-expression and as means to an end in action. The organisation and creation of a stable cognitive structure which allows such a perceptual attitude towards the body is genetically linked to the process of objectification and the creation of a stable spatial universe.

2. Body Schema.

The following observations are relevant:

14. When his teacher comes to the nursery in the morning, Gerald gets out of bed. Although he sees the other children getting dressed, he himself does not make any attempt to do so. When helped to dress, he does not lift his arm to get out of his pyjama jacket, nor does he move his legs. He holds his slippers in his hand but does not make any attempt to put them on.

15. When Gerald is given his flannel to wash himself in the morning, he holds it, squeezes it tightly but does not seem to know what to do with it.

16. When asked to wipe his mouth with his napkin, he takes it and squeezes it tightly. Even when shown by his teacher, who performs the movement, Gerald does not make any attempt at doing so himself.

17. During a walk Gerald walks unsteadily, given up to watching intently the movement of the child in front of him. He is insecure on steps and must be led down the steps.

18. With much verbal encouragement Gerald attempts to take off his slippers. He sits on his bed, puts his right leg over his left knee, holds his ankle with his right hand and the slipper with his left. He then moves the slipper but at the same time his foot, pulling the leg like the slipper instead of holding it fast and removing the slipper from the foot. Only when his teacher holds his leg does he succeed in taking off the slipper.

19. Gerald is unable to walk while holding something in his hands (for instance a plate). Only occasionally he squeezes one of his books under his arm and keeps it tightly.

Interpretation:

These observations show Gerald's lack of relationship to

his own body, particularly to the parts invisible as in obs. 15 and 16. The body is not perceptually represented and therefore not differentiated as to its different parts and therefore different movements cannot be carried out simultaneously (obs. 19 and especially 18). Visual perception of ongoing bodily activity appears to be essential as no internal body schema has been established which would allow disregard of visual perception of his own movements (a genetically transitory step in normal development) and a shift towards object-regard. Obs. 18 shows Gerald's inability to maintain body-object stability during ongoing action when he moves his leg at the same time and in the same direction as the slipper. In a similar way (obs. 19) the book he carries cannot be clearly differentiated as object from the bodily movement and Gerald is forced to make a special arrangement (putting it tightly close to his body) in order to incorporate it into his actions. He fails to make the same arrangement with other, more "objective" objects which are affectively less close to him.

Emerging from obs. 14 - 19 it must be assumed that Gerald's actions are unrelated to a schema of reference (body-schema) which would allow perceptual-affective "distancing" from his own actions, and thereby create a stable spatial field in which "things" cannot only be perceived, but also become motives to which action is subordinated.
Gerald therefore shows considerable lack of initiative or true intentional behaviour, and realises the world and himself in an autocentric fashion by ever-repeated attempts at perception of his own perceptual and motor activity.

3. Social Relationships.

It can be expected that lack of objectification and of body-identity result in characteristic patterns of Gerald's social transactions.

20. Gerald is asked by his teacher to come to the bathroom to get washed. He walks off in a different direction, and only after repeated calling does he turn in the direction of the bathroom. When spoken to by his teacher, Gerald looks at him with a vacant gaze.

21. When his teacher speaks to Gerald, he looks at the movements of his lips with great intensity, but does not

seem to understand.

22. During working time in the garden, Gerald does not shift his gaze from his teacher. He stands motionless and observes every movement intently. He does not imitate nor join in.

23. When called, Gerald seems to listen but does not appear to understand.

24. Going down steps, Gerald does not venture to walk by himself. He stretches out his arm, begging for help, and is led down the steps.

Interpretation:

During the fortnight's observation Gerald did not attempt active social contacts but showed different forms of affective identificational behaviour on different levels:

(a) Replacements or "transfers" of his own action by the action of his teacher (obs. 8, 1o, 21, 24). The observations show that Gerald does not make any attempt to copy his teacher's actions or to imitate, as he seemingly does not relate them to himself or to objects. In these forms of behaviour, self-identity seems to be lost, which results in lack of initiative. Action is not perceived as "referring to".

(b) On the verbal level (obs. 2o, 21, 25, 28, 3o 6) it is significant that Gerald shows different forms of identification from pure affective affiliation without cognitive objectification and therefore understanding (obs. 21) to motor-imitation which at times is deferred (obs. 28), and rudiments of correct responses (obs. 6 and 2o). His behaviour shows stages of self-relatedness in the process of identification, which seem to parallel perceptive stages of objectification and notion of reference and representation.

To summarise, in both forms of identification the referential character of the other person's action, expression or language, appear to be lost and the world of objects can therefore not be shared in social communication.

Furthermore, Gerald's own body and the bodies of others do not seem to gain representative quality which could be mutually "shared". Body-boundary is poorly established, facilitating transfers of his own activity to the activity of others, typical for genetically early transactions in the

stages preceding objectification, and the particularly unique experience of the infant's own action over against the action of others.

Deficit of objectification and body-identity results in Gerald's heightened expectation of action of others for him.

4. Symbolic Activity.

Language and Gesture

26. Swinging the door of the cupboard in which the children's books are kept, he suddenly says: "Book".

27. During the Sunday Service Gerald sits relaxed, making soft bubbling noises occasionally.

28. To-day he babbles a great deal all day. He repeatedly says: "Where is the ball?" repeating a question his teacher had asked the children during the morning play session.

29. Before lunch he comes to me and repeats at different times: "Spoon." When he sits down for lunch he says: "Nice food," pronouncing "nice" like "nash". During this meal he talks a great deal, repeats "spoon" and when I show him fork and knife he continues to say: "spoon". When asked to take his shoes off for a rest, he repeats: "Shoes", whilst I take them off for him.

30. During the meal he is asked whether he would like some more. In response he lifts his plate and repeats at different times: "More".

31. During the last week of observation Gerald has used a number of words or rudiments of sentences: "Nash food (nice food), Blanket, Spoon (meaning everything that has to do with eating and any such objects as a fork, knife, plate), See, Where is the ball? There is the ball, Go out walk, Eat more, Nash boy, New shoes, Bed (bread), Naughty, Slippers, Baba nash (sister is nice), Soon, Te tor Nor (see-saw Marjorie Daw), Wash, Toks (chocolate).

The words are always used in the right situations, either on his own initiative or more frequently in repetition when he has heard them spoken by somebody else. His intonation of the word is stereotyped, usually pronounced in a rhythmical pattern without the listener having the impression that he is addressing anybody.

32. Gerald is very active towards evening, and says

several times: "Sing, sing" during the evening song.

33. He settles down in his bed and when shown pictures in his book he names the most familiar ones, such as a train, bread and food when shown a picture of a banana and some apples.

Interpretation:

(a) Gerald's verbalisation show patterns similar to those observed in forms of identification on the motor level:

Words heard from others become part of Gerald's vocabulary and are used either immediately or in delayed identification. Such verbalisations occur especially when Gerald is relaxed, which seems to facilitate identification in general (obs. 27, 28, 29, 30, 32).

Verbalisation is repetitive, rhythmically, usually without reference to objects and not directed to the addressor. Such speech behaviour must be suggested to be significant for lack of a perceptual attitude towards his own speech and lack of self-identity.

(b) Observation 26 shows a different form of speech behaviour: Gerald ventures a verbal indication of what he wants without giving up his motor involvement of swinging the cupboard door. The word "book" is repeated frequently but remains part of autocentric motor activity, and thereby does not achieve referential character which could guide his action towards the referent (book in the cupboard).

(c) Gerald's vocabulary (obs. 31) consists of words he has heard others say, and those words which are related to objects which have affective nearness to Gerald's body or his desires (wash, chocolate, ball, blanket, food, shoes, bread).

These verbalisations have not reached the level of autonomous speech but remain part and parcel of Gerald's motor-affective behaviour. They are, therefore, also frequently ill-objectified as pronunciation, are pronounced rhythmically, repeatedly and with stereotype intonation. They do not give the impression of being addressed to anyone.

(d) On this level of verbalisation words like "spoon" (obs. 29, 31) designate different things and actions which are affectively related to each other. Such words seem to be used as replacement of action, indicating a strong boundness

of word and action on a purely motor-affective level.

(e) No gestures of mediating character have been observed and no signs of pointing in referring to objects.

5. Relation between sensori-motor activity, body-schema and social behaviour.

(a) Behaviour in non-social contexts.

As compared with the behaviour of Jill, Gordon and Percy, Gerald's transactions in non-social contexts are extremely limited, as objects gain his interst only when they are placed in "near-body space" and can be touched. As discussed in section 1 and 2, attempts at accommodation are hardly ever observed and objects, including the body-object, are indorporated into autocentric circular reactions which are not open towards modification. Gerald, therefore, employs compensatory activity towards objects by trying various available motor schemata, which, however, are not modified via accommodation. They remain unrelated to a stable postural schema, which would allow the emergence of a variety of means. Instead, Gerald has to employ movements for the sake of postural security. It must be noted, however, that Gerald's autocentric behaviour patterns do not bear the mark of affective, compulsive self-preservation to the extent observed in the other children. They show, however, the characteristic of autocentric circular reactions by being repetitive, rhythmical, not modifiable, limited, and in the service of postural security.

(b) Behaviour in social contexts.

Observations of Gerald's behaviour in social contexts show frequent identificational behaviour, and Gerald employs embeddedness-affects towards others. Affectivity and intentionality seem to be less bound to autocentric behaviour than they are in the case of Jill, Gordon, Percy and Eric. Identificational relatedness to the other one, however, remains ill-accommodated to and insufficiently objectified, and Gerald therefore employs compensatory behaviour as cognitive regression on the sensori-motor level.

Action of others is not perceived as directed towards him and accommodated to his own schemata, but their inherent intentionality comes to replace his own.

In other instances Gerald attempts accommodation at parts

of the body of others without integrating such perceptions to his own schemata or to intentionality of others, which would mean recognition of act-body medium relationship. The body of another becomes an object which is, if possible, incorporated in autocentric modes of perception. Differentiation between Gerald's own body and the body of others seems to be lost.

Gerald's behaviour in interpersonal relationships can be understood as arrest of development of imitation, which normally leads to representative behaviour through interiorization "as a process in the act of accommodation." (Piaget 1962).

According to Piaget's investigations of different stages, imitation at the third stage can become effective only if the child is able to imitate those gestures or sounds which he himself has already made and seen. Gerald's behaviour, as described in section 2, shows inefficiency of objectification of his own sounds and movements in generalised space through predominance of autocentricity which, as a persisting mode of perception, "swallows up" all allocentric attempts. Deficiency of equilibrium between allo- and autocentric perception results in lack of equilibrium between visual and kinesthetic (autocentric) perception, in normal development characteristic of an established cognitive structure which allows progression towards imitation of action not seen previously, and imitation of new auditory and visual models (Piaget).

Such imitative behaviour, to be successful, presupposes that the child experiences his own body as objectified and the bodies of others as autonomous sources of causality, and it is this differentiation which Gerald has seemingly not achieved.

Gerald, therefore, does not show any imitative behaviour on the motor level but identificational behaviour as described with loss of body-boundary and self-identity. Such behaviour is never active but only appears if forced by the other person, and is therefore compensatory. Lack of initiative marks such behaviour, which means that objects are not <u>related</u> to primary intentionalities neither through objectification nor through accommodative activity and activity-affect, and objects therefore do not become <u>motives</u> for volitional acts. It seems that this form of cognitive regression characterises what Engel (1957) has called the "torpid type" amongst children with post-encephalitic syndrome.

Gorald's speech behaviour, as can be expected, shows similar arrest of development of imitation due to lack of a stable schema of objectification. Since, however, from a genetic viewpoint, normal language development is not directly linked to objectification and the emergence of object-notion, Gerald shows rudiments of pseudo-imitation in which those words are assimilated which possess affective nearness (see section 4). Gerald "transfers" verbalisation of others provided these words have been said by him previously. His own schemata are not modifiable and his own verbalisations are stereotype, rhythmical, repetitive, without referential character either towards objects or the other person. This behaviour is characteristic of autocentricity and motor-affect boundness.

In no case do Gerald's verbalisations or those of others reach the level of referential, autonomous speech, and therefore do not guide action. (This is particularly obvious when the word "book" he utters becomes incorporated into autocentric circular reactions which seems to show the close link between autocentric sensori-motor and speech behaviour).

From a genetic point of view such behaviour heighlights the necessity of a cognitive structure to which speech-behaviour can be eventually related or accommodated to during childhood development, constituting medium-referent relationship with subordination of the results of objectification to representative behaviour. Disturbance of cognitive structuring and absence of a stable body-schema do not allow sensori-motor transactions to transcend generalised space into representative space.

Geralds behaviour indicates that such profound cognitive deficit results in compensatory behaviour under the "pressure" of the other person's activity towards him.

In non-social contexts Gerald's behaviour shows avoidance of stimuli and compensatory behaviour in autocentric circular reactions. Such "self-preservation", however, cannot simply be interpreted as deficit but seems to show that accommodative activity and activity-affect do not necessarily arise from outer stimulation, but rather represent a primary activity. (Schachtel). In Gerald's behaviour accommodative activity remains bound to autocentric perception, inducing and impulsating circular reactions, and is no longer in the service of exteroceptive perceptual activity.

ERIC, aged 13.6 years

1. Relation to Objects

1. In the morning Eric attempts to put on his socks and pants without looking at them. He constantly puts both legs into one leg of the pants, makes no attempt at correction and must finally be helped.

2. When asked to do so, Eric collects the slippers from under the children's beds and puts them into the cupboard. He performs this task in a somewhat dream-like manner and is inclined to "lose" himself whilst doing it. He must be constantly verbally reminded to continue. He makes no attempt to collect the slipper he has lost on the way. It seems as if it has disappeared for him.

3. Eric carries 3 plates from the dining room to the kitchen; he understands what he is meant to do, but is unable to take them from the table and they must be given into his hand. In the kitchen he does not succeed in putting the pile of plates on the table and must be helped to do so.

4. During play-hour Eric does not join the other children. He places himself on the floor with a ball which he pushes to and fro between his hands. He resists any indication to share this play with his teacher or another child.

5. Having some time to spare before a lesson, Eric opens the cupboard where the toys are kept, and gets out his wooden engine and some bricks. He does not pull the engine along by the string attached to it. His attention is centred on the string which he holds with both hands, pulling it tight and relaxing it rhythmically, his face grimacing. He does not play with the bricks.

6. A few days later he takes hold of some bricks, builds them up on top of each other, knocks his "tower" down again and repeats these actions for nearly half an hour.

7. Eric takes his wooden engine to the sandpit, fills it with sand and empties it again. He repeats this play over and over again for about 20 minutes.

8. Early in the morning Eric does not make any attempt to dress like the other children; he sits on his bed playing with a string which he holds in both hands, tightening it, relaxing

it and twisting it round. He accompanies these actions by grimacing and is seemingly unconcerned with his environment.

9. Eric repeats this game frequently whenever he can get hold of something string-like. He lets it run through his fingers, winding and unwinding it. When interrupted by his teacher and asked to come to breakfast, he shows signs of distress, becomes tense posturally and hits two children on the way to the dining room.

10. Whilst getting up Eric takes hold of his shoe laces, pulls them out of his shoes and begins to play with them in the same fashion as described in obs. 8 and 9. When interrupted, he again seems irritated and tense. The same day during rest-hour, he collects the shoe laces from the shoes of other children, plays with them in the fashion indicated above and finally hides them in his slippers.

11. At teatime Eric does not take his prepared cup like the other children. He stands around waiting and then suddenly points with a very awkward but strong movement, thrusting his arm forward in the direction of the cup from time to time; finally the cup is given into his hands.

12. Going for rest-hour after lunch, Eric pulls the curtain and puts his socks into the cupboard.

13. Getting dressed he puts on his socks inside out. If his shoes are not done up immediately, he willpull them on without looking, and go for tea as usual.

14. When told to put his bedcover straight, Eric will do so and tuck it in although he is shown every day to leave it hanging.

15. When the children go to weed in the garden, Eric pulls out one or two weeds, and has to be verbally encouraged all the time.

16. He is able to take the weeds to the rubbish pile but he frequently gets "lost" on the way back. He stands with the grass between his hands, pulling it forwards and backwards, staring and obviously oblivious to his environment if not called.

17. When digging with his fork in the garden, Eric does so for a short time only, and then stands and swings the fork from hand to hand rhythmically. He must be continuously reminded

to go on with the digging.

18. In the morning when all the children get up and get dressed, Eric waits until he is approached personally.

19. In the bathroom he sometimes reaches for his flannel from the hook but only wipes his chin with it. With the toothbrush he just touches his teeth and does not succeed in brushing them.

20. Eric cannot fold his hands in morning prayer and succeeds only in holding the one over the other.

21. During mealtime Eric does not use his knife for cutting but frequently attempts to use it as a fork.

Interpretation:

In handling objects Eric shows deficits of objectification expressed in different ways:

1. Objects become part of stereotype movement patterns and are "incorporated", losing their character of being shared with others, and being referred to as media in social relationships (obs. 4, 5, 6, 7, 8, 9, 10).

During such activities, Eric's visual attention is directed towards his own movement plus object (autocentric circular reaction) in which perception remains bound to his own body and the environment is increasingly negated.

2. Action with objects (carrying plates to the kitchen or his slipper to the cupboard) disintegrates due to lack of objectification, and objects become increasingly part of Eric's own body (obs. 3, 17) or "disappear" from his attention when no more related to his own body-field (obs. 2).

Such observations show the significance of continued objectification for the maintenance of intentional activity and action with or upon objects, and Eric therefore shows disintegration of activity and initiative as action is not maintained by visual attention and objectification (obs. 15, 16, 17 but also obs. 1 and 13). (Disintegration of means- end relationship).

Objects also lose their tool character and become incorporated into movement patterns (obs. 16, 17) or cannot be applied sufficiently (obs. 19).

3. Actions are ill-structured through lack of objectification

and visual awareness, are therefore not adjustable and tend to become stereotype and repetitive. They cease to be utilised for the emergence of object-relationships and objects are incorporated into those patterns, ceasing to be experienced as "outside" and differentiated from Eric's own body and actions (obs. 14, 2o, 21).

2. Body-Schema.

The observations of object-relationship indicated Eric's inability to relate his own action to a stable body-schema which would allow generalisation of action, "distancing" from his own body space and therefore objectification:

22. Seemingly Eric loves the water but is unable to bath himself: He squeezes the flannel in his hand, plays with the soap but does not apply any of these objects to his body.

23. Eric cannot put on his socks. When dressing he frequently puts on everything inside out or back to front; he makes no attempts at correction. At other times Eric can dress himself correctly but does not manage to do up buttons and shoe laces.

Obs. 22 and 23 show instability of a body-schema which would allow notion of self to be retained in transactions with the environment. Eric's own body does not seem to have assumed the character of an "object amongst others" and Eric seems to remain identified with his own actions which therefore remain ill-accommodated to objects including his own body.

It should be noted that instability of body-schema and consequent objectification is by no means a permanent deficit and stability seems to vary (obs. 12, 23). Disintegration of initially established objectification during ongoing transactions has been observed in all children of Group A and seems to be a prototypical pattern in post-encephalitic syndrome. It must be suggested that such disintegration in time accounts for the different degrees to which performances of these children are deficient and remain dependent on affectivity by not having reached stability of structuring which is called cognitive.

3. Social Relationships.

During the fortnight of observation Eric's contact with other children followed the same pattern throughout:

24. He suddenly jumps towards a child, shouts at it one of the words he frequently uses, or simply makes a noise, touches the child and then quickly runs away without waiting for any form of response.

25. Eric watches intently other peoples' actions when relaxed and becomes tense posturally when directly approached.

26. A group of children succeeds in getting Eric's participation in a kind of game: They all sit down, then stand in a row and finally run around the house. Eric joins in reluctantly as the children pull him along. He does not break away from the group when they run around the house.

27. At times Eric is closely attached to his teacher, follows her wherever she goes and searches for her when he has lost sight of her. He then gently opens the door of her room and, having made sure that she is present, he disappears again.

28. One morning, when seeing another child sitting on his teacher's chair, he tries to pull the child off the chair. Having succeeded, he wanders about the room without occupying the chair himself.

29. For the first time during the period of observation, Eric pays visual attention to some pieces of furniture in his teacher's room and then puts some wooden sticks through the bars of the electric heater. Having left his "mark", he quickly runs out of the room.

30. During walks Eric frequently holds his teacher's hand and often takes her hand to pull her into the dormitory where he lives. At other times Eric seems to be satisfied to see his teacher, observing closely what she is doing, and makes no attempt at further contact.

31. For the first time during the period of observation Eric "invites" another boy to play with him. He pulls him along to his engine and bricks, and pushes the engine towards him. However, as soon as the other child begins to play actively, Eric withdraws, watches silently for a few seconds and then leaves the room to look for his teacher.

32. Eric seems to avoid any form of contact which is made by the initiative of others and which is specifically directed towards him. This became very obvious when one of the teachers attempted to take a photo of him. He became very tense, showing the facial expression of distress, and tried to run away. When his teacher, whom he knows, stood beside him, he became relaxed and consented to have the photo taken.

33. When left alone unexpectedly Eric attempts to retain contact with his teacher by peeping through the keyhole of her room, shouting through it or looking through the window. At other times he walks into his teacher's room if the door is open, seats himself on the chair watching intently what his teacher is doing.

34. In the morning when dressed Eric succeeds in opening the door of his teacher's room. He comes in and sits on a chair (always the same one). He watches what his teacher is doing, uttering sounds and single words all the time.

35. Eric does not succeed in knocking at the door before opening it. Having been frequently told and shown what to do, he simply repeats the verbal instructions, saying: "Knock" or "knock on the door", but never succeeding in doing so.

36. Eric calls for attention especially when his teacher is occupied in the dormitory with other children: He comes into the room, kicks the carpet or throws a piece of paper in the direction of his teacher, running away quickly after having done so.

37. When reprimanded and verbally invited to realise what he has done wrong, Eric brings his face close to his teacher's face, almost touching it. However, after a few seconds, Eric will repeat the same thing for which he had been reprimanded.

38. At times Eric is open to contact, seems to be relaxed and affectively at ease. In these situations he is able to speak a full sentence at the table (he has frequently heard it from his teacher) or he will indicate what he wants by using single words. (For instance, "meat", "tea", "milk", "bread".")

39. At other times Eric is tense, does not speak spontaneously and does not verbally repeat. In such states Eric

rejects any direct demands: He reacts with an angry shout or makes the gesture of throwing the serviette ring at his teacher, or pokes the knife in her direction. His movements are then awkward, his face grimacing, his muscular tonus tense. Further demands or attempts at making verbal contact increase the tension and Eric has then frequently to be sent to his room. On return he is relaxed, shy, expecting contact and given up to close observation of everything his teacher does.

Interpretation:

Eric's social relationships follow two distinct patterns of cognitive regression.

1. Affective identification: Eric watches other people's action intently, particularly those of his teacher whom he follows wherever she goes. This form of contact seems to be characterised by requiring nearness of the other person with perceptual exclusion of mediating objects and third persons, and loss of self-identity. (obs. 25, 26, 27, 30, 33, 34).

Such forms of identification facilitate verbal expression as a form of "verbal identification" (obs. 38).

2. Withdrawal: This form of behaviour occurs significantly when Eric is directly approached. He withdraws into stereotype movement patterns, becomes posturally tense and shows signs of aggressive behaviour or simply leaves the scene (obs. 31, 32, 39).

Avoidance of self-realisation seems to be significant in such situations in spite of Eric's urge for contact (obs. 37, 36, 24, 29). Avoidance of reciprocal interpersonal relationships is characteristic in all these observations. Lack of objectification, which means notion of objects which can be shared and can act as media and "objects of contemplation" in a social context, constitutes a vital deficit of communication. His own actions upon objects and the actions of others upon objects do not seem to be integrated in a reciprocal manner (obs. 11).

4. Symbolic behaviour.

Language and Gesture:

4o. During a morning walk Eric suddenly points to the house where he lives, thrusting his arm forward in the di-

rection of the house and frequently calling out: "Leier down there". (The leier is a musical instrument frequently used by his teacher).

41. Later on, on the same walk, one of the children has lost his sunhat. When the teacher asks the child for it, Eric points in a definite direction, saying: "Down there." (The hat was eventually found at the place indicated by Eric).

42. Eric notices that one of the children is on holiday. He frequently points to the empty bed with a questioning and somewhat bewildered expression on his face.

43. Early in the morning Eric laughs and giggles for no apparent reason, repeatedly thrusting his arm forward in a pointing gesture and uttering a few words in his own language: "Gaga, lulu, sheeha." During the time of observation Eric frequently used these words. It eventually emerged that "lulu" means the musical instrument, music in general, but also any action his teacher does towards and with him. "Sheeha" eventually became identified as relating to everything at home, the mother, the maid, but also the aeroplane on which Eric goes home twice a year for holidays.

44. During games Eric repeatedly steps into the nearby flowerbeds, seemingly unaware of where he is going. When casually reprimanded with "You are a horrible boy", he repeats "horrible boy". He does not show any inclination to leave the flowerbeds.

45. During rest-hour Eric frequently calls "ball, ball."

46. During breaktime Eric walks about among the other children. He does not seem to be aware of his environment, walks on tip toe, shakes his head and with pointing index finger thrusts his arm forward, sometimes pointing to the ground and at other times into the air. He also does this with both arms simultaneously, occasinally shouting:"Where lulu?".

Interpretation:

Eric engages in quasi-symbolic gesturing, often accompanied by single words (obs. 40, 41, 46). His movements as well as his verbalisations are erratic, show considerable force, seem to be compulsive and non-representative and therefore difficult to interpret. These gestures seem to be semi-

addressed, at times referring to the addressor (obs. 42) and at other times highly autocentric (obs. 46).

The character of the words used by Eric is strongly motor- and action bound and the words point to situations subordinating many events and actions to one word (obs. 43). The boundness of the word with autocentric motor activity shows most clearly in observations 4 and 45 when Eric fails to share the ball with others on the motor level and in a similar fashion fails to share the word for ball in its symbolic value on the verbal level. His verbalisations are closely connected with his gestures and actions, or replaces them through lack of perceptual attitude towards his own movement and action.

A different form of verbal behaviour, comparable to identification, is shown in obs. 44: After having listened intently to the teacher, he clearly repeats two words directed to him. The words he utters are obviously different from the form of motor verbalisation, as they bear the mark of imitation of conventional language. However, this form of imitation can only be interpreted as co-activity (Werner and Kaplan 1963).

Observations 4o and 41 show indications of the use of speech in a representational fashion. In the first instance it is obviously connected with Eric himself as referring to a much loved musical instrument used by his teacher; in the second instance related to his teacher who had asked another boy for his hat which he had lost. It can be assumed that identification with his teacher facilitated Eric's verbal expression or made it altogether possible.

Immitation, Play and Symbolic Behaviour.

Eric's play activities are rudimentary. The objects of play are not realised in their symbolic value and disintegrate to things of action. Bricks and engine are subordinated to repetitive movements upon the object (obs. 5, 6). In one instance further regression takes place into body-bound compulsive action, where the string of the engine is incorporated into Eric's movements and is not used to pull the engine (obs. 5). This disintegration of play shows clearly the increasing limitation of freedom of action signified by body-bound movement and increasing elimination of allocentricity and shrinkage of the field of vision. Sensory activity, instead of being in the service of objectification, becomes an arresting element in motor unfolding. "Distancing" allocentricity in accommoda-

is continuously endangered by actions directed towards Eric. Eric reacts with withdrawal or running away when looked at, or employs compensatory autocentric behaviour patterns. The body seems to remain something to be "looked at" by not being integrated to a unity and a medium of Ego-intentionality for representative behaviour. The necessity for retaining allocentric perception towards his own body must be interpreted as a phenomenon of cognitive regression in the service of postural security.

Allocentric modes of perceptions seem to remain bound to looking at his own actions and are therefore not free towards true exteroceptivity towards objects "outside". It must be suggested that such behaviour is due to lack of schematizing and generalisation of autocentric perceptions which would allow stability of reference for Eric's own motor activity through a cognitive structure (body- or postural schema). The body-object is not persistently available as a unity in representative behaviour which results in desintegration of self-identity and employment of affective defence-behaviour when Eric is addressed.

It can be expected that the deficite of body-schema formation described will result in deficient and compensatory behaviour in social relationship, and cognitive regression in representative behaviour:

(b) Cognitive regression in representative functioning is characterised by desintegration or de-differentiation of means-end relationship in action, and shift from allo- to autocentric modes of perception.

Lack of a stable relationship or equilibrium between intentionality (Heider) or pure action (Michotte) and the body-medium results in instability of self experience. The self therefore cannot enter fully into reciprocal communication and Eric employs different forms of compensatory affective defence when directly approached:

1. Withdrawal into stereotype-semi-representative and postural autocentric circular reactions (self-realisation on the motor level).

2. Aggressiveness.

3. Avoidance of contact by running away.

Significantly, as representative activity is not sufficiently established, it cannot be interiorised and thereby

could be utilised for the cognitive perception of representative behaviour of others. Eric, if the other's attitude makes it possible, employs therefore affective identification as form of communication. Such forms of behaviour, frequently observed, require nearness of the other person to allow Eric to identity himself with the intentionalita of others in action and speech. In such situations self-identity is lost as Eric cannot accommodate to the outer manifestations (body-medium) of the other person. This form of cognitive regression in representative functioning can be called "transfer" and seems to correspond on a different level to what is called "transference" in psycho-analytical terms.

When such behaviour occurs on the verbal level, speech of the other person cannot be perceived as referential by not being accommodated to an existing structure of reference (significantly in obs. 35).

In compensatory behaviour speech of others is accommodated to, in one instance, when maximum identification with accompanying affect-freedom seemed to be achieved. (Attempt at true imitation, obs. 44). In such instances accommodation, however, does not sufficiently modify Eric's own schemata and verbalisation, therefore remains bound to the immediate situation and does not become part of his own vocabulary. Such observations point to Eric's inability to accommodate to his own motor schemata which are arrested and not free for the variety of modifications through accommodation. In normal development motor schemata only become free for further accommodation, and thereby modification, by being generalised through a cognitive structure. Eric, therefore, also does not imitate.

His own speech remains limited and motor-bound, referents are subordinated to his verbalisations, which results in his using the same verbalisations for many objects and events.

Speech does not become a medium of sharing, and his own speech, mostly by not being representative and referential, remains autocentric and thereby bound to autocentric action. Representative space does not become medium for reciprocal accommodation to intentions in self-other relationships, in a similar way as objects do not achieve the mediating character of things of contemplation.

Eric's behaviour in a <u>social context</u> can be interpreted as the reversal of what Heider has postulated as the essential pattern of human behaviour in representative space: (Heider 1958 a) The great invariance in regard to distal goals and

the relatively great variance in regard to means. Cognitive regression seems to be characterised by the reversal of this relationship. The manifoldness of objects and of actions of the other person cannot be transcended by modifying accommodation but must be accommodated to means which are highly invariable constituting "autocentricity". It seems to be obvious that under the pressure of the senroy world, compensatory regressive behaviour is employed, which explains the manifoldness of Eric's behaviour patterns.

Lack of a stable cognitive structure as schema of reference can be seen as the essential deficit in Eric's behaviour.

Since all representative behaviour at least in the early stages of normal development has to rely on the reciprocal attitudes and behaviour of others, Eric's behaviour seems to demand therapeutic attitudes of others. This seems to be particularly obvious if one acknowledges that Eric is not able to experience himself as a stable "centre of action" (Heider), and simultaneously cannot perceive the verbal and other acts of others as representing such action as initiated by an Ego ("centre of action"). Self-other relationship is thereby reduced to:

(1) Dependence and surrender to the other's intentionality.
(2) Withdrawal or defence as to the other's overt behaviour towards himself (by not being perceived as an act-centre necessary for notion of representative behaviour).
(3) By being bound to autocentric motor and verbal behaviour which is only representative for the other one to a limited extent.
(4) By being deprived of common referents which could be shared.

As the other person experiences Eric's behaviour as semi-representative and semi-referential, his attitude seems to become of vital importance. Lack of representative perception can lead the participant towards:

(a) breaking off contact,
(b) complementing Eric's lack of representative behaviour by representing for him what he supposedly intends or even doing for him what he cannot do,
(c) by positively confirming behaviour, an interested and encouraging attitude which supports Eric's attempts at representative behaviour and perception. Such

attitudes, essential in dealing with post-encephalitic children will be discussed in more detail in section B of the concluding Chapter.

PERCY, aged 10.5 years

1. Relation to Objects.

1. Early in the morning, when getting dressed, Percy puts on his slippers without looking but does not succeed in putting on his dressing gown.

2. He puts on his vest back to front and in the process of adjusting it suddenly begins to rock from one leg to the other, seemingly oblivious of his environment and of what he was just doing.

3. When asked to wash in the morning Percy succeeds in getting his flannel from the back, puts it into the water and then starts to squeeze it without touching his face, as if he had forgotten what to di with it.

4. Percy knows where his clothes are kept but in his attempts to get dressed he sits on his bed with his vest in his hand and makes no further attempt to put it on. He puts his legs into the sleeves of his pyjama top.

5. Percy knows all the different rooms in the house. On his way to one of them he frequently stops as if he has forgotten where to go, starts to rock with his whole body, throwing his arms forward rhythmically and snapping his fingers.

6. Percy takes his towel and flannel correctly from the hook but does not attempt to wash or dry himself. When his teacher helps him he stretches out his arms to be dried.

7. During meals Percy does not take any notice of the other children. He listens to his teacher's voice, and when asked to pass a plate to another child he will do so, but without looking at what he does.

8. All rudiments of purposeful action are frequently interrupted by rhythmical rocking of his whole body, forwards and backwards, giggling, walking on tiptoe, blowing and sometimes spitting. During these activities Percy appears unaware of his enviroment.

9. Percy shows little initiative and when asked to do some simple, manual task, his teacher has to remind him constantly and encourage him verballs. He is then able to straighten up his bedcover, put his slippers into his locker and his toys under the bedcover.

10. Percy carries his pet toy (a wooden horse) about with

him all day and takes it to bed when going to sleep. He does not play with it. He occasionally takes other toys from the shelf and carries them about possessively but is unable to handle them.

11. At table Percy is greedy, looking intently at everything, touching the bread and butter (frequent observation). On rare occasions he points to the bread and butter and the jam dish.

12. At mealtime Percy takes his spoon but does not begin eating. Instead, he moves the spoon up and down rhythmically. He continues to do so until he is fed and then he starts to feed himself.

13. During lessons Percy does not use the paint brush given into his hand. He holds it close to his eyes as if to examine it, and then begins to swing it forwards and backwards in his hand. When his hand with the brush is guided by the teacher on the paper, he is willing to follow these passive movements but does not look at the results nor at the movements.

14. Percy succeeds in threading some beads on a string but needs to be encouraged verbally. He frequently interrupts this activity by rocking movements, moving his hands with the string and beads up and down rhythmically, giggling and laughing. Only on rare occasions does he look at what he is doing.

15. At breakfast time Percy grabs some bread from the table before the children sit down. When his teacher looks at him reproachfully he puts the bread back and holds his hand out to his teacher to be kissed, as a sign that he is forgiven. (It emerged that Percy employs this pattern of "forgiving" at home with his mother.)

16. Percy leads the hand of his teacher to the butter dish when he wants his bread spread.

Interpretation:

Percy's relation to objects showed a number of different patterns which can be summarised as follows:

(1) His actions upon objects are poorly patterned and intentionality and means-end relation are rarely sustained (obs. 2, 3, 6, 7, 8, 9, 12, 14).

(2) Object-related intentionality is frequently compensated for or replaced by self-centred motor-activity in which the world of objects becomes eliminated from the perceptual field, or incorporated into self-centred movement-patterns. (obs. 3 when he squeezes the flannel instead of using it adequately, and obs. 2, 8, 12, 13, 14, and also in obs. 5 where an intentional activity seems to disintegrate into self-centred movement patterns).

(3) Lack of visual attention is characteristically related to poor intentionality and organisation of action (obs. 1, 7, 13, 14).

(4) Actions upon objects need constant verbal encouragement in a social context, and in non-social context objects do not provide sufficient stimulus for action (obs. 7, 9, 12, 14).

(5) Only on rare occasions do objects assume referential character and can therefore be "shared" (obs. 11, 16, 16 show transitory stages of object-relationship in a social context from grabbing, touching and leading the hand of the teacher to pointing.

(6) Objects to which Percy seems to be affectively related as for instance toys, are not handled freely but become "incorporated". They do not gain representative values but are carried about as if part of Percy's own body.

2. Body Schema.

17. Percy frequently withdraws to the sandpit, digging holes and flicking the sand into the air very skilfully. He seems to enjoy his flicking movements, watches them intently and repeats them over and over again, blowing and spitting.

18. Percy is frequently found outside the house rhythmically rocking from one leg to the other on one spot, giggling, blowing or spitting, his eyes raised upwards or watching intently the movement of his arms, which he moves rhythmically up and down, snapping his fingers.

19. Percy stands on the lawn, quickly turning his head from one side to the other, and at the same time turning his eyes horizontally towards both sides rhythmically.

2o. Percy suddenly begins to walk on tip-toe, snaps his fingers in front of his eyes, then suddenly stretches his arms and brings them back in front of his eyes. He seems to

be entirely oblivious of his environment.

These patterns repeated themselves with some regularity during the day throughout the fortnight of observation.

21. When told to wash his hands and face, Percy turns the tap on full, looks at the running water and flicks his fingers under it. He seems to know his own towel for drying, but does not take it from the hook; he dries his hands by rubbing them down the towel while it is still hanging.

22. Having undressed, Percy leaves his clothes on the floor and picks them up only when persistently told to do so. In undressing he has to be continually verbally encouraged for each item of clothing.

23. He does not notice whether his clothes are back to front or inside out, and frequently puts his shoes on the wrong foot.

24. One day Percy developed a new performance: He walks around with half-closed eyes, spinning himself round. Then he gets down on his knees and moves across the floor, at the same time flicking his fingers. He never repeated this.

25. Percy has found a small disc of wood the size of a penny. He keeps it clutched in his hand for the rest of the day, and next morning he is found still clutching it. When it is made to disappear during the day, Percy spends a long time looking for it.

26. During the last day of observation Percy managed for the first time to undo a few buttons on his shirt, whereas before he used to simply tear his shirt open when undressing.

27. When walking, Percy frequently has his eyes half-closed, moving his head from side to side.

28. Percy does not succeed in folding his serviette. He bundles it together and pulls it through the serviette ring.

29. Percy does not seemingly notice an insect which crawls on his cheek or leg. He seems to have little sensitivity on his body periphery.

30. His teacher indicates to Percy that he should put his slippers and dressing gown in the cupboard. He tries to hang his dressing gown over the bar on which the coat-hangers are hooked. He takes his slippers off his feet, carries them outside the dormitory, then back again, goes with them to

the cupboard and takes those of another child out, as if he had forgotten his own which he is carrying.

31. When carrying a plate out of the diningroom, he carries it by lifting it up to his face.

32. Percy tucks his serviette into his collar, and eventually pushes it right down into his shirt, absentmindedly.

Interpretation:

The observations show that Percy is bound to rhythmical, repetitive movement patterns which involve his whole body. They frequently occur when he is left alone and are related to Percy's inability to transcend autocentric body-perception towards allocentric modes of perception in which the body is perceived as object amongst others in generalised space (obs. 17, 18, 19, 2o, 24, 27). In such situations allocentric object-perception is eliminated and Percy is given up to the perception of proprioceptive bodily sensations arising from his own movements which include head and eyes.

In handling his clothes Percy has not established "distance" or a perceptual attitude towards his own body and the clothes he wears. His clothes as well as the towel (obs. 21) remain objects bound to his body and disappear from his perceptual field as soon as they are no longer related to his body (obs. 22, 23). In obs. 26 rudiments of object-relationship as to his own clothes seem to be present when he manages to undo a few buttons.

Lack of objectification is obvious in obs. 25, 29, 3o, 28 and 32. In all these observations, notably in obs. 25 and 29, objects are not perceived as "outside" his own body but become part and parcel of Percy's perceptual field as related to his own body. It must be suggested that all the phenomena observed are related to a lack of body-schema as a stable schema of reference which would allow "distancing" between his own body and objects "outside".

Percy watches his own movements intently, creating a motor-perceptual circle (autocentric circular reaction) which always excludes the environment (obs. 17, 18, 2o). Autocentric perceptual modes engender new motor activity which however does not progress fully towards action upon objects (obs. 22, 28, 3o, 31, 32). (Deficiency of means-end relationship).

3. Social Relationships

33. Percy, when repeatedly told to take his flannel from the hook (an action he can perform but does not always do), looks straight at his teacher and starts to shout at her.

34. When checked for something he should not have done, he remains silent to start with, then suddenly weeps and throws himself on the floor, gets up again and stretches out his hand to be kissed. (A habit Percy had acquired at home, with the meaning that he is forgiven, and which he repeats every time).

35. He often comes straight towards his teacher, close to her face, and after a few seconds turns away and begins to flick his fingers.

36. When suddenly left alone, Percy either starts to flick his fingers violently, dancing round on one spot, or stands motionless, gazing into space with a smile on his face. He will give up this behaviour when he is addressed.

37. When spoken to Percy frequently repeats the last word of a sentence, running backwards and forwards, jumping and repeating it over and over.

38. When going to bed Percy comes to his teacher to embrace her, and motions for her to sit on his bed by pulling her along.

39. During handwork lessons, when not directly attented to, Percy holds his beads in his hand with a faraway expression on his face, gazing out of the window.

40. When his teacher sits on the chair near his bed, or on his bed, Percy comes crawling from behind as though he wants shelter, or lies motionless on his stomach behind her.

41. Percy passes his plate at mealtime in order to get some more to eat. As he is asked to wait, he bangs the plate on the table and shouts some inarticulate explosive sounds at his teacher.

42. In the sandpit Percy is again busy throwing sand up and watching it fall back. When told to stop, he does so for a few seconds and then starts to trow it again.

43. In the evening Percy goes to the other children's beds, holds his face near to the face of a child for a few seconds, and then quickly withdraws, jumping and flicking

his fingers.

44. Percy's mother frequently comes to visit him. The initial meeting always follows the same patterns: As soon as Percy sees the car he jumps towards it, stretches his hands out towards his mother in order to get his sweets. If the mother has no sweets ready, Percy ignores her and begins looking for them in the car. He does not seem to take any notice of his mother during her visit except when continuously supplied with sweets.

Interpretation:

(a) Percy's relationship to others appears to be erratic, and attention can be sustained for only a short time on the verbal level (obs. 36, 37, 42). Significantly, the spoken word is repeated in a manner of motor identification (obs. 37) but does not change or re-direct his motor impulses (obs. 33, 41, 42).

(b) Objects do not seem to assume referential character in social relationships and can therefore not be shared in a social context (obs. 33, 41, 44). They become either part of Percy's motor impulses (obs. 44) with exclusion of interpersonal communication or "disappear" from Percy's attention (obs. 33 and 39).

(c) Percy attempts communication by coming near to the body of others seemingly without notion of the mediating qualities of the other person's body as expression of his intentions. Thus the body of others assumes object-status (obs. 35, 38, 40, 43).

(d) Percy is unable to refer the intentions of others to an established self. Communication therefore frequently deterioratos to a purely motor and non-verbal level of expression (obs. 34).

4. Symbolic Behaviour.

Language and Gesture:

45. When relaxed in the evening Percy laughs and giggles in his bed and repeats some words in a low voice and in a parrot-like fashion. He picks up these words from his teacher's addressing other children.

46. Percy has developed the habit of taking his sheet and going under his bed. When his teacher enters the room and

comes towards him, he quickly says: "Go into your bed." He performs the same game in the evening again. When his teacher enters the room, he goes back into bed saying: "Go into your bed."

47. During the lesson another child grabs his book and throws it out of the window. Percy looks at the child and says: "Look outside." He speaks quickly as if he is afraid of being heard.

48. When addressed Percy frequently repeats the last word of a sentence spoken to him and then continues to repeat it over and over, jumping and running about.

49. Only on a few occasions did Percy speak spontaneously. In all these situations this occurred when he wanted some food: He says: "Tamata (which means anything edible), "sweets", "bread".

50. In the evening Percy, when he seems to be relaxed, says: "Good night" spontaneously; sometimes he repeats his teacher's "goodnight" to him.

51. In the evening Percy comes running into the dormitory calling rhythmically: "Bed-book", "bed-book" repeatedly. He is told he will have his book when he is in bed. Percy undresses very quickly then does to the cupboard where the toys and books are kept, stands in front of it calling again rhythmically: "Bed-book", "bed-book."

52. Percy says spontaneously: "Stop it," "Come on," "Please" (which he pronounces "pease"), "Kiss Percy," and a word which sounds like "Daygah." During the period of observation he uttered these words a few times.

53. During nursery class lesson Percy takes hold of the ball, bounces it up and down, throws it to the ceiling and finally loses it under a wooden bench. He immediately runs after it, calling out quickly and repeatedly: "Fetch the ball."

54. During rest-hour Percy runs around in the dormitory, flicking his fingers, seemingly oblivious of his environment, repeating different single words over and over, rhythmically.

55. In the morning Percy runs up and down in the dormitory on tip-toe, flicking his fingers, humming and repeating one word continously, drawing in his saliva, seemingly not paying any visual attention to his environment.

Interpretation:

(a) Lack of reference to objects and the contents of the visual field in general are significant in Percy's verbal behaviour. Verbal identification is frequently observed. His repetition of words and sentences points to a form of motor-identification in which the spoken word of others becomes part and parcel of his own rhythmically repeated speech patterns, usually accompanied by movements (obs. 45, 48, 54, 55).

(b) Percy's spontaneous speech attempts are related to desires and affectivity in general, impressed by their action character and by their being rhythmically repeated or being uttered in an explosive fashion (obs. 49, 51, 52).

(c) Another significant form of Percy's verbal behaviour can be interpreted as delayed identification in which he uses sentences which he has heard his teacher say on previous occasions (obs. 45, 46, 47). It must be doubted whether these sentences and words form part of his own vocabulary although they are sometimes used in a fashion adequate to the situation as, for instance, in observation 53.

5. Relation between sensori-motor activity, social behaviour and symbolic activity.

In non-social contexts Percy's behaviour shows lack of cognitive structuring, which is characterised by persistence and predominance of autocentric modes of perception resulting in disturbed sensori-motor equilibrium.

Frequent attempts at allocentric perception and accommodation do not sufficiently modify available schemata and sooner or later desintegration takes place with cognitive regression towards autocentric perception and autocentric circular reactions (similar to Eric's behaviour).

As compared with Eric, Percy's attempts at accommodation, subsequent modification of available schemata and persistence of allocentricity seem to be more sustained. Such attempts reveal the normal process of progression from autocentricity to allocentricity when he for instance proceeds from touch to exploratory behaviour, which is temporarily maintained and later on even towards pointing (see obs. 11). Such attempts by being unrelated to a stable cognitive schema are, however, shortlived and seem to remain dependent on affective interpersonal relationships.

In a social context allocentricity is fostered whenever

lished sensori-motor equilibrium. If no structure of objectification is available, representative behaviour remains ill-structured, disintegrates to the level of sensori-motor functions in near-space and to affective behaviour typical of interpersonal relationship in early stages of development prior to cognitive structuring.

(c) Records of subjects in Group B showing less severe impairment.

FREDDY, aged 7.o years

1. Relation to Objects.

1. Freddy is slumsy in his movements, cannot use the face-flannel adequately to wash his face, and must be helped.

2. Dressing himself in the morning, he puts his jersey on back to front and cannot fasten the top button of his shirt.

3. Freddy finds it difficult to hold his bread with his left hand and spread it with the right, holding the knife. When his right hand is in action, the left hand is either clenched or accompanies the movements of the right hand simultaneously.

4. When eating, Freddy does not look at his plate or food, but looks round the diningroom in a dream-like, unconcentrated fashion.

5. In dressing himself in the morning, he must be constantly reminded to carry on.

6. Freddy cannot fasten his shoe laces and tends to put his sandals on the wrong foot, especially when in a hurry.

7. Freddy succeeds in folding his clothes neatly as well as his bedcover. He hangs up his dressing gown in the right place and puts his shoes outside the door in the evening.

8. Freddy seemingly enjoys looking at picture books. He recognises the pictures and makes up his own stories from the pictures, relating them to one of his friends in the dormitory.

9. Freddy is slow and unconcentrated in dressing and undressing. He laughs, moves about a great deal, tells "stories" uninterruptedly more to himself than to others, rolls over on his bed, laughing and gesticulating. He has to be constantly reminded to carry on.

lo. Freddy always goes to bed with his most prized possessions under his pillow. These possessions he carries round with him in his pocket all day. They include most recent letters, or part of them, and his favourite car or book.

2. Body-Schema.

11. Freddy fastens his buttons, usually leaving out the top one; hence he is forced to leave out one of the middle buttons in order to make the last button and hole correspond. He does not make any attempt at correction.

12. During meals he often seems to "forget" what he is doing, either talking continuously or given up to the statements of his friend, Ian, who sits opposite him. He has to be continuously reminded to carry on eating.

13. During break-time Freddy does not join the other children but talks to himself, watching himself in the window. He laughs and becomes increasingly more excited.

14. This pattern repeated itself at various times when Freddy would stand in front of a mirroring window pane, his book under his arm, talking continuously, walking up and down and looking at himself in the window.

15. Freddy often jumps about, obviously oblivious of his environment, squinting his eye-balls to the corners of his eyes.

16. Freddy sits on the stoep, talks quietly to himself, gesticulating wildly in all directions with nobody near who could see or hear him.

17. Freddy often stands motionless for a while, unaware of the environment. At the next moment he suddenly starts to jump, runs or crawls about at great speed, waving his arms, talking, or running forwards and backwards unsteadily on his feet.

Interpretation:

(a) Freddy does not show any striking deficits in handling everyday objects; however, observations 8 and 10 show a deficiency in maintaining objects or visual patterns (picture in the book) in focus. In the one instance (obs. 8) the content of the picture is "incorporated" into verbal activity and in the other instance (obs. 10) objects are incorporated into body-nearness, particularly if endowed with strong affective meaning.

(b) More significant seems to be Freddy's lack of orientation as to his own body (obs. 1, 2, 5, 6, 11). Inability to relate his actions to a stable body schema seems to result

in verbal compensations (as in obs. 9, 12 but also in obs. 4 where his attention is not maintained).

(c) Freddy engages in strange postural and motor activities, sometimes accompanied by verbal expression, in which he appears to be unaware of his environment, and identified with his own actions (obs. 13, 14, 15, 16, 17). In all these activities there is lack of a perceptual attitude towards his own actions and words. In obs. 13 and 14 Freddy makes use of the window pane in order to become aware of his own actions and observes them in a form of autocentric circular reaction.

(d) Obs. 3 indicates lack of dominance and differentiation of right and left. It must be suggested that such lack of differentiation is related to instability of the body-schema and consequent lack of distance from his own body and actions.

3. Social Relationships.

18. When directly addressed, Freddy has a questioning and sometimes vague expression on his face. One has the impression that he needs some time to understand and organise his reaction.

19. At times Freddy looks very intently at another person and seems to be drawn to the facial expression and mouth movements of the person addressing him.

20. Freddy engages in very active rough and tumble games with his friends, but then suddenly withdraws, stands in a corner and watches, motionless.

21. Freddy stands in the courtyard eating some bread during break-time. When approached by his teacher, he suddenly runs away and hides himself.

22. When reprimanded, Freddy runs away or, on one occasion, brought up his food. He might also say: "I am going home to my mother".

23. When surrounded by other children, Freddy either prefers playing on his own or watches silently in a dream-like fashion. In neither case does he seem to be aware of his environment.

24. Freddy joins the activities in the nursery class.

25. In the play-group with other children, Freddy usually

remains an onlooker. He silently collects all the cars he can find, settles with them in a corner, and performs as he declares: "Traffic jams on the American highways."

26. With his friend, Freddy joins to hold mock telephone conversations. He gives orders for meat and other household items, and seems to be pleased to be able to engage in language only, without actually meeting people.

27. Freddy imitates a great deal of what the other children are doing. He frequently engaged in the same kind of imitation as to action and language of his teacher.

Interpretation:

The observations show instability of self-identity and thereby lack of reciprocal interpersonal relationships:

(a) In obs. 19, 25, 27, Freddy shows motor identificational behaviour in which he is given up to observation and "imitation" of the behaviour of others, obviously unable to relate this behaviour to a stable self and thereby forced to co-act.

(b) In obs. 2o and 25, Freddy withdraws into his own activities, being uninterested in sharing with others and seemingly oblivious of his environment.

(c) Freddy avoids confrontation by running away, hiding or flight into verbalisation (obs. 21, 22). Freddy does not appear to be able to adjust himself adequately to the approach made by others by utilising representational activity which could be shared and in which the self would maintain itself in social transactions (obs. 18).

Obs. 2o and 26 indicates that Freddy uses actions and language as a medium of pseudo-communication. In both cases his activities are ill-structured and self-other relationship is not seeming to be sufficiently established. In such activity the other becomes a medium for Freddy's own activities and contact may be suddenly withdrawn.

4. Symbolic Activity.

(a) Language, Gesture and Expression:

28. Being early awake in the morning, Freddy laughs, giggles and chats to himself uninterruptedly.

29. At mealtimes Freddy looks aroung in a dream-like fashion and picks up bits of conversation going on around him.

He repeats what has been said and continues to elaborate in his own fashion: He heard someone refer to the wind which was blowing round the house and after a few seconds took up the conversation by saying: "Oh yes, the wind blows high in the mountain and the lightning was on the mountain and the thunder was making a big noise, and the lightning on the mountain killed a man and I saw the man killed."

30. Freddy's speech is indistinct and he has a tendency to stammer, especially when he is at rest. He frequently pronounces an "I" for a "w" and "sh" for "s" at the beginning of a word. He pronounces "yes" like "nes".

31. While getting dressed, Freddy continuously repeated some sentence he had previously heard his teacher say: "How are you?" and "What do you think you are?"

32. Next day Freddy repeated the same game, reprimanding the other children in the teacher's voice.

33. At breakfast, when asked to use his righthand for cutting, he wants to know why. His teacher explains to him that his lefthand had worked so hard and needed a rest. Freddy: "But my lefthand wants to work till he gets very old."

34. At lunch the presence of grapes triggers off a long story about this fruit: "At home we used to pick big bunches of grapes that was growing in our back garden. We had a grapevine and Ohhhhh. . . . . we used to pick the grapes off the grapevine ohhhhh." Freddy continues with such topics, using frequent repetitions until he is asked to stop. It does not seem to make any difference to him whether someone is listening or not.

35. Freddy is again very slow in dressing himself and does not start to put his shoes on. When he was reminded to do so, he said: "I must put my shoes on if I want to grow up into a big man." He repeated this remark while putting on his shoes.

36. Freddy stammers when he gets excited, especially when he is meant to say "I" at the beginning of a sentence.

37. Freddy has a big vocabulary at his disposal but pronounces many words incorrectly: He pronounces "mice" like "mite", "selt" as "chelf", "stop it" as "top it", "yes" as "nes", "shoes" as "choose", "you" as "jew", "soldiers" as "jolders", "said" as "tzaid", "quiet" as "kliet", "scooter"

as "cooter", "sleep" as "teep", "s" as "cho", "that" as "nat", "say" as "tay", "follow" as "wollow".

38. During mealtime when his appetite has considerably improved, his teacher makes some comment on this. Freddy informs his teacher that he wants to eat a lot "that I become a big man and go to heaven", or "that I become a giant".

39. Receiving a letter from home, he shows no emotion whatsoever. He clutches the letter and holds it close to his chest. After two hours of being very quiet, he starts speaking about his mother and the place where he lives.

40. Three identical chairs in his teacher's room he designates as "mother chairs" (2 of them) and one is the "father chair".

41. Freddy engages in long conversations with one of the boys, telling him about travels to various places, America included.

(b) Imitation and Play.

42. Freddy loves to play rough and tumble games with one of the other children. His activities are poorly co-ordinated and have usually to be stopped.

43. During the daily life he imitates a great deal of what other children are doing, to the extent that he lifts his arms when he sees another child do it.

44. He easily adopts habits of other children, e.g. ducking his head under the blanket when his teacher says goodnight to him, or crawling to the bottom of the bed (under the blankets) when his teacher comes in in the morning.

45. At meals he imitates the speech of the other children and often carries on for the whole day. He imitates those with whom he is most connected (his one best friend and his teacher).

46. Freddy enjoys playing by himself. He is possessive with his toys with which he loves to surround himself. With his farm-set and railway-track he allows another boy (his best friend) to join hom.

(c) Symbolic Play.

47. After getting up in the morning Freddy crawls on all

fours to the bathroom, mooing. He repeats this game usually every morning, transforming himself into a horse, a chicken, a cow or a mouse. This imaginative play is nearly always accompanied by long stories which are endlessly built up. During the story he repeats a sentence rhythmically, his voice gaining an ever higher pitch.

48. Freddy wakes up "being a horse", crawls on all fours, but later decides to be a cow and crawls down the passages, mooing.

Interpretation:

(a) Freddy's speech is well developed, his vocabulary fairly rich, but his use of speech shows significant peculiarities in communication:

1. His verbalisation is closely bound to action; it accompanies or replaces it, is of repetitive and egocentric character which means it is poorly related to the other person, but seemingly it facilitates his own actions (obs. 28, 29, 31, 32, 34, 35, 41).
2. Differentiation between his own verbalisation and the speech of others seems to be poor in as much as Freddy frequently repeats phrases of others, or picks up a conversation in order to continue in his own language without being addressed or asked to (obs. 29, 31, 32).
3. Freddy shows little "distancing" and poor perceptual attitude to his own language. His verbalisations are ill-related to objects of reference and present situations at hand.
4. Pronunciation is frequently faulty and seems to express lack of perceptual attitude and boundness of speech to action with lack of "distancing" and differentiation.
5. Freddy shows motor identificational behaviour on the motor as well as verbal level. This behaviour does not proceed towards "deferred imitation" (Piaget) but seems to be indicative of lack of self-identity and poorly defined body boundary. Affective affiliation to others seems to facilitate this form of co-activity or identification (obs. 43, 44, 45).

(b) Play: Freddy's play is usually well organised but hardly ever shared. The objects of play easily become part of his own space of action and he finds it therefore difficult to

share in the reciprocal relationship of play with others (obs. 46, lo, 25). Freddy prefers playing with others in an object-free manner and such play deteriorates frequently into rough and tumble games on the motor level (obs.42).

(c) Symbolic play activity: By "becoming" different kinds of animals, Freddy seems to use this activity in order to escape self-identity. Significantly, such transformations are accompanied by endless verbalisations. One gets the impression that this form of play is make-believe play but that Freddy identifies himself fully with his motor-postural and verbal gestures (obs. 47, 48).

5. Relation between sensori-motor activity, social behaviour and symbolic activities.

(a) The discussion of chapters 1 and 2 revealed deficits of reference of motor activity to a stable postural schema with typical patterns of incorporation and autocentricity.

Generalised body-notion is poorly established and Freddy, therefore, uses the specular image of the window pane to support body-object notion as medium of representative behaviour. Since, however, the specular image only provides information about the phenomenal body, Freddy's actions, in front of the mirror are of autocentric nature since body-notion is not generalised through an internal schema of reference.

(b) In Social Contexts Freddy's body therefore does not become a medium of representative behaviour by not being sufficiently accommodated to. The body-medium thus becomes assimilated to Ego-activity and action and language therefore show autocentric character and lack of referential behaviour which would be related to the environment and objects as referents. Object-play is hardly ever shared and frequently disintegrates to the motor level by disintegration of means-end relationship in ongoing activity. Action and verbalisation persist to be closely linked and familiar schemata are frequently used in autocentric fashion by not being accommodated to present situations. Motor or speech behaviour is frequently initiated by others but does not usually become modified by accommodation to the situation.

Such autocentric schemata develop frequently into true autocentric circular reactions in which accommodation to his own motor-speech behaviour produces new reactions, no longer modifiable and no longer related to the environment.

"Interiorization" regresses to the level of autocentric perception due to lack of a cognitive structure as schema of reference. The observations show that such behaviour frequently occurs in social relationships by the demanding impact of the other person or by the other person turning attention towards Freddy, situation which cannot be assimilated via accommodation. In such situations Freddy showed three typical patterns of affective defence or cognitive regression:

(a) He runs away and/or hides.
(b) He engages into affective identification with the other person, including motor-identification or pseudo-imitation (Piaget), or
(c) he withdraws into motor and verbal autocentric circular reactions.

Even in seemingly communicative behaviour (obs. 2o and 25) the observations reveal that accommodation does not sufficiently modify his assimilatory schemata and the other person becomes reduced to a mere incentive of his own autocentric motor and verbal activity with exclusion of the medial element of representation and mutual self-notion. Significantly, such forms of behaviour only succeed if the other one (in this case another child) shows poor self-realisation and is open to be used in such a fashion. Freddy, therefore, withdraws as soon as the other shows self-realisation in representative behaviour which shows referential character towards Freddy, and therefore posits Freddy as referent.

All observations clearly point to deficits or disintegration of representative behaviour and the perception of representative media through which intentions can be "shared" in representative space.

Compensating behaviour is manifest in two fundamental patterns:

1. Assimilation of the body-medium to his own Ego-activity (intentionality) without sufficient accommodation which would allow "interiorization" of action towards symbolic or representative behaviour.
2. Identification with the intentionalities (Ego-activity) of others manifest through lack of accommodation to the body-medium of the other one. Attempts at accommodation (obs. 2o) are rudimentary when he closely investigates the facial expression of others without being able to proceed towards accommodation which could be integrated to his own assimilatory

schemata, leading towards imitation, or to the other's intentionality, leading towards representative perception. His own body, as well as the body of others, seems to become "objects" (see also Freddy's behaviour in front of the window pane). In terms of Piaget, accommodation and assimilation are not sufficiently differentiated to allow integration as equilibrium. Interiorization and the emergence of a self-image cannot, therefore, develop. Insecurity of self-notion also is obvious in Freddy's "symbolic" play where his actions are not subordinated to an image and his play appears to be autocentric and can be understood as compensating. Taking on a rôle is necessary in order to compensate for lack of self-realisation in symbolic or representative behaviour.

JOHN, aged 9.5 years.

1. Relation to Objects.

1. In the morning John needs some help to make his bed. He is not able to pull the blankets straight and cannot tuck them in. He makes frequent attempts but does not persevere.

2. At table John has little control over his hand movements. He cannot fold his serviette as he cannot make the corners meet. When shown he looks intently but does not manage to smooth the serviette when folded.

3. John tries to get hold of everything nearby especially small toys like Dinky cars. He does not play with them but stuffs them into his pockets.

4. John likes to help in clearing the table and manages to carry the plates to the kitchen after the meal.

5. To-day John shares his toys with the other children for a short time. He soon collects them again, stuffs them into his pockets and under his pillow.

6. To-day John takes a toy from another child and obviously does not understand when he is asked to return it. It seems that he is not able to distinguish between "mine" and "thine".

7. At mealtime John suddenly looks out of the window with a staring look and when asked what he sees there, his reply is: "Springbucks".

8. After getting up John wanders around in the dormitory, his shirt twisted round his shoulders. He needs to be reminded to wash himself and must be constantly addressed in order to keep to his tasks.

9. John finds it difficult to handle knife and fork and frequently resorts to using his fingers.

lo. To-day John manages for the first time to cut his bread and to spread it. He is obviously very happy about this achievement and tells everybody of it. He still frequently attempts to cut with the wrong side of the knife.

11. John is very quick in his movements. He loves to hide in the Wendy House or behind a door, behind trees or in the bathroom. This happens very frequently when he has been reprimanded but also when he is simply addressed. He then

suddenly slips away in order to hide.

12. This morning John cannot be found anywhere but is finally discovered on the swings at the playground.

13. John has learnt to dress himself with a little help but will not put on his shoes or sandals. He must be constantly encouraged.

14. To-day John picks up toys wherever he can find them, putting them into his pockets.

15. John wanders around after getting up, and must be reminded to get dressed and washed.

16. John collects little pieces of broken toys and insists on carrying them round all day.

17. John frequently engages others in order to share what he sees: In class he would walk to the window, looking out over the meadows, gently asking his teacher to join him. He usually discovers animals far away on a hill or points to a boy who walks from one house to the other. He seems to be satisfied only when he has been able to share his experience with his teacher and when his teacher confirms that he has also seen what he, John, has seen.

18. John, having succeeded in drawing a pattern in his book, takes the book and shows it to everybody in the class.

19. During the evening John asks: "Where is the bunny with the blue?" (toy of another child). When he is in bed his teacher asks him: "Did you find the bunny?" John answers: "No". His teacher, however, discovers the toy hidden under the blanket and asks Kohn: "Do you wantvto sleep with it?" John nods and keeps the bunny under his blanket during the night.

2o. Having been in his teacher's room, and having watched everything intently, he took a biscuit a little later, which he had seen on a plate. Being gently reprimanded, he blushed, hung his head and said: "I won't do it again; I will give you another one."

21. John frequently takes fruit, sweets and carrots from the kitchen, without permission.

22. John takes other children's toys and usually stores them under his pillow.

23. Any object he uses easily becomes his own. One of the swings on the playground is "his" and he would not allow any other child to use it.

Interpretation:

The following interpretations can be suggested as to John's behaviour connected with objects:

1. John's actions upon objects are poorly structured, and perceptual attitude towards his own movement in relation to objects (intero-extero-ceptive relationship) does not seem to be inter-related as equilibrium. He does not fully succeed in more complicated actions upon objects (obs. 1, 2, 8, 9, 10, 13). Failure frequently results in compensatory motor activity which does not seem to be goal-directed (obs. 8, 13, 15).
2. Perceptually, objects are endowed with strong affective qualities without being sufficiently objectified as independent "things of contemplation" which could be shared. Toys and other objects, therefore, tend to be incorporated into near-body space, clung to or hidden under his pillow (obs. 3, 5, 6, 14, 16, 19, 20, 21, 22, 23).
3. On other occasions seen objects are shared on the level of participation of the process of seeing with others, as John appears to find it difficult to relate to objects seen verbally (obs. 17, 18). In obs. 7 John seems to be involved in the activity of looking and when asked to tell what he sees, seems to compensate for apparent lack of content by replying: "Springbucks".

2. Body Schema.

24. In reciting a poem John accompanies his speech by actions. In the process of speaking, his recitation fades increasingly, and at the end he no longer speaks but only acts.

25. A similar pattern has been observed in singing, when he starts well but when his singing deteriorates, and he ends in shouting unintelligible words in a high-pitched voice.

26. Whilst the other children play on the lawn, John suddenly begins to roll on the lawn, suddenly stands up, holds his arms horizontally, spinning round quickly and whistling.

27. During the time of observation John had frequent petits mals, or fits: They usually follow the same pattern, starting with a cry or calling for his teacher. John looks frightened and when sitting on a chair clenches both hands, draws up his legs, his eyes staring. This usually lasts for half a minute. Afterwards he is relaxed but cannot speak and often falls asleep. When helped to bed he frequently disappears under his blanket.

28. John walks with his head up, moving it in an up and down and slightly sideways movement.

29. When withdrawn John's gait becomes heavy, his head hangs and he bangs his hands on whatever he passes. He frequently hits children who get in his way.

30. In similar situations of withdrawal he frequently pulls out threads from his jersey and keeps them tightly between two fingers, or bites his nails.

Interpretation:

1. Lack of perceptual attitude towards his own verbalisation and action results in motor-postural patterns of behaviour in which John's attention towards the environment is reduced and in which he engages in body-bound activities (obs. 28, 26, 29). In such situations "shrinkage" of space of action can be observed and John is concerned with his own body (obs. 30) or intero-ceptive, autocentric experiences of his own actions (obs. 26). Fits and petit mal attacks seem to be closely related to breakdown of a stable body-schema, reduction of space of action and autocentric body perceptions.
2. Motor and verbal activity are closely linked and as action goes on verbal activity deteriorates due to decrease of perceptual attitude. Activity assumes increasingly body-nearness (singing turns into shouting, speech into action).

3. Social Relationships.

31. John will play only with those children whom he can "mother" and who do not show strong self-expression. His best friend is a small, big-headed boy with a high voice and a flaccid paralysis of the legs. Although this boy can walk, he is unsteady in his movements, needs help and talks a great deal.

32. John is easily shocked when reprimanded or if attention is called to what he is doing.

33. John sometimes plays with another child. When he notices that he is being watched, he turns away and runs off.

34. To-day, when slightly reprimanded, John tries to hit himself.

35. To-day, John tries to take another child's toy. He hits the child when he is refused the toy.

36. John often comes to his teacher expecting to be praised.

37. When reprimanded John knocks his fist against the wall, runs off and hides behind the door.

38. John is eager to do what he is told but has difficulty in understanding.

39. When reprimanded to-day, John again hits his fist against the wall.

40. John seems to understand what is wanted of him but appears to be insecure in the execution of the task: When asked to do some simple task (to fetch plates from the kitchen) he opens his eyes wide, jumps up and down, says: "Yes!" "Yes!" and only then runs off quickly to bring the plates. This pattern frequently repeats itself.

41. To-day when the teacher enters the room after rest-hour, John slips under his bed and stays there for nearly half an hour without movement or sound while the other children and the teacher play in the dormitory.

42. John continuously draws the attention of others to himself by calling their names, performing inviting gestures or by whistling. One he has achieved attention he uses one-word sentences to convey what he wants the other person to know, but frequently runs away when approached.

43. To-day, when asked to go and wash his hands rather unexpectedly, he shouts: "No!". When his teacher gently insists, he runs to the bathroom, banging his feet and hands against the wall whilst he runs. In the bathroom he continues to bang his head against the tap. When prevented from banging his hands, he tries to bite his hand, kicks the one foot with the other, crying: "I will break my leg - I really will." After

a while when his teacher has spoken softly to him, John calms down, goes to the bathroom and washes his hands.

44. During mealtime John's attention seems to be all over the place. He is hardly concerned with his own food, fork and knife, but passes dishes around to those who want butter or jam, without being asked.

45. This morning John distributes toys from the cupboards to every child by going round from bed to bed.

46. When saying good-night John throws his arms around his teacher's neck, saying: "I am going to dream from you," "I am going to dream from you and me. We will ride on a elephant. I will be good."

47. Whilst the other children play in the dormitory, John does not join in but makes sporadic contacts by hitting the children as he passes, but then suddenly shares out sweets or gives each child a toy from the cupboard.

Interpretation:

1. John's social relationships show patterns of identification in which self-identity seems to be lost. He therefore is not able to enter the dimension of representational space which would allow reciprocal self-other relationships. (obs. 31, 35, 38, 4o). This behaviour is particularly striking when attention is turned towards him and especially when he is directly and suddenly confronted or reprimanded (obs. 32, 33, 34, 35, 37, 39, 41). Such situations represent interruption of John's attempts at identification, and John's behaviour seems to show deficit of adaptation through poorly accentuated self-notion and perception of the body-object (the body which can be seen by others). He tries to hide, runs away or attempts to establish himself on the motor-level by hitting, knocking against the wall or hitting himself. Such actions frequently seem to be devised in order to gain new avenues of attention and the affective prerequisites for identification (obs. 43).
2. John attempts communication with others on the level of action, and appears to be in need of creating situations in which he can relate himself to others by various means (obs. 42, 44, 45, 46, 47). Such patterns of behaviour can be regarded as compensation for deficits in communication on the

representational level. They are characterised by lack of reciprocity when he tries to relate himself to others and at the same time to "disappear" as a self which can be addressed by others. "Shrinkage" of representational space in ongoing communication with others constitutes a form of cognitive regression and is frequently observed in John's behaviour.

4. Symbolic Behaviour.

(a) Language.

48. All actions, which are difficult for John, he accompanies by verbalisation. When he is reminded to eat without spilling his food or to cut his bread, he becomes very talkative. Having succeeded in a difficult action he makes his success known to everybody.

49. When his teacher is talking to another child, John seems to feel that he is being addressed and will answer.

50. John talks in a high-pitched voice and answers simple questions correctly when related to his own actions.

51. John usually speaks in a soft, high-pitched voice. Verbalisation expressing anything related to his own intention or desires is ill-pronounced and hesitant. In statements the content of which is not related to himself his face lights up, he smiles, his voice becomes more firm and the words are well pronounced.

(b) Expression, Imitation and Play.

52. When John gets hold of bricks he builds them up carefully, one on top of the other. He is very concerned that his tower does not collapse.

53. To-day he gets hold of a ball, bounces it up and down but makes no attempt to share the play with the other children.

54. John's facial expressions are undifferentiated. He laughs and weeps easily without apparent reason, and it is difficult to distinguish between his laughing and weeping.

55. John seldom plays on his own initiative, but does so when the toys are arranged for him, and some idea is given him of how to play with them.

56. John loves to act and seems to be entirely at one

with the part he performs.

57. John copies letters from the blackboard, employing his whole body: For "o" he puts himself on the floor, curls up sideways and touches his toes with his fingertips. For "t" he sits down with his arms stretched out horizontally. For "b" he stands up straight and bends one leg to form a half circle.

58. In copying, John draws ha house and a man by drawing all the parts correctly but not connecting them to each other.

59. John is unable to draw a line from one given point to another, but succeeds in doing so only if the points are given different colours.

Interpretation:

Language:

1. Verbalisation usually accompanies action and frequently increases in a compensatory fashion when action is difficult.
2. Differentiation between his own speech and that of others seems to be poorly established (obs. 49).
3. Pitch and intonation of voice change frequently and John seems to be able to relate events more easily when he is not involved. In such situations speech is better objectified and perceptualised as compared with those instances where he tries to refer to his own activity (obs. 51).
4. In answering questions John's answers seem to be facilitated by referring to his actions.

Play:

Frequently John's play activities have to be initiated by his teacher as to planning and materials used. John is then able to identify himself with his teacher's suggestions.

In self-initiated play objects tend to be incorporated and are seldom used in a fashion adequate to their meaning (obs. 5, 14, 16).

Objects of play like, for instance, a ball, are shared with others only temporarily (obs. 5, 53). They soon tend to be incorporated into his own movement patterns and near-body space.

Expression:

John shows deficits in using his body as a tool or medium of expression (obs. 54), and perceptual attitude towards his

own body is insufficiently established. Such lack of distance from his own body shows most strikingly by his copying of written forms from the blackboard, using his own body (obs. 57), and his inability to copy "gestalten" as unities. They disintegrate into their different parts (obs. 58). In reverse operations John does not succeed in connecting one point with another by drawing, as he is unable to realise spatial relationships in a representational fashion.

5. Relations between sensori-motor activity, social behaviour and symbolic activity.

(a) John's behaviour in non-social object relationship shows behaviour typical of a lack of means-end-differentiation, and differentiation of body-object and external object relationship. It seems to be the particular characteristic of normally established representative behaviour that referents (objects) can be subordinated to activities which are self-related and expressed in intentionality-body-medium relationships.

John's behaviour, as described under 1 and 2, shows lack of perceptual attitude towards his own verbal expression and action both of which disintegrate towards autocentricity in which the body is no longer an objectified unityp open as mediator for representative behaviour. In such situations objects become incorporated into autocentric body-space, and verbal and motor behaviour is no longer referential.

(b) Behaviour in social contexts: De-differentiation of act-medium relationship in which the body ceases to be a medium for Ego-activity and becomes assimilated to it, manifests itself in loss of self-identity. Since John's body is not persistently experienced as medium and integrated into mediating activity and therefore becomes part of early autocentricity, attention or confrontation results in forced accommodation to his body and "alienation". John reacts typically by

(a) Hiding or running away.
(b) Using compensatory autocentric aimless reactions instead of representative behaviour.
(c) Attempting non-representative affective identification with the other person.

In other situations John does not employ referential

behaviour and thus seems to avoid self-expression. He compensates by communicating in semi-communicative signs, by drawing attention to himself, or arranges for the other children to be "employed" by distributing toys to them. This mechanism, which occurs frequently, characterises a form of avoiding confrontation and employment of his own self-expression in representative activity.

Significantly, John's "perceptual attitude" to his own verbalisation changes according to interpersonal situations. Structuring of speech seems to be facilitated in relating events not connected with himself, and his own experience does not become sufficiently interiorised to give rise to "drafts" of verbalisation. Vice versa, reference to his own overt action facilitates verbal expression.

Lack of stable self-identity is also expressed in his speech behaviour which shows lack of distancing between his own speech and the speech of others. Such forms of behaviour characterise lack of internalisation of his own speech and thereby of differentiation of external and internal speech. Speech therefore is not used for planning in play or silent planning by internalisation of language towards thought. His play-activity must be initiated by others and disintegrates sooner or later towards "incorporation" of play-objects by not being integrated and subordinated to an autonomous-self-regulating system.

John's lack of a perceptual attitude towards his own actions is highlighted by his behaviour in copying when he uses his whole body to copy figures from the board. Accommodation only becomes possible as linked to assimilatory schemata in which the body is perceived autocentrically, and does not become a medium of representative behaviour through which the perceived forms could be "represented."

MARTIN, aged 17.5 years.

1. Relation to Objects.

The following observations mainly concerned Martin's behaviour in different situations of work and household chores which he carries out during the day. Generally, Martin is an active boy, looking out for tasks and executing them at considerable speed. The following observations show his difficulties of adjustment:

1. He has the daily task of getting the sheep out of the stable and tethering it to a pole on the grass. He performs this task efficiently, but frequently forgets to make sure there is grass within reach of the sheep.

2. Martin helps to collect the milk in the morning. He enjoys heavy work and is quick in his actions, almost running all the time, jumping in and out of the car, his intensity always slightly above what is required.

3. Martin has difficulty in following the weaving instructions. He easily loses the thread and begins to perspire if he does not manage his knots. He does not ask for help. A gentle approach is necessary to correct him.

4. Martin is inclined to leave his housework when distracted by something else. He can be all over the place; for instance, if a car does not start or a cow is outside the fence, Martin will be on the spot and act with an air of doing a most important job.

5. Martin's behaviour in ball games is significant. He does not seem to grasp the rules, and in playing soccer he kicks the ball vigorously without aiming, shouts and runs after it. He does not grasp the essential relation of one player to the other. He tackles hard but often without purpose, and gets easily entangled with another player whilst the ball is far out of reach.

6. When asked to set the table, Martin is quick in remembering the place where forks, knife and napkins are kept, but in looking over the table is unable to find out what is missing. Whilst doing his work he is easily distracted and loves to help in the kitchen if he realises some work is being done there. He will then easily leave his task of setting the table.

7. Whilst eating, Martin never looks at his plate but is completely given up to his surroundings. He will take up bits of conversation and join in a smile although he does not know what it is about. He eats enormous quantities and seems to be little aware of himself. When reminded, he reacts with a slight shock, shows signs of being embarrassed or upset, throwing his head back and obviously resenting being reprimanded.

2. Body-Schema.

8. Martin runs along the passage to get to one of his tasks. He runs heavily with his head low between his shoulders, and knocks over one of the boys who gets in his way. He carries on running, and when stopped and made aware of his action, he blushes, seems to be angry and replies: "Why, I couldn't help it. He came in my way."

9. Martin walks quickly, his arms swinging forcefully at his sides as if to aid his motion. It seems as though he is driven to walk and he finds it difficult to change his direction. He will continue to walk even if he meets someone who asks him a question, and will reply as he continues walking.

Interpretation:

1. Martin does not show any striking deficits as to the handling of everyday objects in familiar situations. His motor activities and actions, however, are ill-adjusted and accommodated to relatively difficult situations. His actions are not sufficiently related to a stable postural schema, there is lack of "distancing" and goals are not be sufficiently maintained during on-going action. (obs. 1, 2, 3, 5, 8, 9). (Disintegration of means-end relationship).
2. Particularly obs. 6 and 7 show Martin's inability to maintain object relationships. This deficit is marked by loss of self-identity and identification with his surroundings and his own verbal and motor activity.
3. Significant for this deficit is obs. 6 where Martin succeeds in relating visible objects to his activity but fails to represent objects invisible in his field of action.
4. All on-going action seems to be ill-structured by lack of perceptual attitude. Consequently they are not sufficiently related to objects and goals of action (deficit of means-end

relationship). Martin, therefore, easily leaves a given task and engages in another, preferring those in which motor activity does not need to be accommodated to objects. (obs. 2, 3, 4, 6).

Self expression is limited in situations where the self does not seem to have achieved relative autonomy as to action, and seeks to establish its identiy in the varying dynamics of action only (Limitation or "shrinkage" of representational space).

3. Social Relationships.

10. Visitors are the main attraction for Martin. He is immediately at their car, listens in to any conversation and makes himself seen and known by little remarks. He usually succeeds in drawing attention to himself, and is occasionally invited to lunch which he enjoys tremendously, always behaving in a most composed and amiable manner.

11. Martin has a highly developed sense for situations as long as he himself is not involved. At one of the social occasions in the house where he lives, some chairs are missing. He is asked in a whisper to bring more chairs. He quickly runs out and comes back with the right number of chairs needed.

12. Martin, having hit one of the boys who was in his way, is asked to go to his room and wait for his teacher to talk to him. He runs off swearing, draws the curtains in the room and throws himself on his bed. During the following talk he is full of remorse, his head bent and perspiring. When asked why he did it, he first recapitulates the scene in short sentences and then states: "I was in a temper." He later apologises to the boy in question.

13. Martin loves to be in bed when he is ill; he enjoys the special attention he receives and likes to stay longer than necessary.

14. In woodwork lesson Martin works hard, but has difficulty in appreciating the thickness of the wood in relation to the strength he uses for hammering the chisel. He frequently makes holes in the wood. When shown how to handle the chisel, he grumbles and bursts out: "I do not want to be bossed." He runs out of the room. When approached by another teacher

about his behaviour he immediately calms down, apologises, seems to forget the events easily, and goes quickly back to work.

15. During mealtimes when Martin is relaxed and occupied, he listens to every conversation which is going on, and does not miss any action or gesture aroung him.

16. Martin helps to carry suitcases after the arrival of the children from holiday; one of the teachers reminds him that a particular suitcase belongs in another room. He flares up and mutters: "I know myself, you don't have to tell me. Leave me alone." He says this while walking , and goes to put the case in the right room.

17. When reminded of his duties, Martin usually says in a stereotyped fashion: "I am going to do it," runnung off quickly. He seems to be unable to bear confrontation.

Interpretation:

Deficiency of self-identity accounts for Martin's difficulties in social transactions:

As obs. 7 has already shown Martin identifies himself with situations and the actions and verbalisations of others around him (obs. 1o, 11, 13, 15).

In such compensatory behaviour Martin is little aware of himself and does not develop sufficient perceptual attitudes towards his own actions and verbalisations through which he could maintain himself. When therefore identificational behaviour is interrupted by any form of confrontation, positing Martin as referent, he cannot adjust himself sufficiently, becomes emotionally insecure, and must be helped to conceptualise situations and his own behaviour (obs. 8, 12, 14, 16, 17).

4. Symbolic Activity

(a) Language and Gesture:

18. Martin masters language to the extent necessary in daily inter-personal contacts. He can carry single messages if there is not more than one item involved. His speech deteriorates in more abstract tasks.

19. When asked to find out how high the water stands in the reservoir he is off and back very quickly, conveying the

message: "The water is right on the ground." As this hardly ever happens, he is asked to indicate how ligh it stands. He tries to explain, fails to indicate with his hands, gets more and more disturbed, begins to perspire and finally accepts an arbitrary suggestion by his teacher.

20. Martin speaks mostly of himself and about happenings in which he is directly involved. He relates any such events correctly, using short sentences. He is unable to re-tell a story. To events in the past, he always refers as "last week."

21. Martin is unable to repeat a sente correctly. He usually picks up a fragment or, more often, the last word of the sentence.

22. In conversation, Martin uses short sentences which he accompanies with smiles and a great deal of expression, which is not always adequate to what he says. He fails to pronounce more difficult words properly, for instance, "Chrisma" instead of Christmas. He frequently omits the last consonant in a word. He prefers to speak about happenings related to himself and tends to discuss objective happenings as if they would have been connected with himself. Statements give the impression that they are intimately related to himself.

23. When confronted in conversation and addressed, Martin speaks softly, gets easily embarrassed and confused if he does not fully understand, and begins to perspire all over his body. When he speaks spontaneously one has sometimes the impression that there is no addressé and he is speaking to himself. He then speaks in a loud voice, and is equally loud when he is outside, where he likes to shout to someone over the fields.

24. In conversation Martin has difficulty in assessing the interest of the addressé and his statements give the impression of being made to raise his own consciousness towards an experience he has made in the past.

25. Martin shows little gesturing; he shrugs his shoulders or nods, as signs of having understood, but his expressions are not always adequate to his verbal expressions or his understanding. He usually smiles at the end of one of his statements. In conversation his eyes are fixed intently on the speaker as if he were looking for visual clues in order to follow what is said.

Interpretation:

According to the observations on Martin's general behaviour previously discussed, it can be expected that Martin shows lack of differentiation between internal and external speech, his own verbalisation and verbalisation of others, due to lack of a stable schema of reference. Lack of perceptual attitude towards language reveals itself on the following four levels:

1. Distance between addressor and addressé:

On the motor level Martin's verbalisation, referring to his own experiences or describing daily events are not fully externalised, and give the impression that he has to clarify the issue for himself whilst speaking (obs. 22, 23, 24). Verbal expressions, therefore, are not fully socialised in a general representative space of sharing (see similar phenomena as to Martin's actions on the sensori-motor level).

On the perceptual level Martin is bound to visual clues (observing the speaker's mouth and gesture, or (as in obs. 25), identifying himself with the motor pattern of verbalisation in his surroundings which he appears to perceive more as gesture and apparently not in a cognitive fashion). In this form of behaviour lack of differentiation between addressor and addressé becomes obvious. Typical of this form of identification seems to be Martin's reaction when addressed in conversation. It is then difficult for him to relate the words of the addressé to a stable self and established schema (see also Martin's inability to repeat the spoken word as in obs. 21). Martin misses reciprocity in verbal communication, and social relationship regresses to a purely sensori-motor level. (Lack of relationship to the past and anticipation, as in obs. 19, 2o).

2. Form of expression:

Lack of distance between addressor and addressé also shows in Martin's inability to gain distance to his own verbal expressions by not being able to relate them to a schema of language which is perceptive and essentially silent. His verbal expressions are therefore not sufficiently objectified, and Martin shows fragmentations of words and sentences, poor articulation and slurring.

On the sensory level, lack of objectification does not

only show in identification behaviour but also in Martin's inability to perceive the spoken word as to its structural autonomy. The word is therefore not perceived as independent of the addressé. Such deficit is frequently compensated by Martin engaging in forms of transfer or identification which causes further severe limitation of understanding.

3. Expression and Gesture:

Gestures accompanying language are fragmentary and not fully adequate to what Martin wishes to convey. Deterioration of gestural structure parallels fragmentations of verbalisation. As formally free gestures only emerge against the background of a stable postural schema, the genetic relationship of gesture and language to such a schema seems to be evident in Martin's behaviour (obs. 25).

On the sensory level this disturbance is paralleled by the perception of the gesture of others which becomes easily assimilated to his own motor schemata, is therefore only partly objectified, and not fully represented. In such behaviour self-identity is lost and reciprocal communication deteriorates regressively to the level of purely affective identification.

4. Explicitness of Speech:

In referring to events Martin shows lack of explicitness and his expressions are laconic, fragmentary and distorted (obs. 22, 23).

On the motor level verbalisation seems to show lack of differentiation between internal and external speech. He therefore conveys events in an egocentric fashion which is not open to argument, correction or discussion. When questioned, Martin therefore fails to relate his verbal expression to an objectified experience of perception for which language could be a medium of reference (obs. 19, 20, 22).

Since Martin seems to be identified with his verbal expressions (lack of distancing), language loses its medial character and appears as "action". In one of these situations Martin compensates this deficit by accepting his teacher's arbitrary suggestion, employing identification as a form of cognitive regression (obs. 19).

On the perceptual level Martin is unable to understand the content of a story but is given up to the observation of

the facial expressions and mouth-movements of the narrator (obs. 15).

Significantly, in situations in which his speech is not employed as a referential medium, pronunciation seems to be clearer, his voice is raised and sentence formation becomes more adequate (obs. 12, 14, 16, 17, 23).

Such verbalisations are not clearly addressed and are at the same time poorly conceptualised. Martin's consequent action is therefore also not guided by the content of his verbalisation (obs. 14 and especially 16).

(b) Reading and Writing.

26. Martin is reading at a five year-old level. His approach is on the single word without having available the meaning of the while sentence.

27. He tries to read a word and often succeeds, provided there is only one syllable.

28. He misreads a word like "cat" when he has read "kitten" just before. He does a good deal of guessing and is bound to repeat a word which he has just spoken before.

29. In the accompanying pictures in the reader, Martin is able to point out single figures when asked, directly: "What is this?". He cannot describe a depicted scene fully. He speaks in short sentences, going from one figure to the other without comprehending the sequence of events depicted.

30. Words he has once read aloud tend to come up to replace the actual printed word with no relation to the word picture. He would, for instance, say "Fluff" for kitten, if he had just read this word before.

31. Martin spells words correctly. His spelling has, however, no influence on his recognition of the word.

32. Martin is greatly helped in these attempts to read by the teacher's participation, building the bridge to words he does not master. With this participation he is able to read better once he has joined the flow of the teacher's reading which conveys meaning to him.

33. Martin prefers writing to reading.

34. Sample of reading: "Here is Dick (here is Dora). Dick said to Dora (Dick said to Dora). We will run to the tree

(We will run to the tree). Dora said: 'You can run will me' (Dora said: 'You can run with me'). Here is Dick will Dora (Here is Dick with Dora). One, tw and four run Rick and Dora (One, two and off run Dick and Dora). He dig not get to the tree (He did not get to the tree). Dick said: "I will' (He looks at the picture and continues) 'Jump to the line'. (I will hop to the line).

35. Marton copies from the blackboard. If his line is up in his book, he does not know what to do, or vice versa if he has still some space on his line, he will leave it free and carry on on the next line exactly according to the writing on the blackboard.

36. He has difficulty in establishing a stable relationship to the board, is identified with the activity of writing and often produces wrong letters which make the word meaningless.

37. He frequently omits words which are written on the blackboard, and seems to have difficulty in establishing a relationship between his own writing and what he sees on the board.

38. Martin has difficulty in admitting mistakes and is inclined to blame others for them (another child, the teacher or even his pencil).

39. During the fortnight's observation his writing frequently changed in accuracy of copying. If he is relaxed the relationship between his writing and looking to the board seems to be more rhythmically established and consequently there are less mistakes. His motor execution at the same time is more relaxed.

40. When Martin is more tense or exited he makes more mistakes, writes slowly, the letters grow bigger and the pressure on the pencil increases.

41. Doing dictation Martin writes well if the word is spelled out. At times he succeeds in writing one syllable words from dictation, without spelling.

42. He is inclined to copy the word he has written in the line above if he does not succeed in writing the newly dictated word. For instance, if dictated "gold" he writes "green," copying the word which happens to stand just above

in his book.

43. Martin loves to copy and tries to escape dictation whenever he can. He fails to write the sentence: "I live in Robert's House." He writes only: "I and in."

44. He frequently writes reversals like "ot" for "to", "noom" for "moon" and "fo" for "of."

Interpretation:

During writing, lack of a stable sensori-motor equilibrium is apparent in two fundamental forms of disintegration or cognitive regression:

1. Loss and deterioration of perceptual structures in the process of writing (obs. 36, 37, 40).
2. Space-bound perception in copying, with consequent lack of perception of the symbolic and mediating quality of the written word (obs. 35, 42).

It shall be noted that both forms of behaviour are frequently observed when Martin shows postural tenseness and seems to be emotionally insecure.

Martin shows lack of "distancing" from his own actions in writing and therefore does not relate what he writes to what he sees on the blackboard. He therefore does not notice mistakes and remains identified with his action in writing (obs. 36, 37, 38).

In dictation the spoken word does not become spatialised and conceptualised and can only be written somewhat correctly if broken down into fragments of single letters by spelling.

Reading:

1. In his attempts to read, the spoken word as part of his motor activity replaces the written word (obs. 30, 34, 28). The written word symbol is frequently extinguished by the dynamics of Martin's verbalisation.
2. In a different form of behaviour Martin identifies himself with the verbal expressions of his teacher who helps him to read as an aid to master those words which can be "filled in" meaningfully in his teacher's reading aloud (obs. 32).
3. Martin succeeds in recognising letters correctly within a word. Letters, however, appear to him as separate spatial entities and cannot be meaningfully integrated to the "Gestalt" of the word.

5. Relations between sensori-motor activity, social behaviour and symbolic activity.

(a) In non-social contexts Martin's behaviour shows deficits of representative activity expressed in his disability to shift from action to "drafts of action" which would presuppose interiorization of actions.

Goals of action by not being related to a stable interiorised schema (act-medium relationship) are not sufficiently maintained and activity therefore disintegrates on the sensori-motor level. Martin becomes identified with his own action by lack of accommodation which normally leads towards interiorization and thereby self-notion and representation.

Significantly, objects are not functioning as signifiers which could be related to a non-visible interiorised symbol.

Martin prefers to engage in rough motor activity into which objects can be incorporated. Means-end relationship remains unstable as Martin does not appear to have established autonomy of act-body-medium relationship. Objects, therefore, are easily incorporated into ongoing action and not subordinated to representative activity which presupposes interiorization of action. It must be suggested that normally such interiorization can be achieved only if the body-object can be assimilated to the centre of action and at the same time be accommodated to, which leads to interiorization of action and representation. Representative activity therefore can only be established if the body can be object and subject at the same time, characteristic of equilibrium between accommodation and assimilation.

From a genetic point of view the notion of body-medium only seems to emerge if autocentric perception is stabilised and generalised by a cognitive structure, thus providing the experience of body-unity and me-ness which is open for representative transactions.

Deficits of interiorization therefore do not seem to be primary, but are genetically related to instability of body-schema relatedness, the first stable structure of "interiorization" through generalisation.

More clearly, Martin's deficits of interiorization are expressed in his language behaviour. Speech remains bound to sensori-motor behaviour as in the first stages of the child's speech behaviour. Speech and gesture remain fragmentary,

ill-structured and referring only to present situations. Contrary however to the behaviour of the twins studied by Luria, such deficits are not due to Martin's inability to transcend the visible world of objects by speech but to lack of reference of his action- and verbalisation to a stable postural schema.

Where reference is required, particularly to past events, interiorization of experiences towards images fails to the extent in which a perceptual attitude fails towards speech. Attempts at internalisation of speech are made but frequently given up, and in conversation Martin employs compensatory behaviour by accepting the other person's interpretation or by withdrawal and breaking off of verbal contact. The observations of Martin's speech behaviour seem to point to the important phenomenon that only interiorised speech can be utilised for the explicit understanding of the other persons speech as significative. Regressional behaviour is manifest by Martin being bound to the motor "gestalt" of the word, its impelling character and even to the accompanying facial expressions of the other person. The word of the other cannot be perceived as representative medium which is manifest as equilibrium between act-medium or assimilation or accommodation. Martin therefore also experiences the impelling character of speech by reduced distance between addressor and addressé, and speech of the other one regresses to the sensori-motor level of perception. It appears akin to action in sensori-motor space. Significantly, Martin cannot imitate the spoken word of others.

In normal development a stable cognitive structure (body-schema) appears to be the essential prerequisite for differentiation of speech and action, and progressive internalisation of speech towards concept-formation and thoughts.

Lack of body-schema formation leads to two significant forms of cognitiv regression in speech.

(a) Cognitive regression towards boundness to action in the service of non-representative (not interiorized) self-realisation which is significantly not open to correction or discussion.

(b) Dissociation from action in as much as verbalisation do not change or modify ongoing sensori-motor activity by not being sufficiently interiorised and related to the first schema of interiorization (the body-schema).

(b) The observations made in social contexts clearly show lack of centre of action-medium-relationship or equilibrium, and thereby lack of self-regulation or self-notion. Martin engages in two basic forms of compensation:

1. Identification with his own actions and verbalisations (assimilation of body medium to centre of action without complementary accommodation). Such activity is not modifiable or open to correction and therefore represents a form of autocentricity through lack of generalisation or perceptual attitude.

2. Identification with the other person's actions and verbalisations which show the same lack of accommodation towards others' actions and thereby does not result in representative perception which could be shared.

It can be understood that in interpersonal transactions such deficits result in a clash of intentionalities in self-other relationship by one partner missing the representative medium which could be shared and which characterises self-other relationship in representative space in a similar fashion in which objects become the medium in early pre-objectified transactions on a different level of consciousness.

Martin's behaviour in reading and writing shows similar patterns of disturbed interiorization as deficit of symbol formation.

Writing follows the patterns described in Martin's speech behaviour:

(a) Identification with his action of writing.
(b) Lack of perceptual attitude which would lead towards internalisation and creation of symbols.
(c) Direct transfer of indices (letters) to motor-schemata in writing.
(d) Interdependence of action of writing and postural and emotional behaviour which seems to indicate lack of body-schema stability and therefore equilibrium of auto- and allocentricity.

In dictation the spoken word remains insufficiently accommodated to and thereby not interiosed as to its image (internal spatialisation). It therefore cannot be visually recalled as image. Functionally, such internalisation seems to be a prerequisite of conceptualisation. The word retains a dynamic motor quality which is directly assimilated to

assimilatory schemata and through not being interiorised cannot be symbolised as "gestalt". It can therefore also not be imitated but enters more unconscious assimilatory schemata.

In reading, integration of spatial perception (sensori-motor) fails, as verbalisation is not interiorised to give rise to word-image. Vice versa the word-image or the board is not perceived except through familiarity with the limited number of words Martin has been able to interiorise.

It can be seen that Martin's problems are not so much connected with word-understanding but rather with the integration of sensori-motor material to a schema of internalised speech in which speech becomes independent of execution and its dynamic qualities by being accommodated to, and thus appearing as "gestalt", a temporal unity which is represented internally, and could serve as draft for writing and reading.

Interiorization, through not being generalised, remains limited and bound to autocentricity in the service of self-realisation, or to identification with the speech of others, or to incorporation of perceptual data into motor schemata without integration to the "signified". The observations seem to show the deficits of reading and writing as related to deficits of interiorization of speech and its generalisation towards thought.

ROY, aged 18.2 years

1. Relation to Objects.

1. Roy uses knife and fork correctly but roughly, holding his fork in his fist.

2. At table he reaches for the dish he wants without asking.

3. He dresses himself meticulously and always in the same fashion, does not leave a button undone and even on the hottest day would do up all his shirt buttons.

4. Roy uses the spade correctly after having observed the other boys digging. He digs clumsily and after a while throws the spade down and runs off, humming.

5. During a meal Roy suddenly takes his orange and throws it right through the diningroom. When told to go and pick it up, he walks to the orange and squashes it with a heavy stamp of his foot.

6. Roy is able to copy from the blackboard and can write simple dictation. He usually writes with speed, increasing pressure on the paper until the pencil point is broken. As he continues writing, the point breaks again and Roy, obviously annoyed, breaks the pencil in two. This pattern is frequently repeated.

7. In the evening Roy piles his clothes neatly on a chair but is not able to fold them.

Interpretation:

Although Roy is able to handle everyday objects adequately, objects hardly ever become referents and action does not become referential. Objects tend to become incorporated into Roy's action which indicates that differentiation between his own action and the object of action gets lost. As action goes on, deterioration of such relationship increases and the object becomes an "obstacle" which has to be eliminated or abandoned (obs. 5, 6, 7, 15).

Significantly, Roy shows objectification of the body object as shown in obs. 3, but his perceptual attitude towards his own body seems to be rigid. His own activity (as in dressing or fastening of buttons) is therefore stereotype and becomes subordinated to spatial arrangements and completeness.

In such object and space-bound activity the mediating or referential character of actions disintegrates as in obs. 7, when Roy is able to arrange his clothes in space but is unable to fold up his shirt and other items. (Disintegraten of means-end relationship).

2. Body-Schema.

8. Roy hardly ever stands completely relaxed. He either plays with his fingers - squeezing his thumb between the second and third fingers - crosses his legs or puts one foot on top of the other. These postural patterns repeat themselves frequently, especially when Roy is addressed or is the focus of attention.

9. Roy frequently runs away to the garden on a kind of sudden impulse, running heavily, his head lowered, and making humming noises. After a while he returns, only to run to the same place again after a few minutes.

1o. During the fortnight of observation, Roy showed a number of postural mannerisms and seemingly compulsive actions: He twists his legs when sitting, moving the backs of his thumbs across his closed lips, twisting his fingers.

11. If someone sits near him, he will touch the other person's face, stroke his hair or pick on the person's jersey, taking out little pieces of wool. If prevented from doing this, he will pick his own jersey.

12. On a walk Roy picks off bits of foliage from any plant he passes. He does this especially when he is addressed.

13. During meals or in school, Roy suddenly shrieks and bangs his fist on the table or desk, smiling and looking round as if to observe the reaction of others.

14. Although Roy is able to dress and undress himself, he cannot blow his nose. When he had a cold he would frequently put his fingers underneath the handkerchief and try to clean one nostril after the other, but would not blow even if shown. He would go and fetch a handkerchief from his cupboard but would be unable to blow his nose.

15. Digging in the garden, he starts to dig correctly but soon loses initiative and starts to play with the spade as if he had forgotten what to do with it. When encouraged to

carry on, he would dig for a while but the same pattern soon repeated itself.

16. When Roy helped in the garden at throwing stones into a wheelbarrow, he became more and more tense, started to hum and drove the barrow into another child.

17. Roy's facial expressions are stereotyped. They do not give an indication of how he feels. He would grin and at the next moment hit a child.

18. When seemingly under stress, Roy begins to hum in a deep voice, his posture becomes rigid and mannerisis appear as described in obs. 1o and 11.

19. In such situations he frequently breaks a plate, kicks another child, runs off, shrieks or hits. He seems to be unable to control such actions and looks surprised and in anticipation of the reaction.

Interpretation:

Breakdown of referential activity in action results in cognitive regression as seen in the following behaviour patterns:

1. Roy shows stereotype repetitive and undifferentiated movement patterns which involve all parts of his body. He uses these patterns particularly when directly addressed and obviously feeling insecure and embarrassed (obs. 8, 9, 1o, 18). In such situations movements become body-bound and no longer object-related, losing their mediating character related to generalised space. Objects, therefore, are either incorporated, eliminated, destroyed or attacked (obs. 11, 16, 19).

2. Perception of body-object does not seem to be sufficiently related to Roy's actions. His own body, as well as the bodies of others, therefore, become objectified "manipulanda", (obs. 14 and 17, when Roy fails to use his body as medium for expression).

3. Social Relationships.

2o. When suddenly approached and addressed by a person he is not used to, Roy seems to be unable to "size up" the person, seems to be embarrassed and to show increasing postural tention and mannerisms.

21. When reprimanded, Roy sometimes hits out at the other person or, more frequently, tears his shirt.

22. Roy's actions are usually unexpected for the observer and he does not seem to be able to anticipate his partner's reactions.

23. When approached, Roy usually repeats the other person's gesture and verbal expression, as a form of contact without symbolic understanding.

24. Duting lesson time Roy watches his teacher's gestures intently, but suddenly gives up this form of contact and begins to knock against his desk and snap his fingers against his teeth, laughing and apparently watching the reaction of his teacher and the other children.

25. After having intently watched his teacher's gestures, Roy "mirrors" the gestures and words of the teacher when he addresses him.

26. Whilst writing Roy suddenly holds out his pencil to his teacher wanting him to continue to write. This pattern repeats itself frequently.

27. When his teacher points to a drawing on the blackboard, Roy is not interested in it but is given up to watching his teacher's movements and "mirrors" his pointing gesture. This repeats itself frequently.

28. Neither in the classroom nor in the diningroom does Roy display any obvious interest in the other children. He goes straight to his place without making any contact.

29. When looked at or addressed, Roy gets embarrassed, his expression becomes vague and searching and he seems to be relieved if he can copy some words or gesture made or spoken to him. If he cannot or does not do so, he frequently runs away or suddenly kicks or hits the other person.

30. Roy is closely connected with "his teacher" who looks after him most of the time, follows her wherever she goes and looks for her when she is absent.

31. When relaxed Roy seems to understand more readily what is asked of him. As he is frequently wet during the night, his teacher explained to him that he is to have only half a cup of juice in the evening. Roy, however, continued to hold

his cup out. Only gradually he accepted it and when going to bed, said: "Be dry."

32. When working in the garden, Roy was asked to take a small child to the house. He took the little girl by the hand, led her towards the house, then stopped and, giving her a gentle push, said: "Go."

Interpretation:

Roy's inability to adjust his own actions to the actions of others points to a deficit of medial behaviour which would allow reciprocal relationships. Roy's interpersonal transactions are therefore characterised by distinct patterns of cognitive regression:

(1) Identification takes place predominantly on the verbal and motor levels (obs. 23, 24, 25, 27, 30). The mechanism of such identification becomes particularly obvious in obs. 25 where Roy engages in affective perceptual identification and then transfers this mode of identification to motor identification. In obs. 26 Roy, vice versa, transfers his own activity of writing to his teacher and after a while back to himself. (lack of stable body-schema as structure of reference).

Obs. 27 shows Roy engaged in such interpersonal transfers in which the referential character of actions is increasingly lost and referents disappear from perception (the drawing on the blackboard).

A further significant feature of such transfers in identification appears in Roy's sudden withdrawals from such communication: He becomes engaged in body-bound movement patterns in which self-identity becomes established on the purely motor level which, however, cannot be shared.(Disintegration of representational space).

(2) Sudden confrontation results in:

a. Withdrawal into postural body-bound movement patterns (obs. 8, 12, 20).

b. In aggressive or self-aggressive behaviour (obs. 19, 21).

c. In compensatory employment of identification (obs. 29).

(3) In situations in which Roy is relaxed and has achieved a certain stability of affective identification with his teacher, he appears to understand the spoken word of others and rudi-

ments of regulation by speech comes to influence his actions (obs. 31, 32). The spoken word of the other, however, remains part of the other person's intentionality and is frequently transferred to Roy's own verbal activity. (See obs. 31 when he repeats his teacher's verbal admonition). In such situations Roy's actions and verbalisations do not become fully integrated with his own schemata. They are not sufficiently accommodated to and can therefore not be retained or remembered, which would presuppose modification of his own schemata towards interiorization.

4. Symbolic Activity.

(a) Language and Gesture:

33. At table Roy suddenly calls out in a deep voice: "I wand to have a kitty. Give kitty a bone."

34. Roy does not like to eat his pudding; he takes a spoonful and tries to push it into his teacher's mouth. "Eat." His teacher: "You eat your pudding yourself, Roy." Roy: "Don't want some pudding." He pushes his bowl away.

35. Roy knows many nursery rhymes but does not recite them voluntarily. If one starts off a rhyme, he will join in and complete it. The same happens with songs.

36. At table Roy says: "I want to have a kitty." His teacher: "What do you want to do with it?" Roy: "Want to put the kitty to bed." (The kitty refers to the cat at home and Roy frequently used to refer to it when referring to himself).

37. When macaroni is served at table, Roy says: "Want to have crackeronies." On another occasion he asked for: "A slice of milk."

38. Roy hardly ever makes spontaneous verbal contact. When spoken to he usually repeats what the other person says to him, especially when questions are involved. When asked at table: "Do you want some more?" he repeats "want some more" with the intonation of a question. He, however, holds out his plate. When relaxed Roy ventured to answer: "Yes, please" on a few occasions.

39. In school, when greeted with "Good morning, Roy", he answers: "Good morning, Roy."

40. During the lesson he suddenly comes out with: "Kitty

plays with the wagon." He repeats the sentence several times, laughs and seemingly waits for a reaction.

41. He makes humming noises during the lesson, interupted by short sentences unrelated to the actual situation, like: "Get it out" or "Play it." Such verbal expressions are usually related to what he has heard others say in the past.

42. When the class is shown the drawing of a flower on the blackboard, he watches his teacher's gestures intently and suddenly exclaims: "See the flower!"

43. Towards the end of the lesson Roy, seemingly bored, starts to reach out to his neighbour with his feet. Whilst doing this he laughs and exclaims repeatedly: "Boots." When told that boots belong under the desk, he repeats: "Boots belong under the desk," and puts his feet back.

4. Roy frequently puts his pencil into his mouth, clumsily performing the gesture of smoking. When told "Roy smokes his pencil", he repeats the sentence, discontinues the gestures and continues writing.

45. A number of conversation in the classroom seem to be significant:

Teacher: "What day is it to-day?"
Roy: "What day is it to-day?"
When asked again Roy ventures to say: "Friday".
Teacher: "No, Roy. Yesterday was Monday and to-day is. . . . ?"
Roy: "Tuesday".

46. Roy holds out his pencil to his teacher, indicating that he should continue to write for him.

Teacher, taking the pencil: "I will write for you."
Roy: "I will write for you."
Teacher, pointing to himself: "John (name of teacher) will write for Roy."

Then Roy is made to point to his teacher and say: "John", then to touch himself and say "Roy". This is done several times. Suddenly Roy's face lights up and, pointing to his teacher, he exclaims: "John writes for me" (touching himself). After that Roy is very quiet and thoughful and follows the lesson with obvious interest.

47. The story of a boy and a girl on the beach is frequently told and discussed. Roy completes sentences correctly.

Teacher: "Sam and Jane are on the?"
Roy: "Beach."
Teacher: "What is the girl's name?"
Roy: "Jane."
Teacher: "Jane is Sam's?"
Roy: "Sister."
Teacher: "What do they find on the beach?"
Roy: "A net."
Teacher: "Sam and Jane find a net. Where?"
Roy: "At the beach."

48. Roy draws a line with the help of his ruler.

Teacher: "What is this?" (pointing to the pencil)
Roy: "A pencil."
Teacher: "What is this?" (pointing to the ruler)
Roy: "A ruler."
Teacher: "What do we do with this?" (holding up the pencil)
Roy: "We write with the pencil."
Teacher: "What do we do with this?" (holding up the ruler)
Roy: "Makes lines."

49. To-day Roy is irritable, imitates all gestures of his teacher and then starts to cross his fingers, puffing up his cheeks, moving his desk, knocking against his teeth and the desk, clapping his hands and then suddenly shouts: "Disgusting." (He had been told before the lesson that it is disgusting that he should undo his bed again when it had just been made).

50. At table Roy usually takes hold of everything he likes and only on a few occasions does he point to what he wants. He does not ask for anything which is out of reach.

51. Roy usually repeats what is told to him with the same intonation as is used by his teacher.

52. When relaxed he occasionally succeeds in answering correctly, e.g. "Good morning, Roy." "Good morning, John". (Name of his teacher.)

(b). Imitation and Play.

53. Roy is a keen observer of what is going on around him. He is frequently entirely involved in observing the gestures of others but does not imitate.

54. If addressed directly, Roy copies gestures and verbal expressions in a parrot-like fashion.

55. Roy does not play but joins in ball games, seemingly without understanding the rules.

56. Symbolic action is performed with the children in class: Setting of the breakfast table (a desk serves as the table and the objects are to be imagined and carried to the table). Roy is unable to understand the meaning of the game and becomes tense and restless when his turn comes.

(c) Reading, Writing and Drawing.

57. Roy reads simple sentences from the blackboard provided they are familiar to him.

58. When confronted with an unfamiliar word he looks at his teacher expecting him to read it for him. He then repeats it after his teacher.

59. Whilst reading from a simple reader, Roy's attention is drawn to his teacher's finger which moves along the line. Roy reads in a monotonous voice, seemingly without full understanding of the whole context.

60. Roy names objects correctly when they are shown to him (such as drawings in his book). He fails to answer questions without the objects being pointed out to him in the book.

61. Each child is provided with a number of cards on which simple words are printed. The teacher pronounces a word and the children hold up the respective card. Roy does not attempt to search for the right word but imitates the other children, holding up a card at random.

62. A number of trees clearly indicating a "wood" is shown to the children. Roy does not find the word "wood" but repeats "tree" when the picture of the wood is shown.

63. The children copy words from the board which have been exposed for a short time. Roy writes "neat" instead of "near", "rolled" instead of "rolls."

64. In reading back what he has written he seems to remember the acoustic image and reads correctly "near" and "rolls" without any attempt at correction of his written words.

65. Roy copies correctly from the board but does not seem able to transcribe the written words from the blackboard-space to his book-space.

66. As he copies he increases his speed, writes one word on top of another, the letters grow bigger, pencil pressure increases and finally he holds out his pencil for his teacher to continue to write in his book.

67. When copying drawings from the board, Roy is able to retain the rough form but not the symbolic meaning. A picture of a tent turns out a square, a pencil a triangle. He copies a boy and arrow from the board but does not succeed in doing the gesture of shooting with bow and arrow, as he does not seem to understand the meaning of the two objects. He also fails to imitate the gesture when he has seen the other children doing it.

68. When attempting to copy the drawing of a sailing boat from the board, he draws a suare and a kind of flag sticking up as a sail.

69. When asked to write from dictation, he writes "went" instead of "want", or "winton" instead of "window", and when asked to read back correctly reads "window".

70. When his teacher points to objects in a scene drawn on the board, Roy is usually engaged in watching his teacher's gestures and mouth-movements.

71. When asked to point to the picture of a boy, he points to the written word "Sam". Roy calls the sea on the drawing "river", the crab "spider", the rock "mountain."

72. A breakfast-table, including all the objects (knife, plate etc.) is drawn on the board. Roy names the objects correctly but calls the plate "boat", seemingly noticing the similarity in shape.

73. A story is told about two boys who go sailing to an island. (The story is illustrated on the blackboard). Roy names "island" and "harbour" correctly, moves his finger from the harbour to the island and when he has arrived there he is asked: "What is this?" Roy replies: "A harbour", repeating the word he has just used before when naming the harbour.

Interpretation:

Language:

As Roy is able to speak, analysis of his verbal expression has revealed a number of significant patterns which repeated themselves frequently:

1. Motor identification on the verbal level which, significantly, seems to depend on Roy's affective equilibrium. Instances of such behaviour have been observed in obs. 38, 39, 45, 46, 51, 54. They show that if, for instance, a simple commend is contained in the verbalisation of the addressé, Roy repeats it and at the same time acts correctly (for instance at the table where he is asked whether he wants some more and where he repeats the sentence, holding out his plate). His behaviour shows a mechanism of transfer in which the intentionality of the other person is linked not only to Roy's verbal but also to his motor behaviour.

Such typical behaviour seems to be related to lack of addressor-addressé relationship and shows itself also in other forms of behaviour previously discussed.

2. Roy's verbal expressions appear to be compulsive, monotonous and deteriorate to levels of gesture or even action. They become increasingly affect-bound, unrelated to the actual situation and lose referential character especially in social contexts.

Imperception of his own language activity and lack of relationship to a schema of reference can be suggested as causing such forms of regression. Verbalisation of others cannot be distinguished from his own verbalisation and becomes incorporated into his own schemata. Distance between addressor and addressé, as well as between referent and the verbal referential medium, cannot be maintained (obs. 33, 40, 63, 41, 49 but also 62 when he names the drawing on the board wrongly, using the word he has just used before).

Motor-bound verbal expressions frequently deteriorates to shrieks, shouts and laughter, or to repeated stereotype actions in form of compulsive mannerisms with or without verbal accompaniment (obs. 40, 41, 49).

The boundness of speech to action is still more obvious in a particular instance where Roy imitates the gesture of smoking by using his pencil and repeating his action continuously. When his teacher gives a verbal interpretation:

"Roy smokes his pencil" he repeats verbally, stops his action and being obviously at ease, continues with the work he was doing before (obs. 44). In this instance lack of differentiation between the dimensions of word and action seems to be relieved and separation facilitated by his teacher's verbalisation which made the action cease.

3. Related to motor-bound and action-like verbalisation, another form of cognitive regression on the verbal level, was observed which is usually called edolalia and which shall be called incorporation of verbal expressions of others (obs. 38, 39, 45, 46, 51, 57).

These patterns of verbal behaviour are characterised by monotony of voice, rhythmical expression, repetition and mirroring as to exactness of repetition. Such forms of behaviour are characteristic for lack of perceptual attitude towards the spoken word but at the same time for urge towards communication which remains affect-bound.

Such behaviour seems to belong to the general patterns of motor-identification with deficit of perception of the medial or referential character of speech. The addressé's verbal expressions become utilised on the level of gesture and action, and impulses of those expressions are "transferred" to Roy's motor-schemata. This behaviour is paralleled by shrinkage of distance between addressor and addressee. Similar patterns of motor-identification have been observed when Roy imitates actions and gestures of his teacher in a purely mirroring fashion (obs. 23, 25, 27, 29, 49, 54).

These forms of motor-identification can be understood as compensatory attempts at communication on the affective level and occur significantly in situations when Roy seems to be at ease emotionally. If no explicit contact is made by the teacher, Roy makes attempts at objectification (obs. 53, 70), where he watches his teacher's lips.

As such attempts are frequently ineffective, Roy engages in affective sensory-identification or "transfer" in which the self becomes part and parcel of the other person's action or speech. Such forms of "transfer" easily give way to motor-identification.

As Roy does not seem to succeed in perceiving the medial or representative value of the verbal expression of others as well as his own, he completely fails in situations where symbolic understanding is involved (obs. 56).

4. Observations have also shown disturbance of "naming" or relationship of the referential medium of speech to objects as reference. In a few situations, however, Roy was able to name correctly (most strikingly in obs. 48). In these instances naming seems to succeed as long as Roy is able to focus upon the object of reference (in nearly all instances with the help of his teacher). From a genetic point of view these observations show that the process of naming normally appears halfway between the achievement of objectification and the building up of an autonomous schema of speech which allows verbal understanding without the presence of the objects of reference (see also obs. 72).

Significantly, Roy is able to name objects of action frequently used, as for instance pencil and ruler, but is less sure in the naming ob "objects of contemplation" such as pictures drawn on the blackboard (obs. 71, 72).

Relation of the word to the object remains unstable (e.g. in obs. 71 and particularly in obs. 73). This behaviour points to instability of a referential schema in general and names of objects are therefore frequently incorporated into the motor patterns already established in names used before. In obs. 47 sensory identification with the spoken word of the teacher takes place and Roy is able to complete a sentence but is unable to follow a story by pointing to the respective pictures on the board. In this instance also, names remain unrelated to objects they refer to. In all instances the referential character of the word is not established as an autonomous entity and Roy's responses remain dependent on attitudes of the addressee and his interpretation. (Disintegration of representative space).

Instability of schematisation is paralleled by insecurity of self-identification. Significantly, in obs. 46, self-identification is facilitated when Roy is asked to touch himself in order to realise his body and to point to the teacher in order to facilitate reference.

Imitation and Play:

Roy does not play and is unable to place himself in relation to others in games. He is not able to develop any form of representation which would allow understanding of rules.

As seen in the interpretation of the previous chapters, Roy does not imitate but is frequently identified with the

gestures and actions of others which he transfers to his own motor schemata, when addressed.

This form of transfer of perceptual to motor-identification has been frequently observed and is characteristic of behaviour at the stage of pre-communication not yet related to a stable self. The unity of perceptual and motor activity, characteristic of normal behaviour in early infancy, manifests itself in these forms of regressive behaviour.

Reading, Writing and Drawing:

Roy's behaviour in writing, reading and drawing has been analysed from the aspect of sensori-motor activity.

1. Writing

In copying Roy's approach is characterised by his inability to transcend the written word and regard it as a medium or symbol. He therefore attempts to copy exactly and is bound to forms and patterns according to their spatial relationship only. Consequently, his action in writing frequently deteriorates in a significant manner which indicates lack of means-end relationship (obs. 6, 66, 68). His actions in writing become increasingly body-bound and stereotyped, paralleled by increasing limitation of perceptual guidance and objectification. The pencil loses increasingly its character as a tool and the written letters are incorporated into existing motor schemata and therefore lose their form. Roy frequently attempts to avoid this breakdown and "shrinkage" of space of action by sudden transfer of his action to his teacher whom he asks to continue to write for him (obs. 46).

In dictation Roy's responds on the purely motor-verbal level by repeating the word correctly, but he is unconcerned as to the relationship between the spoken and the written word (e.g. he pronounces "fell" but writes "fill" and makes no attempt at correction). His behaviour shows verbal motor identification without reference to objectification (obs. 69, 71).

It seems obvious that visually perceived structures (the written word on the blackboard or in his book) are incorporated into sensori-motor activity and therefore lose their symbolic meaning in the same way as objects lose their spatial characteristics through incorporation on the sensori-motor level in general.

This becomes still more obvious in Roy's attempts at copying drawings.

In drawing the structure of pictures on the blackboard (for instance, a boat, a tent, a pencil) becomes incorporated into existing motor schemata, lose their structure in the process and thereby the possibility of being meaningful (obs. 68, 67). Forms appear which retain only some identity with the objects drawn on the board. Perceptual relation to the object (objectification) seems to disintegrate during action if initially it had been established. It can be suggested that normally copying can only succeed if perceptual structuring is maintained during action. Only then sameness of structure can be achieved which is accompanied by the experience of success. The self is then included in the dynamic relationship between perceptual representation and motor execution understood as a "Gestaltkreis" (v. Weizsäcker 1950). Instability of a schema of objectification and representative structuring seems to initiate deterioration of perception in the action of copying, although initially the object may be rightly named.

2. Reading.

In reading Roy clearly depends on his teacher in order to even attempt reading. The word seems to appear as object incorporated into Roy's own motor speech schemata as it was incorporated into his motor schemata in writing. Roy, therefore, reads words which are familiar as to their dynamic visual pattering but fails to analyse in spelling. Dynamic perceptual aspects are most easily recognised as they can be transferred into motor-speech behaviour. This shows itself strikingly in Roy's attitude when he follows his teacher's finger moving from word to word instead of focusing on the word the teacher is pointing to.

The written word does not seem to be perceived as a "structure of contemplation" and can therefore not be transcended towards its symbolic meaning. This appears to be largely due to the fact that strong dynamic elements partake in perceptual activity and are not accommodated to. As in perceptual behaviour in early infancy, dynamic motor elements in perception assimilate spatial structure without attempts at accommodation (Werner 1965). Cognitive regression occurs in reading by either compensatory identification with the

verbalisation of his teacher or by employing his own motor speech schemata, poorly related to the written and visible "Gestalt" of the word.

Roy's behaviour in reading, writing and drawing points to basic forms of cognitive regression which have been called identification and incorporation. Motor- and sensory data become related to each other in a form of transfer and are not differentiated from one another. Perception and action thus falls apart or replace each other due to the basic intentionality they share and have in common in the early stages of sensori-motor activity. In such a closed functional circuit (autocentric circular reaction) early mechanisms of transfer are employed due to deficiency of objectification and a stable schema of reference.

5. Relations between sensori-motor activity, social behaviour and symbolic activity.

(a) The observations in non-social contexts show typical patterns related to lack of a stable body-schema and objectification, resulting in:

1. Disintegration of ongoing action and incorporation of objects to autocentric patterns of movement unrelated to a stable schema of reference. (Disintegration of means-end relationship).
2. Perceptual rigidity and subordination of action and assimilatory schemata to allocentric sense-data through which assimilatory schema do not become modified but are linked or bound to accommodative activity.
3. Compensating autocentric postural behaviour patterns of "self-preservation" (Goldstein 1934), especially striking, if Roy is watched or looked at or directly addressed. Such patterns are accompanied by affective tenseness and elimination of objects and the other person who appears as disturbing element as to Roy's autocentric patterns of behaviour.

(b) In social contexts persistence of the other's attention leads to aggressiveness if no compensatory behaviour of identification can be employed.

In all instances interpersonal perception and action shows Roy's inability to employ representative and symbolic behaviour as medium for the sharing of intentionality. Such deficits become manifest in typical patterns of cognitive regression as discussed previously:

1. Withdrawal into autocentric circular reactions.
2. Aggressiveness if neither identification is possible nor assimilatory schemata are available for modification via accommodation.
3. Identification as compensating behaviour.

Roy's verbal behaviour, previously, points to the severe deficits in "sharing" of representative or symbolic activity. Communication disintegrates to an affective motor-sensory level on which speech remains significantly bound to action unrelated to a stable schema of reference:

1. Roy's own speech shows the typical patterns of autocentricity with lack of differentiation of accommodation and assimilation, thereby creating "fusion" or "linkage" of these two activities, characteristic of "closed" circularity. Such speech patterns are therefore monotonous, rhythmical and not modifiable and remain bound to the affectivity typical for self-preservation. Roy's own verbal behaviour shows cognitive regression by disintegration where the referential character of speech frequently is established initially but disintegrates towards increasing autocentricity in which speech may disappear entirely, giving way to primitive postural autocentric circular reactions.
2. Frequently, as can be expected, Roy engages in identification of affective type with the other's verbalisation which turns into motor-identification (incorporation or transfer) if familiar schemata are available for such transfers. Behaviour of transfer shows persistence of sensori-motor affective unity, characteristic of behaviour in early infancy.

Attempts at accommodation (to the other's face, lip movement and expression) fail as such accommodation does not modify the existing schemata. Identificational behaviour shows the same lack of differentiation between accommodation and assimilation in as much as accommodative activity remains linked to assimilation of the other person's intentionality in speech and does not modify such assimilatory activity towards objectification which would allow "distancing" and true imitation. In a few instances, however, identification allows notion of the referential character of speech if objects are involved which are related to action, e.g. the pencil and the ruler. As soon as reference is made to distance objects as "things of contemplation", naming fails and the

significative character of speech deteriorates and is incorporated to familiar motor-speech patterns.

3. Lack of differentiation between accommodation and assimilation is manifest in Roy's behaviour in play and imitation. Play-activities were not observed as objects become part of his autocentric activities and imitation did not develop towards accommodative imitation, just as the action of others is incorporated into familiar motor schemata without sufficient accommodation to the other person's body. In such instances patterns are frequently observed which are similar to a stage of the normal development of imitation (stage III) where no imitation of new models is yet possible (Piaget 1962). Such imitation, according to Piaget, only becomes possible if autocentric modes of perception and allocentric perception are co-ordinated at the stage of beginning objectification and if such a unity, as mobile equilibrium, reaches relative stability.

4. Roy's attempts at reading, drawing and writing do not add any new insight into his profound disturbance of sensori-motor equilibrium. Since the referential medium of speech does not develop towards sufficient autonomy, reading and writing are dealt with on the sensori-motor level on which no symbolic behaviour is noticeable.

Compensating behaviour, therefore, appears in writing by subordination of the written word to available motor schemata and in reading when identification with the teacher's supporting or complementary attitude takes place without reference to the written symbol which is perceived in its purely spatial character and incorporated to verbal motor-schemata.

Roy's behaviour points to the unity of sensori-motor behaviour typical for early infancy, which normally becomes differentiated through objectification during the first two years. Such differentiation seems to be prerequisite for the later development of symbolic behaviour, speech and representative behaviour in general. As no cognitive structure leading to objectification is available to Roy, he does not regress towards a sensori-motor equilibrium, but below this genetic stage of development. His behaviour, therefore, cannot be interpreted as a deficiency as to the next genetic step of cognitive structuring (development of internal language and equilibrium leading towards operations of thought).

It should be interpreted as regressional behaviour due to lack of a stable body-schema,contributing part of the first "abstracting" cognitive structure,essential in human development and an initial step towards self-other relationships and true communication.

CHARLES, aged 2o years.

1. Relation to Objects.

1. Charles is a tall, fair-haired boy, clumsy in his movements.

2. He is able to dress and undress unaided and eats well-mannerredly with knife and fork.

3. He is slow in dressing and undressing and unable to keep his clothes tidy. He cannot keep any order in his cupboard although he has been frequently shown.

4. Charles sets the breakfast table every morning and helps to wash the dishes efficiently. He keeps religiously to a routine: first cutlery, then cups, plates and saucers.

5. Charles is not able to fold his clothes in the evening nor his napkin after meals.

2. Body Schema

6. In the evening Charles stands under the shower but does not wash. When remindet to start he does it superficially and unsystematically, and this is the case every morning.

7. He brushes his hair for a long time, seemingly loves the mirror and can spend a considerable time in front of it, doing his hair.

8. Serving coffee round the table, Charles' movements are tense and clumsy, his hands tremble, his face is red and he is obviously not at ease with his task which seems to be slightly above his capabilities.

9. When directly addressed or the centre of attention, Charles' movements become clumsy; he seems to become embarrassed, his face reddens, he giggles and looks up to the ceiling frequently, seemingly to avoid having to look at the other person.

1o. Charles seems to be over-concerned with the smallest scratch on his body, or the slightest pain. He becomes more oblivious of his surrounding and retires to his bed.

11. When speaking, Charles accompanies his words with clumsy gestures, and head and eyes often move in all directions when he speaks or when he is addressed.

Interpretation:

Charles' relationship to objects and to his own body shows deficits which are related to lack of objectification or externalisation of objects in relation to his own actions as well as to lack of externalisation of his own body. Body-boundary seems to be ill-defined.

Objects tend to remain body-bound and related to "body interior" (his clothes and other belongings). In other situations objects have to be handled in a rigid manner of routine (obs. 4).

Perception of body exterior appears to be poor and the experience of body exterior ill-localised and conceptualised. (obs. 10). Specular perception when in front of a mirror seems to facilitate action and is used by Charles as compensation for lack of self-identity (obs. 7).

Charles' inability to externalise objects, including his own body, seems to be accompanied by forms of compensatory bodily activity (obs. 8, 9, 11). Such activity includes movement of the whole body and reactions of the body interior (probable related to reactions of the autonomous nervous system and strongly affect-bound) with exclusion of the environment or the other person (obs. 9, 11).

3. Social Relationships

12. Charles makes little contact with the young men of his age, and prefers adults.

13. In conversation he appears shy and usually given up to the words and gestures of his partner.

14. Charles has acquired certain patterns of conversation related to every day experiences. He seems to avoid questions and any form of confrontation.

15. When even gently reprimanded or confronted, Charles blushes, his movements of head and arms increase, and he often refers to his mother to whom he will tell all he has been reprimanded for.

16. Charles loves to withdraw into a corner of the room either with his books or pencil and paper. He frequently writes letters to his mother starting with: "Dear mother". Unable to get any further, he usually tears the page, starts a new one and so on.

17. At other times Charles withdraws to copy from a book onto his writing pad, seemingly without understanding what he writes. He seems to be entirely at ease in such situations and oblivious of what is going on in his environment.

18. To-day after washing up, his teacher hands back some knives as they are not clean. Charles blushes, his movements become more awkward and he does not look at his teacher when he speaks to him. He looks at the ceiling and seems to be unable to face the issue. However, he washes the knives again.

19. During the news-evening Charles sits quietly and seems to listen intently. However, he does not take his eyes off the gestures and facial expression of the narrator. He can only re-tell fragments of the contect afterwards in incoherent one-word sentences.

2o. Charles seems to be at his best when he can help others: He spreads the bread and prepares the pudding for a severly handicapped young man who sits beside him during the meal. At the end of the meal he has hardly touched his own food, seemingly forgetting himself and unable to transfer his attention from the other to himself.

21. His contact with others, especially younger children, tends to be bodily only. He approaches in a shy and awkward manner, taps their shoulder, saying: "Hello". Or he takes one boy round the shoulder to walk with him down from the schoolhouse.

22. Charles takes up suggestations easily. Listening to a story about a waiter, he chooses to become a waiter and next day asks the proprietor of a hotel who visits the school: "When can I start?".

23. Charles is unable to perform any objective duties correctly and consistently, but will do anything for anyone for whom he has some affection.

Interpretation:

According to the foregoing observations it could be expected that Charles' social relationships show deficits as to the structure of self-other relation:

(a) Charles engages in identificational behaviour, particularly of the affective-sensory type in which there is definite avoidance of confrontation (obs. 12, 13, 14, 19, 22, 23). In

such situations his behaviour shows little relationship to self and it appears that he engages in identification in order to compensate lack of representational behaviour which could be shared in a reciprocal relationship.

(b) Similarly, Charles engages in activities related to others which seem to serve him in avoidance of the other's approach (obs. 14, 20, 21, 23). Significantly, such activities seem to be on the verbal as well as the motor level, and seem to exclude objects as media of reference (obs. 23). Such contacts are frequently made with younger children.

(c) On other occasions Charles shows behaviour of withdrawal in which he engages in motor affective activities in a form of autocentric-circular reaction which is repetitive and seeems to be done for its own sake without notion of objective results (obs. 16, 17). Usually the environment is excluded in such activities.

All these forms of behaviour can be regarded as compensations, and seem to indicate lack of a stable representative self which could maintain itself in reciprocal interpersonal transactions.

4. Symbolic Activity.

(a) Language and Gesture:

24. Charles' vocabulary is limited and he finds it difficult to enter into conversation.

25. His approach to adults is usually introduced by a short sentence on what he has just done and the stereotyped question: "How are you?".

26. When asked a question, Charles becomes slightly embarrassed and often confused. Teacher: "What did you to-day?" Charles: "Carrots." (pause) "To Cloister House". (meaning that he brought carrots from the garden to one of the Houses of the school).

27. In talking with him about a Christmas play he had seen two days ago, he tries to recollect the story (the story of the creation of Adam & Eve). After a long interval of blushing, looking up at the sky, moving his head and eyes, Charles succeeds in roughly enumerating the figures of the play: "Devil, Adam and Eva, Godfather." (He does not mention all the less dominant parts).

Teacher: "What happened?"
Charles: "Adam and Eve were thrown out of Paradise."
Teacher: "Why?"
Charles: "The devil did it."
Teacher: "Why did the devil do it?"
Charles does not answer, blushes, gives a friendly smile, turning up his head and staring upwards. As on prvious occasions, this gesture seems to signify that he does not wish to be contacted any longer.

(b) Reading and Writing:

28. Charles copies from the blackboard, frequently omitting a word, and bound to the spatial value and position of the word: He copies religiously, every time starting a new line in his book when a new line begins on the blackboard, even if there is still some space available on the line in his book. Charles does not seem to understand what he copies. He does not correct omitted words.

29. Charles reads fairly well at the 6-year level, especially words familiar to him. He guesses words he does not know. In reading he concentrates on the first letter and frequently misreads small words e.g. "in" for "on", "to" for "of" and "in" for "as".

30. Spontaneous writing and writing from dictation is poor. A letter Charles wrote to his parents reads as follows:

Swakopmund
2nd April 1456

Dear Mother and Paps,

Wishes best for you a I hope you see you and fetch used meet in the Cape Town you grow up the send come, for come me? Is his in Cloister House, mir gut, grow all leather in Freddy come, Susans for send in film show. In her letter for I hear. Helga and Sigfired and Ralf and Janse for in P.E.? And my sister little grils uncles for the you WIRE. Very that are for, you for Easter. Good Friday a for play a he saw the see Mr. van Schalkwyks and the send lovely. Is birthday come in again the in for. Again come in again for good wishes Easter time for a very Games for in a, it very. Best wishes for, ego.

Interpretation:

(a) The observations indicate deficits in Charles' ability

to develop a perceptual attitude towards the spoken word and thereby development of internal language.

His vocabulary is limited and conversation centres around the factual. Causal relationships are replaced by reference to facts seen, and speech seems to remain bound to the visible world. Failure in using speech as related to thought results in compensatory bodily activity and embarrassment (obs. 27).

Such lack of conceptualising of language is most obvious in Charles' letter (obs. 30) in which a definite content cannot be sufficiently conceptualised and is conveyed in fragments of those words which are part of Charles' external vocabulary. Significantly, Charles is not disturbed by his failure to convey the content adequately.

(b) Charles is bound to the spatial position of words without being able to perceive their symbolic value.

The word he writes seems to be part and parcel of his action of writing and loses its relationship to what stands on the blackboard (obs. 28). The printed word seems to remain a spatial entity (obs. 28).

In reading, therefore, the spatial figuration of the word is either neglected (when he "guesses") or religiously maintained when copying (obs. 28, 29).

Lack of perceptual attitude towards speech, which would allow decoding of the written and printed word, results in significant behaviour in writing (regression to motor level of action) and reading (regression to a purely sensory level in which the written word becomes objectified but loses its relationship to the dimension of speech).

5. <u>Relations between sensori-motor activity, social behaviour and symbolic activities.</u>

(a) Charles' sensori-motor behaviour is characterised by deficiency of body-boundary and body-schema. Modes of autocentric perception centre around body-interior perceptions related to functioning of the autonomous nervous system. The observations under 1 and 2 show that such autocentric perceptions are predominant in Charles' social transactions and attempted allocentricity frequently disintegrates to autocentric behaviour.

Charles uses the specular body-image in order to support body-object notion which is not sufficiently established

through objectification and reference to a stable cognitive schema, or generalisation of autocentric perception.

(b) In social contexts autocentric behaviour increases and Charles avoids confrontation. He frequently compensates by employing identificational behaviour in form of surrender or withdrawal which shows typical patterns of autocentricity in as much as results obtained in such behaviour are seemingly of no significance, and no attempts at correction are made. The same behaviour characterises Charles' actions in verbalisation and writing.

Charles' speech behaviour shows lack of differentiation of external and internal language. Internal language is only poorly developed, and external speech shows all deficits of deficient internalisation. Vice versa, his external language appears to be ill-addressed and often self-related. Such language behaviour seems to correspond to Charles' sensori-motor activities where actions are not sufficiently interiorized, that means, related to a stable postural schema, and are therefore constantly accompanied by autocentric perception. This behaviour results in loss or disintegration of means-end relationship especially when Charles is watched or looked at and is accompanied by emotional insecurity.

A similar pattern occurs in conversation, which shows that internalisation of speech towards generalisation follows a similar functional pattern on the representative level as generalisation on the sensori-motor level. These deficits can be interpreted as showing lack of differentiation between assimilation and accommodation characteristic of autocentric behaviour. Act-centre-body medium relationship, a particular form of representative behaviour, seems to be characteristically disturbed, as differentiation between accommodation to the body-medium and assimilation of the body-medium to the centre of action does not seem to be established. Accommodation thus becomes part of and linked to assimilatory activity, creating autocentricity and identification with own actions, irrespective of their relation to the environment, and not adaptable. Charles therefore also engages in body-near contacts as his own body does not achieve true mediating functions.

Charles' behaviour furthermore shows that these forms of autocentricity, by not being "shared" in representative space, can only be overcome by identification in social contexts or

by surrender to outer arrangements as to a fixed routine unable to modify autocentric schemata and therefore adhered to religiously. Such patterns of behaviour are regarded as compensating behaviour in cognitive regression.

Similar patterns could be observed in Charles' attempts to copy and to read. The spatial manifestations of letters are either religiously adhered to or incorporated into verbalisation which is not sufficiently interiorized and generalised, and can therefore not be related as symbols to what has been perceived.

Fixation or linkage of accommodation to assimilatory schemata seems to be characteristic of Charles' behaviour. Such linkage prevents differentiation and reintegration of assimilation and accommodation, and limits the progress of these two functions towards an equilibrium. Such linkage furthermore is manifest in closed circular reactions no longer open towards modification by the environment. In representative behaviour autocentricity seems to be directly related to disturbed and blurred self-notion and therefore results in compensating behaviour, particularly in social contexts. Charles' behaviour shows that self-notion normally develops with the experience of a self-regulatory system as a new autonomous entity no longer directly dependent on perceptual data and increasingly generalised towards operations of thought, body-image, conceptualisation and explicit self-notion. Disturbance of the mobile equilibrium of assimilation and accommodation in representative behaviour seems to parallel disturbance of sensori-motor equilibrium, and seems to be dependent on it. Charles, having no sensori-motor equilibrium at his disposal, therefore compensates with behaviour patterns typical of sensori-motor transactions prior to objectification, an established body-schema and relative equilibrium.

The observations show that such cognitive regressions take place particularly under the pressure of <u>adaptation in social contexts</u>, and <u>are less marked in non-social contexts</u>.

Chapter 3:

The Experiments

(a) Introduction

In the course of the foregoing investigations a number of experiments suggested themselves as being suitable for assessing the dimensions in which cognitive regression occurs in the children discussed in this study. The experiments can be divided into three groups:

1. Eperiments to assess sensori-motor equilibrium and stages of objectification.
2. Experiments to assess postural maturity and availability of a postural schema for action.
3. Experiments concerning representational behaviour and symbol-formation.

It will be seen that other important facets of sensori-motor behaviour could also be elicited by the tests conducted as, for instance, exploratory initiative and skill, the relation of objectification to motivation, language behaviour in communication and the understanding of symbols in interpersonal relationship.

In order to be able to compare the results with control groups all subjects were assessed on the Vineland Social Maturity Scale. A control group of children with Down's syndrome and another control group of cerebral palsied children in whom Encephalitis as cause of brain-injury could be excluded were chosen on the basis of the similatiry of their Vineland scores with the scores of the post-encephalitic children of Group B (comprising cases 6 - 1o). The tests carried out with the children of the group A (cases 1 - 5) were scored on a fundamentally qualitative basis. No contrl groups could be found which would have provided an adequate enough basis for comparison.

Test results obtained with the two control groups were compared with those of post-encephalitic children of Group B.

The small number of children in this study does not allow generalisation of the results obtained and the aim has not been to arrive at scores which can be generalised. The purpose of this comparative study was to:

(a) Provide a number of tests suitable for assessing the dimensions in which cognitive regression occurs in children

with post-encephalitic syndrome.

(b) Provide confirmation for the interpretation of the behaviour of individual children.

(c) To understand the dynamics of cognitive regression specific for post-encephalitic children as compared with other groups of handicapped children.

(d) Provide material for further investigation of the behaviour of children with post-encephalitic syndrome and similar sensori-motor and cognitive disturbances.

(b) The Subjects.

The post-encephalitic children (P) were divided into two groups according to their scores obtained on the Vineland Social Maturity Scale. The matrons of the houses where the respective children lived, acted as informants.

The first group (A) comprises those children whose social quotient (S.Q.) was below 35, the second group (B) comprises those children whose social quotient was above 35. This quotient was chosen as a dividing score as the post-encephalitic children with an S.Q. below 35 showed significant defects in mediating behaviour in general, and could therefore not be expected to score in the set of tests which was given to the children who had some use of language and symbol understanding.

Group A comprises the following post-encephalitic children (with chronological age and social quotient):

Table II

Subjects of Group A

Subject	Chronological Age	S.Q.
Jill	11.8	1o
Gerald	14.8	13
Eric	13.6	2o
Percy	1o.5	33

(Gordon, who was included in the case studies, was not available for testing).

Group B (S.Q. above 35) comprises the following post-encephalitic children (This group will be labeled Group P in further discussions).

Table III

Subjects of Group P

Subject	Chronological Age	S.Q.
Roy	18.2	4o
Charles	2o.o	56
Martin	17.5	6o
John	9.5	72
Freddy	7.o	88
Mean	14.5	63.2

The following group of five cerebral palsy children (Group C) was chosen as a control:

E.B. Pregnancy uneventful, labour 16 hours, instruments were used. The child was blue at birth. On 3rd day cerebral haemorrhage was diagnosed. Present diagnosis right-sided Hemiplegia, including leg and arm.

L.R. Jaundiced at birth, Kernicterus was diagnosed. Present diagnosis: Athetosis.

H.H. Mother had normal pregnancy up to 6 1/2 months, then bleeding started. The child was born prematurely (seventh month). Was in incubator for 2 months. Sitting up at 18 months, pulling himself up at 2.6 years.
Present diagnosis: Spastic Diplegia, especially of the legs. Arms are only slightly involved.

J.B. Pregnancy uneventful. Labour lasted for 7 hours. Forceps delivery. The child was blue at birth and had to have oxygen. The face looked deformed.
Present diagnosis: Athetosis.

R.G. Prolonged labour, the child was in breach position. Cerebral haemorrhage was diagnosed at birth. Conculsions during the first year.
Present diagnosis: Right-sided Hemiplegia.

Table IV

Subjects of Group C

Subject	Chronological Age	S.Q.
E.B.	17.o	46
L.R.	14.1o	48
H.H.	7.9	54
J.B.	9.8	67
R.G.	15.o	77
Mean	12.7	58.4

The second control group comprises children with Down's syndrome (Group D):

Table V

Subjects of Group D

Subject	Chronological Age	S.Q.
N.H.	17.3	42
P.B.	15.5	50
P.F.	14.0	52
D.M.	12.6	66
A.G.	11.5	68
Mean	14.2	54

(c) Tests applied to Subjects of Group A.

In the following section the tests given to Group A and the manner of scoring will be described and the results analysed.

Test 1 - Grasping of objects

Purpose: It was the purpose of this test to determine which of a number of objects interested S, in what way S handled these objects and S's range of interest namely whether S grasped only one object and continued to be interested in it, or whether different objects were grasped, one after the other, or none at all.

Procedure and Material Used: S was seated at a table and presented with a number of objects which were placed in front of him in a row: A ball, 5 building bricks, a skein of coloured wool, a simple picture book, a brightly coloured wooden waggon, a biscuit. The objects were placed at a distance from S so that he had to reach out towards them in order to grasp them, but did not have to leave the chair. E sat at a distance from S and recorded S's behaviour but did not give any verbal instructions. The objects were exposed for 5 minutes.

Scoring: No points were given but the following behaviour patterns related to the objects were recorded:

(a) Which of the objects was grasped, if any.
(b) The way in which S handled the objects grasped.
(c) Time spent in handling an object.

Results:

Table VI

Grasping of objects

Subject	Object	Response	Time
Jill	Biscuit	Eats it	20"
Gerald	-	-	-
Percy	Ball, biscuit, waggon, brick, skein	Eats biscuit, hands waggon to E, moves ball, car and skein with both hands on the table	30" 4'30"
Eric	Biscuit, book	Eats it, turns pages without looking	30" 1'15"

Interpretation:

The results suggest that S handled objects in an autocentric fashion:

1. By incorporating them either into available motor schemata (Eric and Percy) or/and into body-interior by eating the biscuit (Jill, Eric, Percy).
2. Visual attention or shift from autocentric to allocentric perception was not sufficiently established in S's handling of objects.
3. One S (Percy) maintained object related activity for more than half the time of the duration of the test and showed fleeting visual attention.
4. Objects seemed to enter an affective-motor field in S's handling of them and did not seem to receive sufficient visual attention which would allow notion of "things of contemplation" and thereby motivate, subordinate and maintain action.

Test 2 - Handling of objects.

Purpose: To determine S's ability to handle different objects which were given into his hand by E.

Procedure and Material Used: S was seated at the same table and the same objects were used as in the first test and given into S's hand, one at a time. Each object was given to S for 1 minute. No verbal instructions were given.

Scoring: No points were given but for each object S's responses were recorded according to the following criteria:

1. Adequate handling (A)
2. Applying exploratory movements to the object (E)

3. "Incorporation" of the object into S's motor patterns (I)
4. Throwing it away or moving it out of sight (T)
5. Looking only, putting it on the table or handling it back, no interest (NI).

Results:

Table VII

Pattern of Approach to the Different Objects

Subject	Ball	Bricks	Wool
	NI	NI	NI
Jill	Puts it down, disregards it	Moves one brick about for a few seconds	Disregards it
	Book	**Waggon**	**Biscuit**
	NI	NI	NI
	Disregards it	Disregards it	Disregards it
Gerald	**Ball**	**Bricks**	**Wool**
	E	E	E
	E.taps it,licks it,moves it forwards and backwards	E.taps it,knocks with one brick on the table,touches it with his mouth	Taps it,bounces it gently, licks it, bounces it, taps it
	Book	**Waggon**	**Biscuit**
	A	AE	A
	Turns pages, looks at pictures. Looks at a bus: "There is the bus."	Looks at it closely, turns it upside down, moves it between both hands, rocking rhythmically. Says: "Car."	Takes it and eats it
Eric	**Ball**	**Bricks**	**Wool**
	AE	A	I
	Bounces it a few times, touches it with his mouth	Puts 4 bricks on top of each other	Opens the ball of wool and pulls the wool between his hands, grimacing.
	Book	**Waggon**	**Biscuit**
	NI	I	A
	Turns it round, does not open it	Moves it rhythmically from one hand to the other. Holds it whilst doing erratic movements with his hand	Eats it

Percy	Ball	Bricks	Wool
	AE	A	I
	Throws it, taps it, puts his lips near it, bounces it	Puts 4 bricks on top of each other, watches intently	Throws it like a ball, looks at it
	Book	**Waggon**	**Biscuit**
	I	I	A
	Pages thru' the book, watches movement of pages as he turns	Turns the wheels, does not look. Does not move it about on the table	Eats it

Interpretation:

The modes of handling a single object provide the following results:

1. Objects handled somewhat adequately in relation to their meaning: 9 times.
2. Exploratory movements without action upon the object: 6 times.
3. Incorporation of objects into available motor schemata: 5 times.
4. Throwing away of objects or moving them out of sight: Nil.
5. Fleeting visual regard but no further interest shown: 7 times.

Whilst rudiments of adequate handling occurred only 9 times, inadequacy of object-notion and consequent behaviour was observed 18 times.

Significantly, (for instance in Gerald, Eric's and Percy's behaviour) adequate action often occurred only after other exploratory and autocentric responses were employed (for instance putting lips to the ball, touching it with the mouth, turning objects upside down).

The results suggest deficits of objectification resulting in:

(a) Disregard of objects (Jill)
(b) Predominance of incorporation as compared with object-related handling and means-end differentiation.
(c) Transitional behaviour from autocentric perceptions (touch by tongue and lips) to object-related action.

Test 3 - Screen test

Purpose: To determine S's ability to discover an object behind a screen. For each child the object was used which had emerged as the one in which S was most interested in the previous tests.

Procedure and Material Used: S was seated in front of a table. A wooden screen (a square piece of wood standing upright and fully covering the object) was placed in front of the child at such a distance that S could easily reach behind it. The object was shown to S. After it had been ascertained that S had seen the object, E placed it behind the screen, S seeing the placing. Then S was asked: "Where is . . . ? Find it." This command was repeated until S made some attempt to find the object.

The object was shown 3 times and 3 times hidden behind a screen, and each time the same procedure was followed.

Scoring:

2 Points were given for success.

0 Point for failure (if S did not make any attempt to discover the object after the request was made 3 times, or began handling the wooden screen, ignoring the object hidden behind it).

Furthermore, it was recorded whether S in his successful attempts removed the screen to get to the object or whether he reached the object around the screen.

Maximum score: 6 points.

Results:

Table VIII

Screen test

Subject	Points	Behaviour Observed
Jill	0	Attempt in direction of screen but no success.
Gerald	0	Handles screen, does not take book.
Eric	2	Only one attempt, reaches b. from behind screen
Percy	6	Reaches around screen.

Interpretation:

1. Object-constancy in generalised space was achieved only by one S (Percy) and by Eric in one of the 3 attempts.

2. Object-notion was not maintained by Gerald who compensated by handling the object visible and "near at hand" (the screen).
3. Motor activity could not be accommodated and subordinated to constancy of object-notion in Jill's efforts, who threw over the wooden screen, but did not reach for the object behind it.

Test 4 - Displacement of Objects.
Purpose: To gain information about S's ability to retain object-relationship in spite of spatial displacement.
Procedure and Material Used: S was seated at a table and presented with 2 inverted open cubes, standing 10" apart from each other. S seeing the placement, a biscuit was placed under the wooden cube on the left 3 times and each time S was asked to get it from under the cube. After S's behaviour had been recorded, the biscuit was placed under the wooden cube on the right, S seeing the act of placement, and he was asked: "Where is your biscuit? Find it."
Scoring:
2 Points were given if S succeeded in getting the biscuit from under the lefthand cube, for each successful attempt (maximum 6 points).
No points were given if S did not succeed after 3 commands, in finding the biscuit under the lefthand cube, or if he continued to handle the cube having removed it from the biscuit, but made no attempt to pick up the biscuit.

For the second placement of the biscuit under the righthand cube, for which there was only one trial, 2 points were given if S succeeded in getting the biscuit from under the righthand cube.
No point was given if S did not react after 3 commands or persevered in looking under the lefthand cube, or removed the cube but did not reach for the biscuit.

Results:

Table IX

Displacement of objects

Subject	Points for Lefthand Cube	Points for Righthand Cube	Behaviour Observed
Jill	0	0	No reaction after 3 commands
Gerald	0	0	Handles cube but does not reach for biscuit

Eric	6	2	
Percy	6	0	Perseveres in looking under lefthand cube.

Interpretation:

As compared with the previous test, increased affective relationship to the object (the biscuit as compared to the book in the previous test) seemed to facilitate discovery of the hidden object in two Subjects. Jill made no attempt at finding the hidden object and Gerald reacted in the same fashion as in the previous test by handling the object nearest at hand (the cube) without being able to proceed to the biscuit.

In Percy displacement does not seem to result in re-orientation of action and he persevered in looking under the lefthand cube. Eric succeeded in subordinating previous action to the results of perceptual re-orientation in generalised space. The results of this test bear out the notion that visual attention and objectification reorganise action and allow shift from affect and body-bound activity to mediating action upon objects in generalised space. As in the case of Gerald, the results also show that near-body objects which can be touched are perceived autocentrically, gain predominance and "extinguish" objects in visual "distanced" space. (See also Gerald's behaviour in the screen test).

Test 5 - Playing with a ball.

Purpose: To determine S's ability to use a ball as a medium of play with E by throwing it back to E and catching it again.

Procedure and Material Used: S stood at a distance of 5 ft from E and E threw a medium-sized coloured ball to S, indicating to him to throw it back to E. After sufficient contact had been established, the test was commenced. The ball was thrown 10 times to S and each time, before throwing the ball, E said to S: "Catch it!" and then: "Throw it back!"

Scoring:

(a) Points were given for the number of throws S made in direction of E.

(b) Points were given for the number of times S caught the ball.

(c) Other forms of handling the ball were recorded (e.g.

bouncing it up and down or throwing it, disregarding it).

Results:

Table X

Playing with a ball

Subject	Number of Throws	Number of Catches	Behaviour
Jill	0	0	Disregards ball
Gerald	0	0	"
Eric	0	0	"
Percy	2	2	Bounces it, throws it up to ceiling, watches ball-movements intently.

Interpretation:

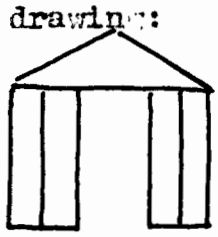
The results indicate that in all the Subjects there is failure to realise the ball as a medium of play in a social content:

hilst 3 Subjects disregarded the ball entirely, Percy's play-behaviour deteriorated and the other person became increasingly excluded. Simultaneously, the play-object became incorporated in a form of autocentri circular reaction by Percy who moved the ball and at the same time watched its movements intently.

Test 6 - Building with bricks.

Purpose: To gain information about S's ability to use bricks constructivoly and to copy a pattern which was built up by E.

Procedure and Material Used: S was seated at a table and presented with 5 bricks, four of them square and one in the form of a pyramid. Taking the bricks, E built a door in front of S as indicated in the drawing:



S was given 10 seconds to look at the door before it was taken down by E and the bricks put in front of S. Then S was asked: "Now take the bricks and build the door again as I have done." Two minutes were allowed for building.

Scoring:
2 Points were given for correct building.
1 Point for attempts at building.
0 Point if S did not respond at all or simply handled the bricks singly.

Results:

Table XI
Building with bricks

Subject	Points	Behaviour
Jill	0	Pushes bricks around and off the table.
Gerald	0	Takes one brick, touches it, puts his mouth near the brick.
Eric	0	Looks at bricks, does not touch them.
Percy	1	Puts 2 bricks upright correctly, does not continue, flicks his fingers.

Interpretation:

S showed different degrees of realisation of the proposed pattern.

In no case were attempts at construction maintained and the bricks were either ignored, pushed away or incorporated as in Gerald's behaviour.

Test 7 - Filling a cart with cubes.
Purpose: To determine S's ability to relate the cubes to the cart by putting them in, to gain information as to the way in which S performed this operation, how far S could persevere with the task and how far S could focus on two objects simultaneously (the cubes and the cart) necessary for completion of the task.
Procedure and Material Used: S was seated at a table. E presented S with a wooden cart on wheels into which 18 coloured cubes fit. E placed the cubes in the cart, S seeing the act of placement. After having done so E took all the cubes out again and put them beside the cart, saying to S: "Now you put all the cubes into the cart again, as I did before." Where necessary, repeated verbal encouragements were given whenever S discontinued with the task. Two minutes were allowed for completion.

Scoring:

(a) For the number of bricks place in the cart within the given time limit: 2 points if all 18 cubes were placed.
1 Point if less than 18 but more than 1o were placed.
No point if less than 1o were placed.

(b) For ordered or disordered placing of cubes in cart:
2 points were given if the cubes were placed in an orderly fashion.
No point was given if the cubes were simply thrown into the cart.

(c) For the time in which S was involved in the task, revealed by handling one of the objects:
2 points were given if attention was maintained all the time.
1 point was given if attention was maintained for less than 2 but more than 1 minute.
No point was given if attention was maintained for less than 1 minute.

(d) For the number of times verbal encouragement had to be given:
2 points were given if encouragement had to be given 3 times or less.
1 point was given if encouragement had to be given more than 3 times but less than 1o times.
No point was given if verbal encouragement had to be given more than 1o times.

(e) For the time visual attention was maintained:
2 points were given if visual attention was maintained for altogether more than 1 minute.
No point was given if visual attention was maintained for altogether less than 1 minute.

Results:

Table XII

Filling a cart with cubes

Subject	Number of Cubes placed	Points for Form of Placement	Points for Time of Handling of objects	Points for verbal Encouragement given	Points for Time of Visual Attention
Jill		Disregards objects all the time			
Gerald	1	0	0	0	0
Eric	1	2	2	2	2
Percy	2	2	2	2	2

Interpretation:

The results show the relationship of adequate handling of cube and cart and degree of visual attention:

1. Visual regard fosters, motivates and maintains the structures of action and hardly any verbal encouragement had to be given.
2. Verbal encouragements alone, even if repeated at different times, remain ineffective if no visual attention is established (Gerald's behaviour).
3. Visual attention is essential for means-end relationship in placing the cubes in the cart.

Test 8 - Hetzer-Wiehemeyer card test (1929).

Purpose: To determine the relationship between visual regard and handling the board or grasping or touching of a number of non-realistic coloured patterns presented on a piece of cardboard.

Procedure and Material Used: On a piece of grey cardboard a number of non-realistic figures cut out of shiny coloured paper were pasted. The colours green, yellow, blue and red were used.

S was seated on a chair and the piece of cardboard, figures showing, was given into his hand for 1 minute.

Scoring: Time in seconds was taken for:

(a) The time S spent looking at the figures.

(b) The time S spent handling the cardboard only or attempting to touch, grasp or scratch at the figures.

Times recorded were transformed into percentages indicating visual regard over against motor-approach.

Results:

Table XIII

Hetzer-Wiehemeyer card test

Subject	Time of Visual Regard	Time of Motor Approach	Form of Motor Approach
Jill	Does not take board, disinterested		
Gerald	1o"	5o"	Moves cardboard, taps it, does not look, bends cardboard.
Eric	Fleetingly	55"	Scratches at the figures and the edge of cardboard, turns it round, bends it.

Percy	Fleetingly	55"	Holds it near his face, touches it with his mouth, handles cardboard, attempts scraping figures off.

In Percentages:

Subject	Visual Regard	Motor Approach
Jill	-	-
Gerald	16.7	83.3
Eric	8.4	91.6
Percy	8.4	91.6

Interpretation:

All S showed marked deficit of visual regard as compared with motor approach. This indicates a deficit of shift to "contemplative attitude", which establishes independence of objects (Werner and Kaplan 1963).

According to the results obtained in the original series of tests in normal children, 100% visual regard is established in the infant at the age of 15 to 18 months.

Test 9 - free exploration.
(This test has been adapted from an original infestigation of children's behaviour carried out by C. Hutt, S.J. Hutt and C. Ounsted 1963).

Purpose:
(a) To record S's motor and postural behaviour (change of position, patterns of movement) in a situation in which no active stimuli were present.
(b) To gain information about S's behaviour with a number of random toys but without any instruction given to S.
(c) To record S's behaviour with the toys in a social context in which one of the Experimenters encouraged S to play.

It was to be expected that patterns of movement and posture would influence S's behaviour in the situations of play.
Procedure and Material Used: The test was carried out in 3 different stages or situations into which S was placed:
Situation 1: S was led into a room equipped with only a few pieces of furniture. Two Experimenters (E1 and E2) were present. E1 was sitting on a bench in one corner of the room. He did not attempt any active contact with S but was available for

contact if sought for by S. E2 was placed in another corner of the room and recorded S's behaviour. S was led into the room but no instructions were given. S's verbal and motor behaviour was recorded for 5 minutes.

Situation 2: The arrangements as to the position and action of E1 and E2 were maintained as in Situation 1. In this situation, however, a number of toys had been placed on the floor in the middle of the room into which S was led: A medium-sized ball, a wooden engine with 3 wooden waggons attached, a wooden tractor with trailer containing coloured bricks, a soft toy elephant, a number of building bricks and some wooden cubes fitting in to each other.

S was again led into the room without further instructions being given. Behaviour was recorded for 5 minutes.

Situation 3: The same arrangements as to the toys, as in Situation 2. This time E1 participated actively, led S to the toys and encouraged him to play with them. This was done verbally as well as by placing one or other toy into S-s hands, or showing S how to use them (e.g. pulling the waggon along, putting the cubes into the cart). E2 remained passive as before, was placed in the same position and recorded S's behaviour for 5 minutes.

Scoring: In Situation 1 the following responses were recorded:

(a) Time spent by S in engaging in meanigful movement patterns (exploratoy activity in the room, change of position).

(b) Time spent by S in engaging in self-centred, compulsory movement patterns, (tapping, grimacing, flicking fingers, rocking and other repetitive and rhythmical movements).

The percentage of one activity in relation to the other was then established.

2 points were given if the percentage of meanigful activity was higher than the time spent in self-centred movement patterns.

No point was given if the relation was reversed.

(c) Time spent in making contact with one of the Experimenters (by looking at him, going towards him and touching him or looking at him).

(d) Verbal behaviour.

In the second situation the following observations were recorded:

a. Time spent in handling of the toys in whatever manner this was done:

2 points were given if the toys were handled for more than 2 1/2 minutes.

No point was given if the toys were handled for less than 2 1/2 minutes.

b. Number of adequate approaches to a toy (for instance throwing the ball, pushing the waggon, putting the cubes into each other):

2 points were given for each adequate approach to a toy.

c. Time spent in visual attention towards the toys without playing with them:

2 points were given for visual attention for more than 2 1/2 minutes altogether.

1 point was given for visual attention for altogether less than 2 1/2 minutes.

No point was given for no visual attention at all, or only fleeting looks at the toys.

In the third situation the play activity of S was recorded according to the following criteria:

(a) As to adequate handling of the toys (object-play or exploratory approach towards the different toys):

2 points were given for each approach which could be regarded as object-play or exploration (e.g. looking at the pictures in the book, bouncing the ball, pushing the tractor around).

No point was given if objects were simply handled in a purely motor and object-inadequate fashion (touching the toy, tapping it, putting it near the face or S touching it with his mouth).

(b) Time spent in making use of the toys offered by handling them in any way at all:

2 points were given for handling the toys offered all the time.

1 point was given if the toy was handled for more than 2 1/2 minutes but less than 5 minutes.

No point was given for handling of the toys for less than 2 1/2 minutes.

(c) Verbal behaviour was recorded.

Results:

Table XIV

Free exploration

1st Situation

Subject	Time Spent on Meaningful Movement	Self-centred Movement	Relation of Meaningful to Self-centred Movement		Contact with E (seconds)	Verbal Behaviour
			Meaningful	Self-centred		
Jill	1'	4'0"	25%	75%	2o"	Hums
Gerald	1'15"	3'45"	33%	67%	Fleeting looks	Calls his name 3 times
Eric	0	3'3o"	0%	1oo%	Fleeting looks	Laughs and giggles
Percy	0	3'0"	0%	1oo%	Fleeting looks	-

2nd Situation

Subject	Time spent in Handling Toys	Number of Object Adequate approach	Time of Visual Attention
Jill	0	0	0
Gerald	0	0	0
Eric	0	0	1
Percy	2	1	2

3rd Situation

Subject	Adequate Handling of Toys	Time Spent in Handling Objects	Verbal Behaviour
Jill	0	0	Laughs and giggles
Gerald	4	1	"sweety", "car", "car", "naughty"
Eric	2	1	"see", hums, sings
Percy	8	2	-

Interpretation:

Situation 1: The results obtained are similar to those obtained in tests 1 and 2.

Self-centred and non-representative movement patterns were predominant as compared with movements in representative space and directed towards objects.

Simultaneously, social relationship by verbal or visual

contact remained negligible and occurred only fleetingly.

Situation 2: Play-objects available to S did not signifantly alter S's behaviour as compared with Situation 1. Only one Subject (Percy) took hold of the ball and played with it in an autocentric fashion, as also observed in previous tests.

Situation 3: Involvement of E in the situation of play resulted in considerable increase of S's handling of different toys adequately. (Except in the case of Jill). Such play action upon objects could in no case be maintained for the whole duration of the test. It can be concluded that the involvement of the other person provided an incentive for object-relationship but had little influence on the maintaining of activity upon objects of play.

As compared with Situation 2, in two Subjects verbal behaviour was stimulated by action upon the object.

(d) SUMMARY

In the foregoing experiments all S showed deficits of objectification which occurred with sufficient consistency in different situations to allow of a number of conclusions:

1. Visual attention towards objects was only insufficiently and inconsistently established, and in action upon objects patterning of behaviour (means-end relation) deteriorated to the extent visual attention was lost or not established.

2. Handling of objects was not subordinated sufficiently to the notion of object-independence and action upon objects was therefore ill-maintained and insufficiently motivated.

3. Typical and repeatedly occurring patterns of handling of objects could be observed in which objects were incorporated to body-near perception or movement patterns.

4. In all cases of such behaviour "autocentric modes of perception" (Schachtel) were predominant and shifts from auto- to allocentric perception were absent or insufficiently maintained.

5. Autocentricity in perception made S touch the object, lick it, touch it with the tongue or lips, "incorporate" it into movement patterns and their autocentric perception or into body-interior.

6. Motivation in dealing with objects remained affect-bound and did not transcend this stage towards motivation by affect-independent objects in general space initiating sustained activity and means-end differentiation.

7. Interpersonal affective relationship once established seemed to foster object-notion as medium of social contact. The referent-character of objects in such situations could, however, be maintained only for a short time and interpersonal relationships deteriorated to the extent to which objects were incorporated.

8. Verbalisation of an encouraging nature by E did not have any significant effect on S's actions upon objects, neither regulating S's motor behaviour nor stimulating object-notion through the referential medium of speech.

9. Attempts at, and occasional success of, differentiation between action and object of action (means-end differentiation)seemed to foster S's verbalisations.

These conclusions point to lack of a stable cognitive schema of reference in sensori-motor behaviour. Disturbed equilibrium of extero- and interoceptive perception characterises such deficit and predominance of interoceptive modes of perception (autocentricity) constitutes a typical form of cognitive regression and self-realisation. It must be suggested that such behaviour represents patterns of compensatory, perceptual and motor activity typical of lack or instability of postural or body-schema as part of a stable cognitive structure or "mobile equilibrium" (Piaget).

From a general developmental point of view the S's performances are below the 2 year old-level.

(e) Tests applied to Subjects of Group B and control groups.

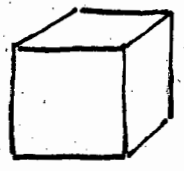
In the following section tests carried out with Group P (post-encephalitic children) and control groups (C and D) will be described, the manner of scoring indicated and the results analysed.

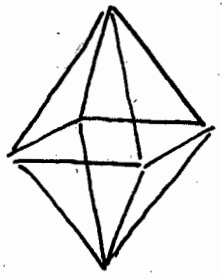
Test 1 - Copying of Geometrical Figures (according to Stutsman 1931)

Purpose:

(a) To determine S's ability to copy simple geometrical figures as indicated in the Merrill Palmer Test (A circle, a cross and a star) and thereby gain information on visuo-motor relationship.

(b) To determine S's ability to copy two-three dimension figures and thereby gain information on S's ability in regard to representation of these forms, necessary for correct execution. The two figures were a cube and a diamond-crystal shape (double pyramid).





Procedure and Meterial Used: S was seated in front of a table and a circle, cross and star were presented to the child as indicated in the Merrill Palmer Test. S was asked to copy each figure 3 times, one after the other.

The second test - cube and pyramid - was carried out in the same fashion but each form was copied only once.

During the first test S was encouraged to do better if the first drawing of the form was not regarded as optimal for the child's ability.

Scoring:

For the first test (circle, cross and star) points were given for each drawing as to correctness:

2 points for correct execution.

1 point if S was able to maintain the basis "Gestalt" but the drawing showed spatial incorrectness or additional lines.

0 point was given if the fundamental "Gestalt" of the form was not maintained.

For the second test (three-dimensional figures):

2 points were given for correct execution indicating a representative mode of perception.

1 point was given if the correct drawing was aimed at but no perceptual wholeness was achieved and S therefore merely copied in a two-dimensional fashion.
0 point for complete failure and no attempt at 3-dimensional execution.

Results:

Table XV

Copying of Geometrical Figures

Group P

Subject	Circle	Cross	Star	Cube	Pyramid	
Martin	2	2	2	0	0	
Charles	2	2	2	1	1	
John	2	0	0	0	0	
Freddy	2	0	0	0	0	
Roy	2	2	1	0	0	Total Points
	10	6	5	1	1	23

Group C

(Cerebral Palsy)

E.B.	2	2	0	0	0	
L.R.	2	2	2	0	0	
H.M.	2	2	0	0	0	
J.B.	2	2	2	0	0	
R.G.	2	2	2	2	2	Total Points
	10	10	6	2	2	30

Group D

(Down's Syndrome)

P.B.	2	2	1	0	0	
N.H.	2	2	1	1	0	
A.G.	2	2	1	0	0	
P.F.	2	2	0	0	0	
D.M.	2	2	0	0	0	Total Points
	10	10	3	1	0	24

Interpretation:

As to the number of total points obtained, Group P proved to be inferior to Group C.

In the copying of three simple one-dimensional patterns, Group C showed considerably more consistency of visuo-motor equilibirum as compared with Group P and D (total points of Group C: 26, Group P: 21, Group D: 24). From a quantitative point of view, these results cannot be regarded as significant. The visual approach employed by Group C seemed to be more maintained and determined than of Groups P and D. Both latter groups showed no attempt at correction and execution seemed to proceed without visual re-checking. Significantly, however, motor execution showed more strength and determination in Group P as compared with Group D, presumably due to muscular weakness (hypotonia) present in children with Down's Syndrome (König 1959, O'Connor and Hermelin 1961).

Test 2 - Form Continuation Test

Purpose: In order to gain information about S's ability to continue a given pattern and to maintain the form of the pattern over a longer period of execution. It was expected that some subjects would not be able to continue the form correctly or that the execution would disintegrate if carried on for a longer period.

Procedure and Material Used: For all tests S was seated at the table and presented with a sheet of paper and a pencil.

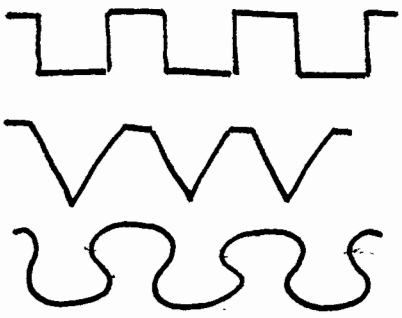
For the first test 6 lines had been drawn on the paper one inch apart from each other and a wave pattern was drawn by E on the first line, indicating the form, thus:



Before drawing the pattern in front of S, E told him: "I am drawing a pattern for you and then you carry on with it on the lines until you come to the bottom of the page." Then the pencil was handed to S and he was asked to begin. If during the execution S hesitated to continue at any stage, he was verbally encouraged to carry on without further comments made by E.

In the second test three different patterns were introduced to S, one at a time, and S was asked to continue the pattern to the end of the line. The next pattern was introduced in

the same fashion when S had completed the previous one. The following patterns were introduced:



The same procedure was followed as in the first test and S was asked to continue the pattern until the end of the line given.

Scoring:

For the first test points were given:

(a) For correct continuation (basic "Gestalt" of the pattern preserved):
Two points were given for correct continuation
0 point if the basic "Gestalt" of the pattern was lost.

(b) For maintaining the given form right down to the bottom of the page (over 6 lines). Criterior for scoring was the length S could continue the form without deterioration:
2 points were given for continuing over 6 lines.
1 point was given for continuation over 2 lines, but less than 6.
0 point was given for continuation for less than 2 lines.

For the second test only accuracy of continuation was scored:
2 points for correct continuation of each pattern.
1 point for initially correct continuation but deterioration before the end of the line was reached.
0 point for incorrect continuation
Maximal score: 6 points.

Results:

Table XVI

Form Continuation Test

Subject	First Test (a)	First Test (b)	Second Test
Group P			
Martin	2	2	5
Charles	2	1	5
John	2	0	0
Freddy	0	0	0
Roy	2	0	2
Total	8	3	12
Group C			
E.B.	0	0	0
L.R.	2	0	2
H.M.	0	0	0
J.B.	2	1	4
R.G.	2	2	6
Total	6	3	12
Group D			
P.B.	2	2	2
N.H.	2	1	4
A.G.	0	0	1
P.F.	0	0	0
D.M.	2	1	0
Total	6	4	7

Interpretation:

For (a) and (b) continuation of a given form and correctness of execution did not show any significant differences in the three groups.

For (c) deterioration of the pattern in the process of execution could be observed in all S to different degrees except in one S of Group C. S of Group D proved to be inferior to Groups P and C.

Lack of corrective visual regard was striking in Groups P and D whereas attempts at correction were shown in all

subjects of Group C.

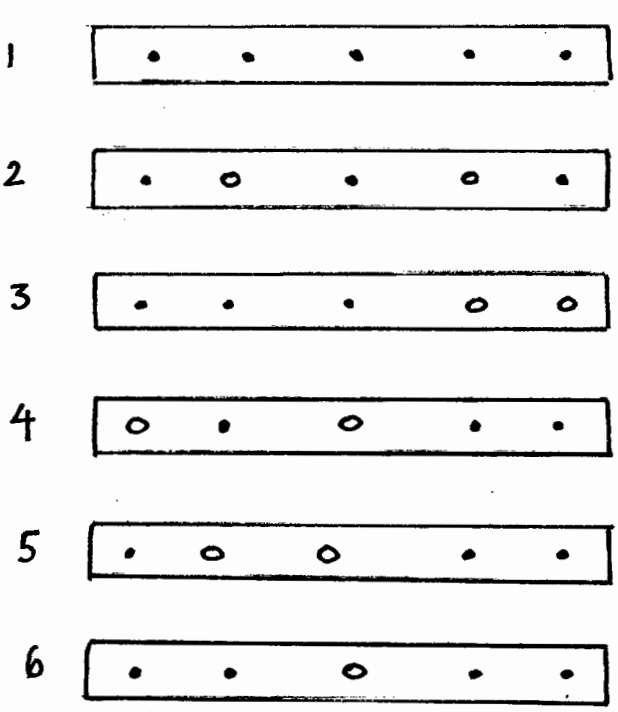
Two S of Group P succeeded in keeping up the form relatively well by executing at quick speed the once achieved "Gestalt", whereas S of Group D were not able todo so.

Test 3 - Marble Board-Test

Purpose: This test was given to determine S's ability to repeat simple patterns which had been laid out on the board. It was expected that S would adapt himself to a different degree to the different patterns and that motor response in repeating the patterns on the board would indicate different forms of failure, for instance, attempts at repetition of the correct pattern, perseverance of a previous motor response, attempt at "completeness" by "using up" all the marbles.

Procedure and Material Used: S was placed at a table and was presented with a board containing 5 holes in a row and 5 marbles which, to begin with, were placed behing the board. E told S: "I will now place the marbles on the board and then you will place them on the board in the same way as I have done." After this the marbles were placed on the board by E and as soon as this was done S was asked: "Look at it." The pattern on the board was exposed to S for five seconds and after that E removed all the marbles and put them back behind the board. S was told: "Now you place the marbles on the board in the same way as I have done." Five marbles were used for the test.

The following patterns were laid out (in the sequence in which they were shown to S):



For each pattern the same procedure was followed and after each test the marbles were removed and placed behind the board so that there were always five marbles available.

Scoring:

1 point was given for each pattern which was executed correctly, making a maximum of 6 points for the test.

0 point was given for failure.

Repetition of previous motor response, using all marbles, was noted as a particular form of failure indicating attempts at wholeness and emphasis on motor execution compared with perception of the pattern. The number of such attempts amongst the failures has been recorded.

Results:

Table XVII

Marble Board

Group P

Subject	Points	Number of Times all Marbles were used
Martin	4	0
Charles	3	0
John	2	1
Freddy	1	2
Roy	1	5
Total	11	8

Group C

F.B.	3	0
L.R.	6	0
H.M.	1	4
J.B.	4	0
R.G.	6	0
Total	20	4

Group D

P.B.	3	0
N.H.	2	2
A.G.	3	0
P.F.	1	5
D.M.	1	5
Total	10	12

Interpretation:

In subordination of handling and placing the marbles under visually perceived patterns, Group C proved to be superior as compared with groups P and D in the relationship of 20 : 11 : 10 points.

Significantly, when motor activity could not be sufficiently subordinated to visual perception, perseverations occurred in which S placed all marbles on the board. Deficits of auto-allocentric perceptual relationship and thereby of visual-motor equilibrium, seemed to be significant again in one subject of Group C (H.M.) who performed below the level of the rest of this group.

Test 4 - Seguin-form Board

Purpose: In order to determine S's possibility of matching, firstly by handling the forms, secondly by visual discrimination only without handling the forms, and thirdly by kinesthetic examination of the forms without visual perception. It was to be expected that the children would show discrepancies between visual and kinesthetic perception and therefore failure in matching.

Procedure and Material Used: In the first test the Seguin form board was used following the indications given in the Merrill Palmer Test (Stutsman 1931). (The forms had to be fitted into the respective holes 3 times, but no time was taken for completion of the task).

The second test followed straight after the first and the wooden forms were shown to S, one after the other. S was asked to indicate by pointing out which hole the figure fitted. Each form was shown to S until he responded. This test was carried out once with all 10 wooden forms.

The third test followed straight after the second. S was seated in front of the board with his hands under the table. His hands were covered by a piece of cardboard big enough to prevent him from looking at the forms. Each form was given into S's hands, one after the other, without S seeing them. For each form S was asked: "Now touch the form, go round it with your finger and show me where it belongs." It was ascertained that S understood the task. S was asked to point to the hole into which he thought the form fitted. The test was done once with all 10 figures.

Scoring:

Points were given for each correct match following the criteria of failure as indicated in the original tests.

As there are 10 forms to match, maximum score was 10 points for the second and third tests, and 30 points for the first, since it was carried out 3 times.

Results:

In the following the scores obtained will be presented as to:

(a) Original test
(b) Visual Examination without handling the forms
(c) Kinesthetic Examination by touch only.

Table XVIII
Seguin-form Board

Subject	a	b	c
Group P			
Martin	30	7	7
Charles	30	8	9
John	28	6	6
Freddy	29	9	5
Roy	30	10	Not understood
Total	147	40	27
Group C			
E.B.	30	9	8
L.R.	30	10	9
H.M.	23	10	6
J.B.	30	9	10
R.G.	30	10	10
Total	143	48	43
Group D			
P.B.	30	8	6
N.H.	30	8	6
A.G.	30	10	6
P.F.	30	8	2
D.M.	23	7	1
Total	143	41	21

Interpretation:

1. In the original test in which the figures could be looked at and handled simultaneously, Group P was superior to the control groups but the differences were clearly not significant.

2. Performance based on looking at the figure but not handling it before placement showed a considerable drop in the case of Group P, as compared with Group C. This seems to point to a deficiency in visual attention and regard and therefore also in relationship of the forms to their negative on the board. Visual regard and attention of Group C was superior to Groups D and F in the relationship of 48 : 41 : 40.

Although no difference could be found between the performance of Group P and Group D the inferior performance of Group P (with one exception) might provide further differential diagnostic clues between cerebral palsied and post-encephalitic children in regard to their ability to employ visual attention and "coding" of visual stimuli.

3. Degree of objectification by kinaesthetic- and touch-perception only was the only subtest to show significant results:

Group C was highly superior in scoring a total of 43 points as compared with Group P (27 points) and Group D (21 points).

Relationship of auto- to allocentric perception (kinaesthetic to sight) seemed to be deficient in Group P as well as in Group D, but relatively unimpaired in Group C.

It must be suggested that different mechanisms underlie the failures of Group P and D: In children with Down's Syndrome different authors found a striking general weakness (hypotonia) of the muscular tone (König 1959, O'Connor and Hermelin 1961). O'Connor and Hermelin (1961, 1963) described consequent deficiency in drawing ability, tactile and stereognostic perception in Mongol children. The authors suggested that these deficiencies may be due to hypotonia and lack of kinaesthetic feedback.

The failure of post-encephalitic children does not seem to be connected with any weakness of muscular tone but rather with a deficiency of "translating" stereognostic and tactile experience into visual perception and memory. As the mode of autocentricity is predominantly involved in any form of kinæsthetic perception, as compared with the allocentricity of visual perception in the case of Group P, such failures can

be interpreted as lack of relationship between auto- and allocentricity and therefore of objectification of experience through instability of a common schema of reference which would link auto- and allocentric perceptual data.

Test 5 - Word/Action Relationship Test (Luria 1959)
Purpose: To determine S's ability to adjust a perceptual motor task to verbal command and the degree of internalisation of the verbal command necessary for its retention during a short period of delay. Lack of relationship between the verbal command and previous motor set was expected to result in perseveration of the previous response.
Procedure and Material Used: S was seated in front of a table and presented with two inverted non-transparent containers, a cup and a tumbler. As a preparatory experiment a coin was placed under the cup twice in succession (within sight of the child) and each time S was asked to get the coin from under the cup. Then the coin was twice placed under the tumbler (within sight of the child) and S was again asked to recover the coin.

In the actual test the coin was placed, to begin with, in the same fashion and sequence but without S seeing the act of placing. Each time after placement S was told to find the coin under the respective container under which it had been placed (for instance, "the coin is under the cup - find the coin").

In the experiment which followed the motor reaction of the child to the verbal command was delayed by a few seconds: S was asked to stand at a distance from the two containers on the table and to turn his back to them. This arrangement necessitated S turning and walking back to the containers after the verbal command was given in the same fashion and the same sequence as before.
Scoring: Points were given for:
(a) Verbal command and execution without delay.
(b) Verbal command and execution with delay.
2 points were given for each correct response.
0 point for failure (lifting up the wrong container, or both).

As the coin was placed four times in each test (twice under the cup and twice under the tumbler) maximum score for each of the two tests was 8 points.

Results:

Table XIX
Word/Action Relationship-Test
Group P

Subject	a	b
Martin	8	8
Charles	8	8
John	8	8
Freddy	8	8
Roy	8	8
Total	40	40

Group C

E.B.	8	8
L.R.	8	8
H.H.	8	8
J.B.	6	8
R.G.	8	8
Total	38	40

Group D

P.B.	6	6
N.H.	6	8
A.G.	4	4
P.F.	8	8
D.M.	8	8
Total	32	34

Interpretation:

No significant deficits were observed in S of Group P and C; in both groups all S were able to relate action to simple verbal instruction.

Group D showed inferior behaviour which in all instances seemed to be due to a predominance of earlier motor responses over perceptual attitude towards the spoken word.

Test 6 - Verbal Interpretation of Two Pictures.
Purpose: To gain information about S's verbal response to two simple pictures which were presented, one at a time. It

was to be expected that not only the quantity of responses would vary amongst S of the different groups, but also the quality of the responses. The main interest was therefore directed not so much towards completeness of response but towards the different forms of verbal interpretation.

Procedure and Material Used: S and E were seated at a table and S was presented with 2 pictures from a reader, one at a time. No child was familiar with the pictures presented. After the picture had been put in front of S, E told him: "Now look at the picture. Tell me what happens there and what do you see." Whenever S hesitated to continue, the same question was asked again. No time limit was given and the test was discontinued when no further answers could be obtained.

The first picture presented showed a girl and a boy pitching a tent near a river, the boy being engaged in hammering in the tent pegs, the girl busy preparing a meal at the tent's entrance.

The second picture depicted a boy and a girl crossing a brook with the help of an oberhanging branch of a tree. The scene is depicted where the boy has already reached the other side of the brook, the branch which the girl holds breaks and she is seen falling into the river.

Scoring: The verbal responses of S were recorded and interpreted according to the following criteria:

1. Number of responses.
2. Number of full sentences.
3. Number of nouns only and fragmentary sentences (no use of personal pronouns or verb, or use of verb only).
4. Number of responses related only to objects seen in the picture.
5. Number of responses related to happenings.
6. Number of self-related responses (for instance, "I would not have fallen into the brook").
7. Number of repetitions.
8. Number of times S accompanied his verbal responses by pointing.

The number of different responses were recorded and transformed into percentages related to the total number of responses

Results:

Table XX

Verbal Interpretation of Two Pictures

Group P

Subject	Total responses	Full Sentences	Fragmentary Sentences	Reference to Objects	Reference to Happenings	Self-related	Repetition	Pointing
Martin	15	6	9	7	8	1	3	3
Charles	37	30	2	20	12	1	4	0
John	14	12	2	7	7	2	2	6
Freddy	19	7	12	11	8	0	1	8
Roy	11	0	11	8	3	0	7	4
	91	55	36	53	38	4	17	21
			In Percentages					
Martin		40.0	60.0	46.6	53.3	6.6	20.0	20.0
Charles		93.8	6.2	62.5	37.5	3.1	12.5	0
John		81.5	14.2	50.0	50.0	14.2	14.2	43.0
Freddy		32.1	63.6	57.9	44.4	0	5.2	44.4
Roy		0	100.0	72.7	27.2	0	63.6	36.3
Mean		50.2	48.8	53.9	42.5	4.8	23.1	28.7
			Group C					
E.B.	11	6	5	3	8	0	4	0
L.R.	9	3	6	4	4	0	1	0
H.M.	15	12	3	4	11	3	0	0
J.B.	12	10	2	1	11	2	0	0
R.G.	17	6	11	7	7	0	0	8
	64	37	27	19	41	5	5	8
			In Percentages					
E.B.		54.5	45.4	27.2	72.7	0	36.3	0
L.R.		33.3	66.6	44.4	44.4	0	11.1	0
H.M.		80.0	20.0	26.6	73.3	20.0	0	0
J.B.		83.3	16.6	8.3	91.6	16.6	0	0
R.G.		35.3	64.8	41.2	41.2	0	0	47.0
Mean		57.3	42.7	29.5	64.6	7.3	9.5	9.4
			Group D					
P.B.	13	5	8	6	7	0	0	2
N.H.	21	18	3	11	10	0	2	2
A.G.	19	2	17	14	15	0	4	3
P.F.	13	3	10	9	4	0	1	1
D.M.	11	4	7	4	7	0	2	2
	77	32	45	44	43	0	9	10
			In Percentages					
P.B.		38.4	61.5	46.1	53.8	0	0	15.3
N.H.		85.7	14.2	52.3	47.6	0	4.7	4.7
A.G.		10.5	89.5	73.0	78.0	0	21.0	16.0
P.F.		23.0	77.0	69.2	30.7	0	7.7	7.7
D.M.		36.3	63.6	36.3	63.6	0	18.1	18.1
Mean		38.8	61.2	55.4	56.7	0	10.3	12.3

Interpretation:

The total number of responses varied in the three groups, Group P showing the highest total of spontaneous verbalisation.

1. Relation of full sentences to fragmentary sentences.

In Groups P and C the total number of full sentences exceeded fragmentation but Group P performed inferiorly to Group C.

Three S of Group P showed number of fragmentation exceeding number of full sentences whereas this was the case in only two S in Group C.

Group D showed marked deficiency in employment of full sentences as compared with fragmentation. All S, except one, employed fragmentation.

These relationships do not seem to be particularly significant by way of comparison, especially as one-word sentences, pointing to one object, were scored as full sentences.

2. Relation between reference to objects as compared with reference to events revealed a striking deficit in Group P as compared with the control groups. One-word sentences related to objects as compared to verbal description of happenings or events showed the following relationships:

	One-word Depiction	Verbal Description of Events
Group P	53.9 %	42.5 %
Group C	29.5 %	64.6 %
Group D	55.4 %	56.7 %

It can be suggested that the perception of the representative structure of events was less available to Group P as compared to the control groups. It can further be suggested that perceptual attitude towards speech, facilitating grammatical structure, was deficient in Group P as compared with the control groups.

3. Repetitions.

Significantly, Group P also showed the highest percentage of perseveration in repeating the same verbalisation as compared with Groups D and C (23.1% : 9.5% : 10.3%).

Pointing.

A similar relationship was obtained in S employing pointing which seemed to be employed in order to support the re-

ferential character of verbalisation.

S of Group P employed pointing 21 times.
S of Group C 8 times.
S of Group D 10 times.

Self-related responses did not show any particular significance except for lack of self-relatedness in S of Group D.

The results point to a deficit in the spontaneous speech behaviour of Group P as compared with the control groups:

1. Autonomy of the mediating or referential character of speech is not sufficiently well established and events shown in the picture, as well as objects seen, cannot be sufficiently subordinated and integrated to the medium of speech.
2. Pointing acts as support for verbal reference.
3. Frequently occurring repetition suggests deficiency of a perceptual attitude towards speech and bound-ness to the motor qualities of speech which cannot easily be modified.

Test 7 - Verbal Re-conditioning of Objects.
Purpose: In order to assess S's possibility of using an object after its meaning and use had been verbally re-conditioned. It was to be expected that some of the subjects would persevere in using the objects in the same fashion as they are conventionally and generally used. To succeed in re-conditioning, S had not only to understand the spoken word but also to employ a perceptual attitude towards speech, which would allow him to maintain the verbally-indicated new meaning in handling the object.
Procedure and Material Used: S was seated at a table together with E and three objects were presented to S, one at a time, in the following sequence: Firstly a pencil, secondly a ruler and thirdly an eraser.

Each object was shown to S and he was asked: "What is this?" After S's answer was recorded, the object was given into S's hand and he was asked: "What do you do with this?" His reaction was again recorded.

After this initial test, in a second test the objects were shown in the same order but were verbally re-conditioned. The pencil was again shown to S and he was told: "This is your saw. Take it and show me what you do with it." Then the "saw" was handed to S and his action was recorded.

The same procedure was followed for the ruler, which was

re-conditioned into an axe, and the eraser into a car.
Scoring: For the first initial test points were given:
(a) For S's correct naming of the object - 2 points.
For inadequate naming (for instance, the reply: "a thing") - 0 point.
(b) For S's adequate action after the question had been asked: "What do you do with this?" - 2 points.
Inadequate action or non at all - 0 point.

For the second test only the action performed with the re-conditioned objects was scored.
2 points were given for correct use of the object.
0 point if S did not know what to do with the object or reverted to a previous action performed with the object not yet re-conditioned. For instance, writing movement with the "saw" or putting the "axe" straight on the table.

Results:

Table XXI

Verbal re-conditioning of Objects

Group P

Subject	(a) Naming	(b) Action	Action with re-conditioned Object
Martin	6	6	6
Charles	6	6	6
John	0	6	2
Freddy	6	6	6
Roy	6	6	0
Total	24	30	20

Group C

E.B.	6	6	6
L.R.	6	6	2
H.M.	6	6	2
J.B.	6	6	6
R.G.	6	6	6
Total	30	30	22

Group D

P.B.	6	6	6
N.H.	4	4	4
A.G.	4	4	0
P.F.	6	6	6
D.M.	6	6	6
Total	26	26	22

Interpretation:

Initial naming of the objects presented was successful in all groups except for one S (Group P) who persisted in naming the various objects "a thing". He however performed the correct actions with the objects.

In each of the groups two S showed disturbance in action upon the objects after they had been verbally re-conditioned. Such failures seemed to be related to lack of a perceptual attitude towards speech which would allow subordination of the object as referent to the referential character of speech.

Complete failure occurred in one of S of Group P and in one S in Group D.

Group P showed the lowest total score.

The results obtained do not seem to be significant enough to allow comparative conclusions as in all groups deficiencies in verbal re-conditioning were observed.

Test 8 - Imitation Test

Purpose: In order to gather information as to S's ability:

(a) To imitate simple non-symbolic movements.
(b) To understand simple gestures and to repeat them meanigfully.
(c) To interpret symbolic "empty" actions which were shown to the child by E without the use of objects (for instance, the movement of digging without a spade).
(d) To carry out symbolic "empty" actions without objects after they were shown and explained to S.

It was expected that the children would show:

1. The degree of understanding of medial behaviour and unity of action ("Gestalt"), and
2. Their ability to make use of their bodies as a tool to perform mediated action correctly once the content has been understood by the child.

It was further expected that the children would react differently towards the movement which was shown to them, either by taking a perceptual attitude of observation or by reacting immediately with co-movements. Such differences of behaviour could be expected to be significant as to the child's ability to utilise "deferred imitation". Differences of behaviour could also provide a clue as to the child's un-

derstanding of the image character of symbolic actions.

It could further be expected that lack of understanding would result in a disturbance of execution and such relationship would be of importance for the general behaviour of the children.

Procedure:

(a) For the first set of experiments S was placed in a standing position at a distance of about 6 feet from E, giving S enough space for movement.

S was asked to look at the movements done by E who stood in front of S at the distance indicated. Three different movements were performed by E and after each movement S was asked to repeat or imitate it. Before each movement E said to S: "I will do a movement and you will watch it." After the movement was done, S was asked: "Now you do the same movement."

The following three movements were performed:

1. Putting the right hand flat on the head and back again.
2. Stretching the left arm straight up close to the head, palm-inward.
3. Stretching out both arms horizontally, palms upward.

Before each movement E said to S: "I will do a movement and you will watch it." After the mocement had been done once, S was asked: "Now you do the same movement."

Scoring:

(a) Points were given for the correctness of movements:
Correct execution - 2 points.
Use of the wrong arm in 1. and 2. or incorrect turning of palms in 3. - 1 point.
Wrong placing of arm or other incorrect positions in space. (For instance, arm not stretched in 2. or the hand not touching the head in 1. - 0 points).
Maximum score - 6 points.

(b) Further points were given for S's ability to first look at the movement and only then to imitate it.
Movement executed only after the command was given to do so - 2 points.
Immediate co-movement - 0 points.
Maximum score - 6 points.

Results:

The following scores were obtained for (a) and (b):

Table XXII
Imitation Test (1)

Subject	a	b
Group P		
Martin	5	2
Charles	4	4
John	3	0
Freddy	4	0
Roy	4	0
Total	20	6
Group C		
E.B.	4	6
L.R.	4	4
H.L.	3	6
J.B.	3	6
R.G.	5	6
Total	19	28
Group D		
P.B.	4	6
N.H.	4	6
A.G.	4	6
P.F.	2	6
D.H.	4	4
Total	18	28

In the second test of imitation three gestures were performed.

Procedure: S was in the same position in relation to E and E performed three different gestures, one after the other. Before a gesture was performed, S was asked to watch it. After each gesture had been performed for a few seconds, S was asked to repeat it and to interpret it verbally. The following three gestures were shown: "Looking" (shading the eyes with the righthand and looking around by turning the head). "Waving good-bye" (gesture of waving with the righthand).

"Scolding" (raising of the right index finger and moving the hand accompanied by the facial expression of reprimanding).
Scoring: Points were given:
(a) For execution of the gesture according to its "Gestelt" (This was done irrespective of whether the movement was carried out immediately or not).
Adequate "Gestalt" of gesture - 2 points.
Movements in which no gestural "Gestalt" could be discovered - 0 point.
(b) For correctness of verbal interpretation.
Adequate interpretation (for instance, the reply "naughty" or "no" for the gesture of "scolding) - 2 points.
Inadequate interpretation (for instance, the reply "fingers" for "looking" or "move hands" for "waving good-bye") - 0 point.

Results:

Table XXIII
Imitation Test (2)

Subject	Execution	Interpretation
Group P		
Martin	6	6
Charles	6	6
John	6	6
Freddy	6	6
Roy	3	0
Total	27	24
Group C		
E.B.	6	6
L.R.	5	6
H.M.	4	4
G.B.	6	6
R.G.	6	6
Total	27	28
Group D		
P.B.	4	2
N.H.	6	4
A.G.	0	0
P.F.	2	0
D.M.	4	2
Total	16	8

In a third test of imitation, symbolic actions were shown. Procedure: S stood in the same position as before. S was asked to watch and E said: "Now look at what I am doing". The the symbolic action was performed by E who continued to ask: "What am I doing?" The action was performed until S responded with an attempt at interpretation.

The following symbolic actions were performed as "empty actions" (without objects):

1. Taking a "hat" from the table, putting it on and off again and replacing it on the table.
2. E is sitting on a chair and performs the movement of rowing.
3. E is sitting on a chair, holds a "container" in his left arm and stirs with his right arm the "contents" of the"container".
4. Standing, E lifts up a "heavy suitcase", carries it around and puts it down again.
5. E takes a "spade" and performs the movement of digging.
6. E takes a "broom" and performs the movement of sweeping.
7. E takes a "flower-pot" from the table and carries it to a different place (shelf or table) in the room.

Scoring: The verbal responses were regarded as positive when the correct interpretation was given in a fashion which allowed inference that S had somehow grasped the symbolic value of the action. (For instance, the response "hat" in the first test was regarded as adequate).

Adequate interpretation - 2 points.

Interpretation in which symbolic meaning was recognised but where the interpretation was not adequate to the action (for instance, "sowing" for "sweeping") - 1 point.

Interpretations which referred only to the external form of movement unrelated to its symbolic content - 0 point.

Results:

Table XXIV

Imitation Test (3)

Group P		Group C		Group D	
Martin	14	E.B.	9	P.B.	5
Charles	14	L.R.	5	N.H.	9
John	5	H.M.	0	A.G.	7
Freddy	2	J.B.	5	P.F.	8
Roy	0	R.G.	9	D.M.	5
Total	35	Total	28	Total	34

In a fourth test of imitation, S was shown a symbolic action with "two objects".

Procedure: S stood in the same position in relation to E and E took some "paper" with the left hand, a pair of "scissors" with the right hand and started to cut the "paper". During this action E explained to S: "I take some paper and scissors and now I cut the paper with the scissors." After the action had been performed once and was verbally interpreted, S was asked: "Now you take your paper and scissors and cut the paper."

The same procedure was following in the second test. E explained and performed: "I take a "nail" and a "hammer" and hammer the nail into the board." (A table was used to symbolise the board.)

Scoring:

2 points were given for the correct action.
1 point was given if it was obvious that the task was grasped but if the execution was litter differentiated or deteriorated in the process (for instance, if the child hammered the nail with the fist, disregarding the hammer, or hammered with the same hand which had reviously taken the nail.)
0 point was given if S engaged in movement patterns which were not related to the task and entirely lost sight of the objects involved.

Results:

Table XXV
Imitation Test (4)

Group P

Subject		Behaviour
Martin	2	Correct scissors movement but not related to paper. Forgets nail in hammering.
Charles	2	Paper-scissors correct but scissors movement disintegrates. Hold nail with same hand with which he hammers. Loses sight of nail.
John	2	Imitates immediately, action disintegrates in process.
Freddy	2	Holds paper in same hand as scissors. Poor execution of hammering, nail gets lost.
Roy	0	Imitates with diffuse movements, no grasp of action-meaning.
Total	8	

Group C

E.B.	2	Moves both hands in cutting movement. Executes hammer-nail action clumsily.
L.R.	3	Disregards paper in cutting. Nail-hammer correct
H.M.	2	Disregards paper in cutting. Disregards nail in hammering.
J.B.	2	Movements correct but no relationship of objects in space preserved.
R.G.	4	Correct scissors movement on paper. Correct execution of hammering.
Total	13	

Group D

P.B.	3	Disregards paper in cutting. Nail-hammer correct
N.H.	2	Cutting action disintegrates but basically correct. Hammers hammer with nail.
A.G.	2	No spatial relationship between scissors and paper, nail and hammer.
P.F.	4	Correct execution, movement executed hesitatingly.
D.M.	2	Same hand used for taking hammer and nail, cuts paper without regard for paper.
Total:	13	

Interpretation:

(a) Imitation of simple, non-symbolic movements did not show any striking differences between the groups as to form of execution.

Compared with the control groups, Group P, however, showed a significantly lower score as to immediacy of imitation in as much as S of this group engaged in co-activity without being able to defer imitation until the command for execution was given by E. Such behaviour suggest the close boundness of visual to motor-schemata and lack of distancing in self-other relationship as well as instability of a stable postural schema.

(b) Execution of meaningful symbolic movements showed marked deficits in Group D and this group showed equally inferior performance as compared with Group P and C in the verbal interpretation of the meaning of gestures performed.

Amongst S of Group P, only Roy showed deficits in symbolic understanding which, significantly, was related to deficient execution.

The observations suggest the close relationship between successfull interpretation and execution, which is related to body-image perception.

(c) No significant differences exist between the groups. Low scores (nil to 5) appeared in S of all three groups and none of S achieved maximum scores. Three S in Group P seemed to show severe deficits in symbolic understanding and the notion of referent-referential medium relationship.

(d) Group P showed deficits in executing symbolic-"empty" action inferior as compared with the control groups. Object-relationship (to nail or paper) deteriorated frequently during action and "objects" were incorporated into action.

Although execution was observed to be clumsy in Groups C and D, object-relationship seemed to be better retained.

Test 9 - Pointing at Objects.

Purpose: In order to determine S's ability to point at objects after previous handling and thereby to assess S's ability to relate to objects in a referential fashion.

Procedure and Material Used: On a table three objects were placed in front of S who stood at a distance of 4 feet from the table. The distance between the objects was 2 feet: A ball was placed on the left side of the table, a pencil in the middle and a wooden toy car on the right side of the table. E placed the objects in their places after having shown them to S and having established that S could name them.

After the objects had been placed, S was asked: "Go and fetch the ball and give it to me." (E was standing next to S). This procedure was followed for each of the objects, one after the other, in the sequence ball - pencil - car.

The objects were then placed again in the same order and distance. E stood beside S, pointing to each object one after the other, saying: "There is the ball, there is the pencil, there is the car." After having done so, E asked S: "Where is the ball?" The question was repeated until S showed some reaction. The same procedure was then followed as to the pencil and the car.

Scoring:

2 points were given if S succeeded in pointing to the respective object without changing his position, of if S referred verbally to the object without employing the gesture of pointing (e.g. giving verbal description of the position of the object on the table). Maximum score - 6 points.
0 point was given if S went to the objects to touch or handle them or persevered in the previous response (bringing the object to E).

Verbal reactions were recorded (e.g. if pointing was accompanied by: "There", or "there is. . .").

Results:

Table XXVI

Pointing at Objects

Group	Subject	Referential Behaviour	Verbal Behaviour
Group P	Martin	4	"It is in the middle of the table." "There, on top of the table." (No pointing)
	Charles	6	"There".
	John	6	"There". (Pointing)
	Freddy	4	-
	Roy	0	"Where is the ball?" "Where is the truck?" "Where is the pencil?"
	Total	20	
Group C	E.B.	6	-
	L.R.	6	-
	H.M.	6	"There".
	J.B.	4	-
	R.G.	6	"There".
	Total	28	
Group D	P.B.	6	"There".
	N.H.	4	No verbal behaviour (pointing)
	A.G.	4	"There", "There", (pointing).
	P.F.	6	No verbal response (pointing)
	D.M.	6	"There", "There", "There". (pointing)
	Total	26	

Interpretation:

a.) The total scores obtained did not show any clear differences between the three groups.

In Group P, two S persevered in moving towards some of the objects instead of pointing. Motor impulses were not subordinated to referential behaviour of pointing.

One S (Roy) repeated the questions of E without perceiving their referential character and thereby relation to the various objects. In such behaviour motor-verbalisation of E was not subordinated to the significative referential meaning of speech.

One S of this Group (Martin) did not employ the gesture of pointing but signified verbally the position of the objects.

b.) Referential verbal behaviour which accompanied pointing shows the genetic link between pointing and verbal reference. Differentiation of these two forms of behaviour was superior in Group C (12 times only pointing without accompanying verbalisation) as compared with Group P (7 times) and Group D (7 times).

Test 10 - Body-Object Relation Test.

Purpose: In order to obtain information as to the degree S was able to take a perceptual attitude towards his own body.

Procedure: In the first series of tests S was placed at a distance of 5 feet in front of E and was asked:

(a) "Show me your ears"
(b) "Show me your eyes"
(c) "Show me your nose"
(d) "Show me your mouth"

The command was repeated until S had understood what was wanted and showed some response.

In a second test S stood in the same position and E unfastened one button on S's shirt or blouse, as far as possible from S's neck so that S could fasten it up again and see what he was doing. S was then asked: "Now fasten your button again". This test was then modified by E unfastening a button on S's shirt or blouse sufficiently high to prevent S from seeing him fasten the button.

In a third test S was seated on a chair. His left shoe was removed by E and placed in front of him. S was then asked: "Now put your shoe on again."

Scoring:

For the first test: 2 points were given for correct response, which means S pointing to his nose, both eyes and both ears, and his mouth (maximum score 8 points).
1 point was given if only one ear or one eye were pointed to.
0 point was given for incorrect responses.

For the second test: 2 points were given for success in fastening the button within a time limit of 1 minute (maximum score 4 points).
0 point was given for failure, which means that S did not succeed in fastening the button within the given time limit.

For the third test: 2 points were given if S succeeded in putting on his shoe within 1 minute and 2 further points for S succeeding in fastening the laces within another 1 minute. Verbal encouragement was frequently given.
0 point was given if S failed to carry out these tasks within the given time limit.

Results:

Table XXVII
Body-Object Relation Test

Group P

Subject	Pointing to Nose, Mouth etc	Fastening of Buttons	Putting on Shoe	Doing up Laces
Martin	6	4	2	0
Charles	8	4	2	2
John	8	2	2	0
Freddy	8	4	2	0
Roy	8	4	2	0
	38	20	10	2

Total 70 points

Group C

E.B.	6	4	2	0
L.R.	6	0	2	0
H.M.	6	2	2	0
J.B.	7	4	2	0
R.G.	8	4	2	2
	33	14	10	2

Total 59 points

		Group D		
P.B.	6	4	2	2
A.G.	6	4	2	2
N.H.	6	4	2	2
P.F.	8	4	2	2
D.M.	6	4	2	0
	32	20	10	8

Total 70 points.

Interpretation:

The total scores obtained by the three groups do not show any striking differences and body-object relationship seems to be relatively well established in all groups. The inferior performance of Group C is largely due to executive motor handicaps shown by some of S in this group.

In the last most complicated test of the series (doing up of shoe laces) Group D proved to be superior as compared with the other two groups who showed deficits which seemed to be related to disturbance of means-end relationship and stability of body-schema.

Test 11 - Lincoln-Oseretsky Motor Development Scale.
Purpose: A number of items were selected from the above-named test to gain information about:

(a) S's ability to control his movements.
(b) S's ability to carry out different movements simultaneously.

Procedure: All tests were carried out according to the indications given in the manual of the above-named test. For the first set (a) the following tests were selected:

1. Walking backwards
2. Touching nose
3. Touching fingertips
4. Describing circles in the air

For the second set (b), the following tests were selected:

1. Tapping rhythmically with feet and fingers
2. Closing and opening hands alternately
3. Tapping with feet and fingers
4. Tapping with feet and describing circles with fingers.

Scoring: Points were given according to the manual for the Lincoln-Oseretsky Motor Development Scale.

1. Walking Backwards: S must not deviate more than 1 ft in either direction laterally. If S fails to touch heel to toe, E corrects S on first trial only. S should not have to use his arms in order to maintain balance.
Points: Plus on first trial: 3 points.
Minus on first trial, plus on second: 2 points.
Minus on both trials: 0 point.

2. Touching Nose: A trial consists of three attempts to touch the nose with the index finger of each hand. The trial is considered passed if each hand touches the nose twice in the three attempts.
Points: Plus on first trial: 3 points.
Minus on first trial: 0 point.

3. Touching Fingertips: A trial consists of S touching each finger successively and repeating the test in reverse order. There is a 3 second time limit for each trial. A trial is failed if S touches a finger more than once, touches two fingers at the same time with the thumb, or if he skips one or more fingers. The test is passed if one of two trials is successful for each hand. If a second trial is necessary, the test should be repeated on the same hand before the other hand is tested.
Points: Each hand is scored separately as follows:
Plus on first trial: 3 points.
Minus on first trial, plus on second trial: 2 points.
Minus on both trials: 0 point.

4. Describing Circles in the Air: Movement must be executed by the fingers only, the rest of the arm should remain essentially motionless; the circles should be easily recognised and should be approximately the same diameter. Both fingers should work in unison and the movement must be continued for 10 seconds. If S's performance does not meet these criteria the test has failed.
Points: Plus on first trial: 3 points.
Minus on first trial: 0 point.

(b) Second Set

1. Tapping rhythmically with Feet and Fingers: The trial is passed if the rhythmic tapping is maintained for at least 20 seconds. The trial is failed if the rhythm of the movements is changed, or if the tapping of the finger does not correspond

to that of the same foot.
Points: Plus on first trial: 3 points.
Minus on first trial: 0 point.

2. Closing and Opening Hands alternately: The time limit is 10 seconds. The trial is passed if S makes no unnatural facial movements, if S does not open and shut his hands at the same time and/or if he does not bend one or both of his elbows.
Points: Plus on first trial: 3 points.
Minus on first trial; plus on second trial: 2 points.
Minus on first and second trials, plus on third trial: 1 point.
Minus on all three trials: 0 point.

3. Tapping with Feet and Fingers: The trial is passed if an even rhythm is maintained, if the tapping of the fingers is simultaneous with that of the right foot, and if the two index fingers tap the table at the same time for 20 seconds. If S's performance fails to meet these criteria, the test is failed.
Points: Plus on first trial: 3 points.
Minus on first trial: 0 point.

4. Tapping with Feet and Describing Circles with Fingers: S's performance should last at least 15 seconds. The trial is failed if there are changes in rhythm in any of the motor acts, or if figures other than circles are described. Circles should be made with finger only and not by the hands.
Points: Plus on first trial: 3 points.
Minus on first trial: 0 point.

Results:

Table XXVIII
Lincoln-Oseretsky Motor Development Scale
Group P

	First Set					Second Set			
Subject	1	2	3		4	1	2	3	4
			Right	Left					
Martin	3	3	2	3	0	3	1	0	0
Charles	3	3	3	3	3	0	1	0	0
John	0	3	0	0	0	0	0	0	0
Freddy	0	3	2	2	0	0	0	0	0
Roy	0	3	0	0	0	0	0	0	0
Total			39				5		

Group C

Subject	First Set 1	2	3	4	Second Set 1	2	3	4
			Right	Left				
E.B.	0	0	0	0	0	0	0	0
L.R.	Not done	3	0	0	0	0	0	0
H.M.	Not done	3	0	0	0	0	0	0
J.B.	0	0	3	3	0	0	0	0
R.G.	0	3	3	3	3	3	3	3
Total			24			12		

Group D

P.B.	3	3	3	3	3	0	0	0
A.G.	0	3	2	2	0	3	0	0
N.H.	3	3	3	3	3	0	0	0
P.F.	0	3	2	2	0	3	0	0
D.M.	0	3	0	0	0	0	0	0
Total			48			9		

Interpretation:

In the items of the first set of this test, Group D proved to be superior as shown by the total points obtained.

Group C showed the most inferior performance which seems to be largely due to executive motor handicaps shown by these children, which did not allow adequate execution of the test items.

In view of the physical handicap present in all children of this group the results obtained are unsuitable for comparison and must therefore be excluded.

The second set proved to be generally too difficult for all children tested.

Total points obtained: Group P: 44
Group D: 57

The results seem to clearly indicate superiority of the objects of Group D in regard to postural security and relation of movement to a stable body-schema and noticeable failures of the subjects of Group P.

Test 12 - Goodenough - Drawing a Man Test (Goodenough 1926)
Purpose: This test was given in order to gain information as to S's perception and conceptualisation of body-image.
Procedure: The original indications were followed; the child was given pencil and paper and asked to draw a man. No help was given except verbal encouragement to continue with the task.
Scoring: Points were given according to a scale suggested in the original test. Relationship of points obtained to mental age was established as suggested in the original scale. By relation to chronological are an I.Q. was obtained. Furthermore, a qualitative interpretation was given of the drawings of all S of Group P as relevant to body-image perception.

Results:

Table XXIX
Goodenough - Drawing a Man Test

Subject	Mental Age	I.Q.
Group P		
Martin	6.10	34
Charles	8.6	43
Freddy	3.0	43
John	Between 3 and 4	37
Roy	6.6	41
Group C		
E.B.	4.10	24
L.R.	7.10	50
J.B.	6.0	61
H.M.	6.6	83
R.G.	13	86
Group D		
P.B.	6.8	44
D.M.	3.8	30
A.G.	6.0	52
P.F.	7.6	54
N.H.	6.10	35

Average I.Q. obtained:

Group P: 39.6
Group C: 60.8
Group D: 43.0

Interpretation:

As shown in figures above, the performance of Group C was superior to that of Groups P and D.

From a qualitative point of view the following interpretations of the drawings of Group P are suggested: (See samples of drawings)

John and Freddy were unable to depict clearly the image character of the body. Although arms and legs are indicated, the "Gestalt" is not complete and the head is missing in both drawings. The missing-out of the head seems to be significant for imperception of head-body relationship with relative dominance of perception of the [illegible] of the body related to motor activity.

Roy's drawing impresses by the seeming absence of reference to his own body. His drawing may be interpreted as a stereotyped copy which resembles a play object (teddy bear) or another similar figure he has seen previously and has frequently depicted.

Martin's drawing shows considerable disturbance of body-head perception although body exterior perception is better developed. Perceptual unity of the body is only insufficiently achieved.

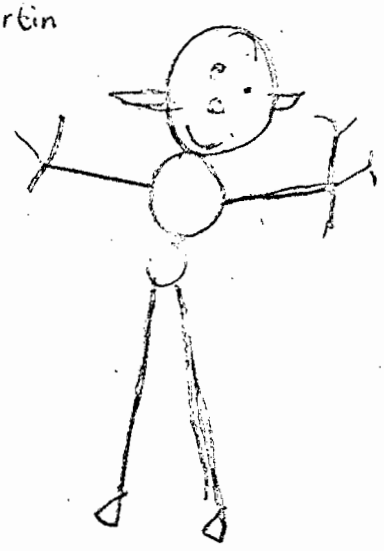
Charles's drawing show's insecurity as to correct spatial representation. Head-body relationship is poorly established, distal parts - as hands and feet - are missing and his drawing seems to be guided rather by extero-perceptivity of others than by intero-ceptive body-image realisation. Charles' execution was insecure as he proceeded from one part to the other, seemingly without having an image at his disposal. This would explain the unrelatedness of parts of the body and the queerness of posture depicted.

As compared with the control groups (see samples of groups C and D), Group P showed imperception of body-image which impresses by lack of objectification and thereby individualisation and by lack of integration of the parts of the body into a dynamic wholeness.

Drawing of a Man (Surplus)

Group 2

Martin



Charles



Group P

Freddy



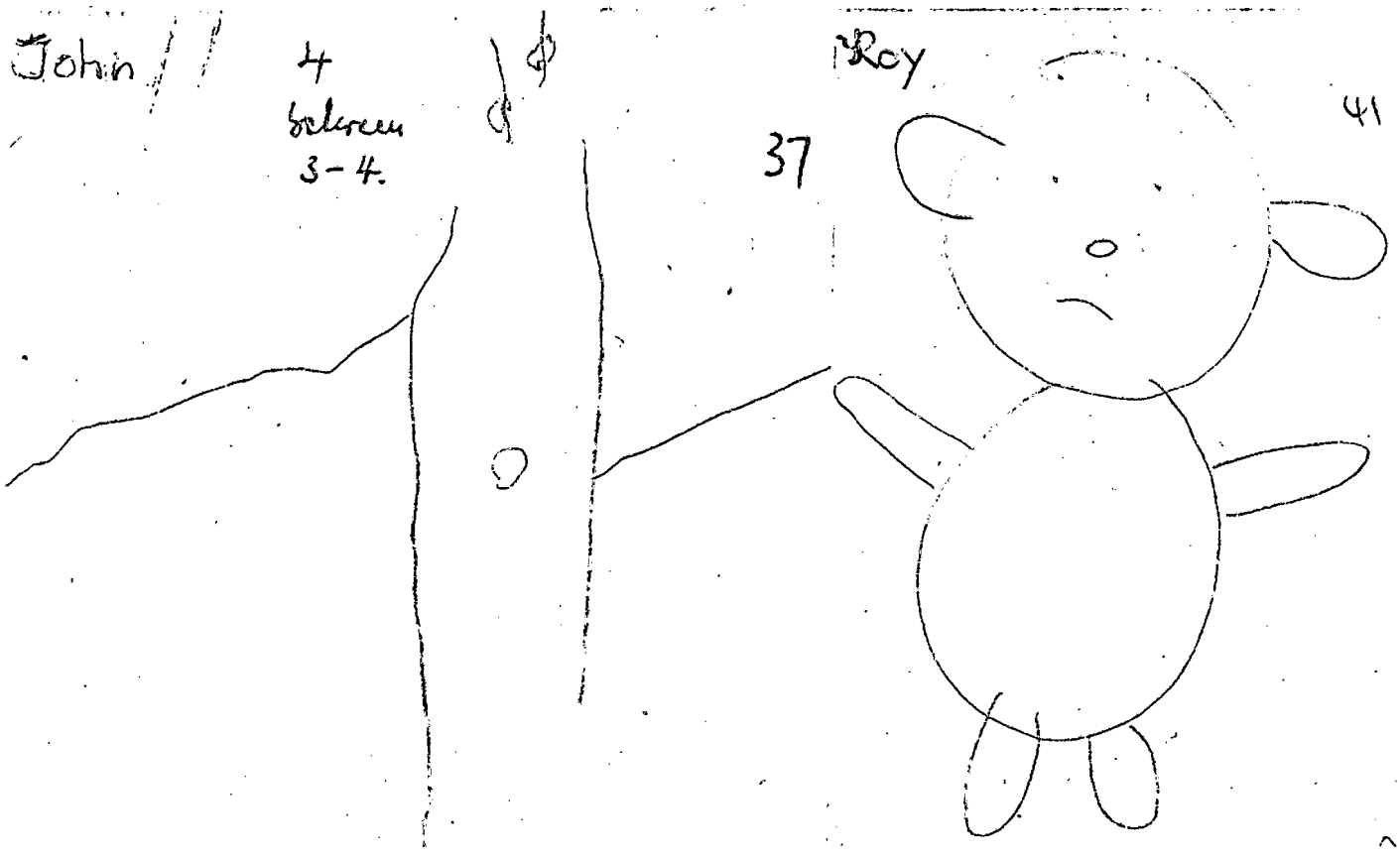
John

4
between
3-4.

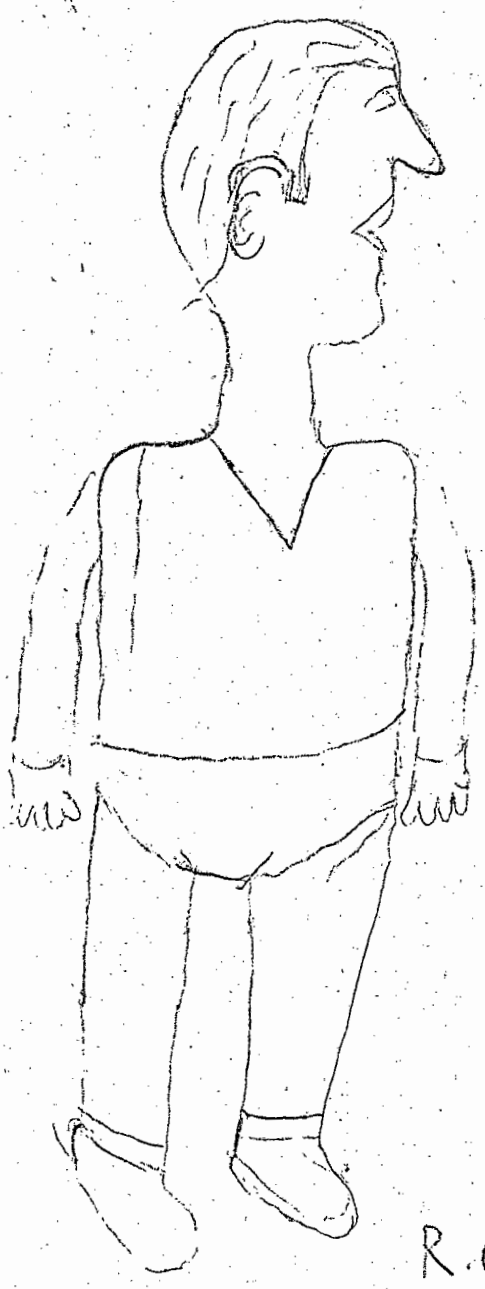
37

Roy

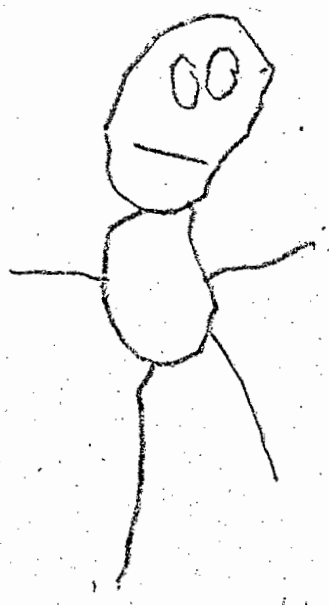
41



Group C



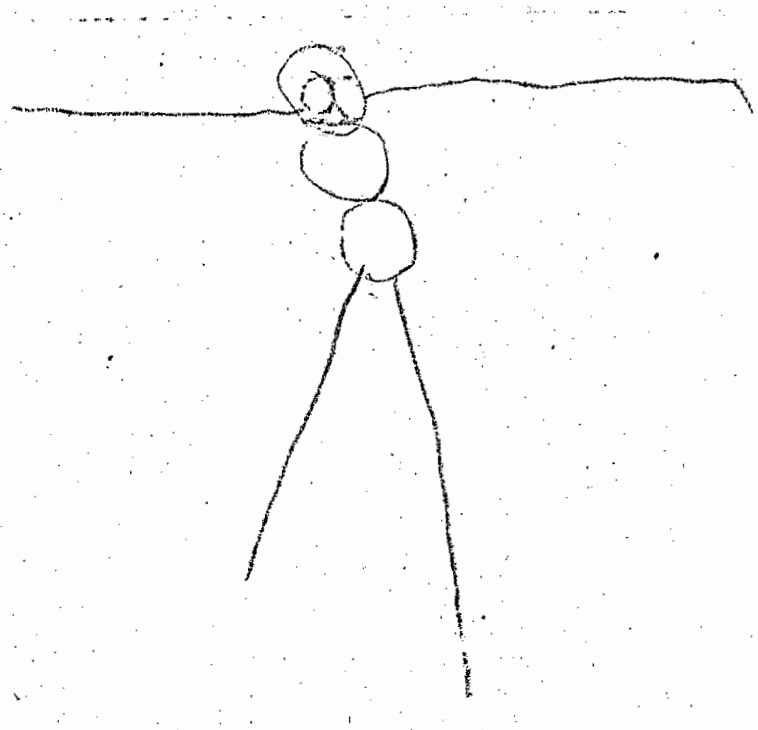
R.G.



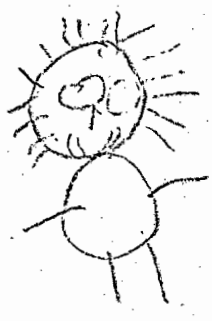
H.M.



L.R.

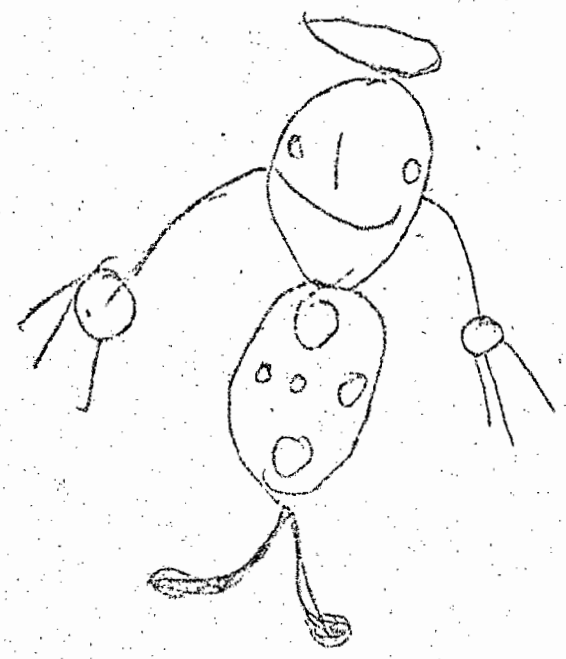


E.B.

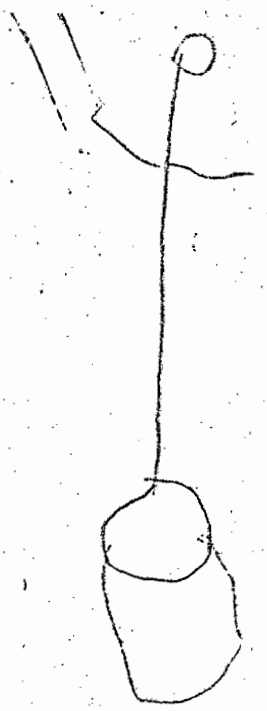


J.B.

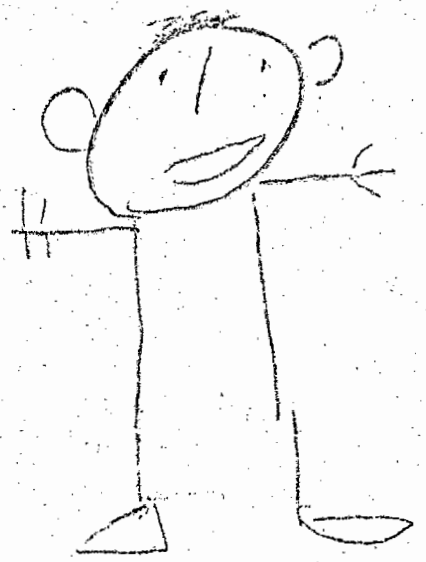
Group D



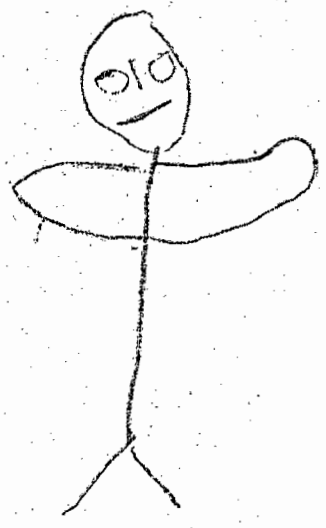
P.B.



D.M.



N.H.



A.G.



P.F.

Test 13 - Bender Visual Motor Gestalt Test (Bender 1938)
Purpose: This test was given in order to gain information about S's visuo-motor equilibrium, to obtain the maturition-level of performance and to establish signs of brain-injury and emotional disturbance.
Procedure: The test was given according to the procedure indicated by Koppitz (1964). The child was seated at a table and provided with two blank sheets of paper, a pencil and eraser, as suggested. The nine cards were presented in orderly sequence one after the other. Care was taken that sufficient rapport was established and that the children were well rested at the commencement of the test.
Scoring: Three scores were given as to:
1. General performance.
2. Occurrence of signs of brain-injury.
3. Occurrence of indicators of emotional disturbance.

All scores were obtained according to the scales suggested by Koppitz and elaborated from Bender's original indications.

General Performance:

In scoring the first set related to general performance, scores obtained were compared with the corresponding normal mean-score connected with the respective chronological age of each of S. Deviation from mean-score was then obtained. (See Table XXX).

As performance does not seem to change significantly after the age of 10.11 , scores obtained were related to the mean-score for children of the age between 10.6 and 10.11 in all those S older than 10.11 years.

Occurrence of signs of brain-injury:

In scoring the second test all those occurrences of signs of brain-injury were scored which have been suggested by Koppitz as significant (+) and highly significant (++) for brain-injury. Significant designates those signs which occur more often than not exclusively in the brain-injured group. Highly significant designates those which occur almost exclusively in the performance of brain-injured children.

The total number of scores was obtained for each S. (See Table XXXI)

Indicators of Emotional Disturbance:

In scoring the third test scores were obtained as to occurrence of indicators of emotional disturbance as suggested by Koppitz. Total number of scores was obtained for each S.

(See Table XXXII)

Occurrence of Indicators of Emotional Disturbance:

In scoring the performances of each of S are interpreted as a projective test indicating emotional disorders. Scoring was done according to the scale suggested by Koppitz.

For occurrence of indicators points were scored as to occurrence in the ten particular dimensions irrespective of the number of figures in which they occurred in the particular dimension.

Table XXX

General Performance

Group P

Subject	Chronological Age	Normal Mean Score corresponding to chronological Age	Performance Score	Deviation from normal mean score
Martin	17.5	1.5	9	- 7.5
Charles	20.0	1.5	8	- 6.5
Freddy	7.0	4.8	12	- 7.2
John	9.5	1.7	13	- 11.3
Roy	18.2	1.5	12	- 10.5

Average deviation: 8.6

Group C

E.B.	17.0	1.5	10	- 8.5
L.R.	14.10	1.5	6	- 4.5
J.B.	9.8	1.6	7	- 5.4
H.H.	7.9	4.7	15	- 10.3
R.G.	15.0	1.5	1	0.5

Average deviation: 5.6

Group D

P.B.	15.5	1.5	12	- 10.5
A.G.	11.5	1.5	9	- 7.5
N.H.	17.3	1.5	12	- 10.5
P.F.	14.0	1.5	9	- 7.5
D.M.	12.6	1.5	12	- 10.5

Average deviation: 9.3

Table XXXI

Occurrence of Indicators of Brain-injury

Subject:	1	2	3	4	5	6	7	8	9	10	11	Total	
Group P	Extra-or missing angles	Angles for curves	Straight line for curves	Disproportion of parts	Substitution of circles for dots	Rotation of design by 45°	Failure to integrate parts	Omission or addition of row of circles	Shape of design lost	Line for series of dots	Perseveration	significant	highly signif.
Martin	+++	+		+	+++				+		(++)(++)	9	2
Charles	++		(++)	+	++		++	(++)	+			8	2
John	++		(++)		+++	+	+	(++)	+			8	2
Freddy	++	+				+	+	(++)	+	+		7	1
Roy	+++	+		++				(++)	+		(++)	7	2
												39	9
Group C													
E.B.	++		(++)	++		(++) ++		(++)	+	(++)		6	4
L.R.	+			++			+					4	0
H.M.	+++	+		++		(++)(++)		(++)		(++)	(++)	6	5
J.B.	+	+		+		+	+		+			6	0
R.G.												0	0
												22	9
Group D													
P.B.	++	+		++	+++			(++)	+		(++)(++)	9	3
D.M.	++		(++)	+	++				+	(++)		6	2
A.G.	+++	+	(++)	+		++			+		(++)	8	2
P.F.	+		(++)				++		+		(++)	4	2
N.H.	+	+	+			+	+++		+		(++)(++)	8	2
												35	11

Table XXXII

Occurrence of Indicators of Emotional Disturbance

Subject:	Confused order	Wavy line	Dashed substituted for circles	Increasing size	Large size	Small size	Fine line	Overwork or reinforced lines	Second attempt at drawing figures	Expansion	Total
Group P											
Martin				1							1
Charles	1		1					1			3
John	1	1				1	1				4
Freddy	1		1		1				1		4
Roy	1	1			1					1	4
Group C											
E.B.				1					1		2
L.R.											0
A.M.	1		1								2
J.B.											0
R.G.											0
Group D											
P.B.											0
D.M.							1				1
A.G.											0
P.F.											0
N.H.											0

Interpretation:

1. The results obtained in the first set reveal poor performance in all S except one, and in all cases well below the standard.

According to the average of S's performances, Group P and D were inferior to the brain-injured group. These two groups showed the lowest level of maturation as to general performance as compared with the other two groups. The results do not seem to be significant enough to allow binding conclusions by comparing the groups.

2. The results of the second set reveal high incidence of the signs considering indicators of brain-injury in all groups. No binding conclusions as to difference between the groups could be found.

3. The results of the third set show a marked difference between Group P and the control groups. Whereas the control groups show few signs of occurrence of emotional disturbance (three in Group C and one in Group D) S of Group P scored a total of 16. In the light of the results of the first and second sets it must be suggested that S of Group suffer from severe disturbance of emotional adjustment additional to their poor visuo-motor equilibrium as compared with the controls. According to the implications of emotional indications suggested by Koppitz, S of Group P showed the following signs of disturbed emotional adjustment:

Martin	1. Low frustration tolerance and explosiveness.
Charles	1. Poor planning and organisation of material.
	2. Impulsivity and preoccupation with his own problems.
	3. Impulsiveness and aggressiveness.
John	1. Poor planning and organisation of material.
	2. Instability in motor co-ordination and in personality.
	3. Anxiety, withdrawal, constriction and timidity.
	4. Shyness and timidity.
Freddy	1. Poor planning and organisation of material.
	2. Impulsivity and preoccupation with his own problems.
	3. Acting out behaviour.
	4. Impulsivity and anxiety.
Roy	1. Poor planning and organisation of material.
	2. Instability in motor co-ordination and in personality.

3. Acting out behaviour.
4. Impulsiveness and acting out behaviour.

The data obtained signify disturbances of affectivity expressed in the organisation of sensori-motor activity in Group P, whereas the control groups seem to be well adjusted emotionally in spite of deficient visuo-motor co-ordination and signs of brain-injury.

(f) Summary.

As compared with the two control groups the performances of the subjects in Group P did not in general show differences which would justify any significant conclusions.

In the majority of tests much inter-group overlapping could be observed and in comparison with the two control groups Group P showed definitely inferior performance only in the following dimensions:

1.) Verbal interpretations of 2 pictures.

a) As compared with the performances of the control groups, Group P used significantly more one-word depiction of events than descriptions of the representative structure of those events as happenings in time.
b) Perseveration of verbal responses was significantly higher than in the control groups and pointing as support of verbalisation was more frequently employed.

2.) Imitation.

a) Group P showed definitely inferior behaviour in deferred imitation by repeating the gestures shown simultaneously in the form of primitive co-activity (Werner and Kaplen 1963)
b) In executing symbolic "empty" actions disintegration of means-end relationship during the ongoing action was significant for the behaviour of the subjects in Group P as compared with the control groups.

3.) Drawing a man test.

As compared with the control groups imperception of body-image was more striking from a qualitative point of view in all Subjects of Group P as compared with the control groups although average I.Q. did not show any significant difference between group D and P.

4.) Bender visual motor Gestalt test.

Although no significant differences in the level of general execution and the presence of signs of brain-injury could be found in the three groups, the performance of Group P was definitely inferior in the dimension of emotional adjustment to the task and showed a high incidence of indicators for emotional disturbance as compared with the control groups.

It must be concluded that the tests carried out did not clearly show up specific behaviour of children with post-encephalitic syndrome as compared with children suffering from cerebral palsy or primary deficits. This result perhaps is not altogether surprising as test-situations represent a fairly stable, set and limited form of investigation which do not demand the adaptability required for the changing situations of daily life especially in the dimension of interpersonal transactions. It must be suggested that deficits in the latter dimension, as a dimension of cognitive functioning, can be investigated more successfully and specifically by the method of observation which has been basically employed in the present study. It can be expected that disturbance of affectivity and emotional adjustment, due to instability of cognitive structuring do not appear in set and clearly defined test situations to the extent to which they become apparent in interpersonal transactions. This warns against the uncritical use of psychometric procedures and against the use of one or more quantitative scores in the form of mental age or I.Q. as a method of predictive behaviour in real life situations or as a guide in formulating educational or therapeutic treatment.

Chapter 4:

CONCLUSIONS

(A) The Post-encephalitic Syndrome in Childhood as Manifestation of Cognitive Regression.

1. Cognitive Regression of Sensori-motor Behaviour.

The interpretation of behaviour of 10 children and young people of varying ages, all having suffered from acute Encephalitis before the age of three, has brought to light patterns of behaviour which have been understood as compensating behaviour. In summary, the analysis showed that the variety of phenomena occurring in the behaviour of these children in varying degrees could be reduced to two fundamental prototypical forms of behaviour occurring in all cases on different developmental levels:

I. Autocentricity and especially autocentric circular reactions with incorporation of objects and generalised space into "body-space" and autocentric modes of perception.

II. Identification in social contexts with loss or disintegration of object-notion as referents of interpersonal transactions.

In the light of the discussions presented in the theoretical framework of this thesis, and by analysing the sensori-motor deficits shown in prototypical behaviour in children with post-encephalitic syndrome, it must be suggested that such compensatory behaviour is due to a deficiency of a stable sensori-motor equilibrium (Piaget), an essentially cognitive stage of early perceptual organisation. Sensori-motor equilibrium, in the sense in which this term is used by Piaget, structures and modifies affective-sensory-motor transactions of early infancy in three dimensions:

(a) the relation of the child's perception of his own body ("Eigenwelt").
(b) the child's relationship to objects as object-notion in generalised space ("Umwelt").
(c) the child's social or interpersonal relationships ("Mitwelt").

As the discussions presented in the theoretical framework

indicated, such modification of early behaviour in infancy appears simultaneously in the three dimensions mentioned as result of a gradual re-organisation, differentiation and re-integration of affectivity and early sensori-motor behaviour. Following the suggestions of selected authors, discussed in the framework of this thesis, this development, during the first year of life, results in the emergence of a stable cognitive structure of generalisation or objectification, which enables the child to rely, from then on, on such a structure of reference which guarantees sensori-motor stability as prerequisite for the development of representative and symbolic behaviour.

The behaviour of the children discussed in this study suggests forms of cognitive regression in as much as their behaviour no longer seemed to be mediated by such a structure of reference. The analysis further shows that objectification is deficient particularly and primarily in the child's relation to his own body by deficiency of schematisation or generalisation of body-perception as body-object notion. Since, however, the cognitive structure discussed must be conceptualised as a unity of functioning, such a deficit must be expected to show simultaneous deficiency in object-notion and interpersonal perception.

Autocentricity:

(a) On the level of sensori-motor activity the appearance and the particular "Gestalt" of autocentricity and autocentric circular reactions must be regarded as a form of compensating behaviour in the service of postural security due to deficiency of body-schematisation i.e. generalisation of early autocentric modes of body-perceptions and their inter-relation with allocentricity. (Schachtel and Steiner). Autocentric circular reactions, as described and discussed in the interpretations, show a number of typical characteristica:

I. These reactions occur in compulsive fashion and include movement of all parts of the body (limbs, trunk, head, eyes, mouth.). They are characterised by invariance, repetitiveness and rhythmicality affect-boundness and are not modifiable to any marked or sustained degree by the environment.

II. They seem to be accompanied by body-interior, interoceptive or autocentric perceptions related to movement, touch,

equilibrium and visceral body-interior functioning. Such perceptions do not seem to be generalised and are, therefore, unrelated to allocentricity (Schachtel). Visual regard and organisation and development of object-notion are absent or disintegrate when initially attempted.

III. These patterns impress by being in the service of postural security, but then do not allow the body-medium to become available for interpersonal transactions in intentional relationship typical of early infancy behaviour of "empathy" (Sullivan, 1947) and prerequisite for imitative behaviour (Piaget).

IV. Affectivity remains bound to autocentric perception and body-bound motricity and affective-intentional relationship to the human environment is, therefore, arrested or limited.

V. Self-other relationship is absent as the self becomes affectively identified with autocentric circular reactions as form of self-preservation (Goldstein).

VI. Autocentric circular reactions occurred when the children were left on their own, or in interpersonal relationships if accommodation to objects or the other person was forced. Such situations always intensified self-preservation and increased the strength of autocentric circular reactions. In social contexts such behaviour could be called "withdrawal" and usually appeared to be accompanied by anxiety, postural tenseness and complete loss of contact.

VII. Autocentric circular reactions appeared as forms of disintegration of attempted allocentricity, resulting in deterioration of actions upon objects (incorporation or disregard). They also occurred when attempted identification with the other person was interrupted by the other's diverted attention or change of intentionality.

VIII. Persistence of autocentricity always initiated complementary and renewed body-activity, constituting a closed circle of reactions, characteristic of the "closedness" of circularity which excludes the environment and which is, therefore, not open for modification of its schemata involved.

IX. Significantly, autocentric circular reactions showed different stages of closedness comparable to stages of

circular reactions in normal childhood development (Piaget). In some instances as, for instance, in Gordon's behaviour, circularity included head and eyes, preventing any form of allocentric perception; in other instances (Percy, Gerald and Eric) the children appeared compelled to observe their own movements.

K. Autocentric circular reactions impressed by being limited to a body-space which is not integrated into generalised space (Piaget) and autocentricity therefore results in deficiency of object-notion and of stability of allocentric perception. Autocentricity in its purest form could be found especially in the more handicapped children of Group A and the experiments carried out with the subjects of this group confirmed the presence of autocentric behaviour in those children.

Deficits of Object-notion:

In the light of the foregoing it was to be expected that deficit of body-schematising and persistence of autocentric modes of perception would result simultaneously in deficiency of object-notion in generalised space (Piaget), development of allocentricity (Schachtel) and the emergence or stability of "things of contemplation" (Werner and Kaplan).

Deficiency of object-notion, therefore, must be regarded as genetically related to deficiency of body-schema stability as structure of reference.

In summary the following typical characteristica could be observed:

In non-social contexts:

I. Objects in body-far space were ignored, visual regard was deficient and allocentric perception was employed only for those objects which were affect-related and related to the child's own body, for instance, blanket, soap, toothbrush, or related to the other person's intentional field (for instance musical instrument or pipe).

II. If in near body-space and being handled, allocentricity disintegrated and objects were incorporated into autocentric circular reactions or autocentric modes of perception.

III. Touch and even sight were employed in autocentric fashion and the exploratory function of those modalities indicating genetic shift from auto- to allocentricity was either not

established or unstable.

IV. Handling of objects disintegrated either towards incorporation or deterioration, or objects were thrown away or ignored.

Progressive accommodation was replaced by regressive autocentricity as the available schemata could not be modified, in all those cases where accommodation was forced by the other person.

V. Results of these observations were confirmed in the experiments conducted with Group A.

In social contexts:

I. Affective-perceptual relationships were established with objects as long as they formed part of the other persons intentional field. They thereby seemed to become "transitory objects" (Winnicott) but did not assume full independent object-status as "things of contemplation" which could be "shared" as referents.

II. Situations of "sharing", for instance in interpersonal play, disintegrated either in the form of the object becoming incorporated into autocentric circular behaviour, or through becoming part of the other person's intentionality.

(c) Deficits of Interpersonal Perception.

I. Identification, the form of interpersonal relationship which occurred most frequently, had to be initiated by the other person (O) and depended on O allowing the child (S) to take on O's intentionality.

II. S temporarily succeeded in "surrendering" to O's affective-intentional activities without simultaneous accommodation to the body-medium of O which would allow representative perception of act centre - body medium relationship.

III. Such forms of primary intentional relatedness, typical of early affiliations in infancy, succeeded only if O's intentionality remained available to S and did not become referential, that is related to S as explicit referent or to objects. Intentional relatedness and identification broke down as soon as O's intentionality was no longer available for identification.

IV. Successful temporary identification always resulted in

S's affective openness, decreased postural tension and interruption of autocentric circular reactions. Visual attention, allocentricity and activity affect (Schachtel) were fostered by identification. In the most severe cases (Jill and Gordon) such attempts at accommodation did not lead to imitation. In less disturbed cases early stages of imitation-behaviour (Piaget, 1962) were often accomplished but no accommodative imitation, which presupposes a schema of reference and differentiation of the child's own body-medium and the body-medium of others in generalised space (Piaget, 1962).

V. O's verbalisations frequently opened the possibility of identificational behaviour, which seems to show the importance of intentionality inherent in verbalisation as a genetically primary form of interpersonal relationship.

VI. S's possibility of employing identification as form of compensating behaviour always seemed to depend:

(a) On O's attitude,
(b) On the degree, to which S was involved in autocentric behaviour as form of self-preservation which arrests intentional relatedness.

VII. Interpersonal perception frequently disintegrated from identification towards autocentricity when S incorporated O's body to autocentric perception, for instance bringing the face near to O's face, closely inspecting parts of O's body, touching O or seeking any other form of near-body contact.

VIII. The observations further showed that S's body, by being "enclosed" in autocentricity, is not open to assimilation dependent on affective-intentional relatedness, constituting self-other unity typical of transactions in early infancy and providing a sensori-motor matrix (Werner and Kaplan, 1963) or imitation in normal development. Assimilatory schemata are body-bound and arrested in autocentricity to different degrees.

IX. Identificational behaviour with lack of simultaneous accommodation, activity affect or allocentricity towards the body-medium of O is employed in the service of seeking security in the other person and thus paralleled autocentricity in the service of self-preservation and postural security. O, therefore, appeared to function as "means" without reciprocity being possible because of the lack of stable ob-

jectification as notion of body-medium and a self which can be shared in generalised space.

In summary it must be suggested that in normal development the body-schema functions as objectification and stabilisation and results in:

(a) Generalisation of autocentric modes of perception which allows shift towards the emergence of stable allocentricity and a body-object in generalised space.
(b) Emergence of object-notion as related to a stable body-schema.
(c) Objectification of early affective-intentional relationships with others towards notion of the body of others as medium of intentionality and thereby representative perception and reciprocity.

Objectification, therefore, can be conceptualised as being essential for the transition of sensori-motor activity and intentional affective interpersonal transactions towards representative behaviour and self-other differentiation. According to the discussion on cognitive structuring and particularly according to the investigations of Piaget, it must be expected that the progressive development of representative behaviour towards "internalisation", body-image perception and thought depends on the stability of sensori-motor equilibrium or schematisation.

Representative behaviour at all stages of development seems to be characterised by availability of the body-object as medium of Ego-activity, constituting a self-regulatory system which includes speech and gains increasing autonomy by polarisation of medium-act-centre relationship (Heider and Michotte), that is by "internalisation" and accommodation of the external body-mediated behaviour to the assimilatory activity of the Ego understood as intentionality. Such development constitutes the notion of self as a representative self which can be shared with others through representative media of symbols, speech, gesture and action, which subordinate purely sensori-motor data.

2. Cognitive Regression as Disintegration of Representative Behaviour.

Disintegration of representative behaviour was found especially in the subjects of Group B. Lack of body-schema stability and of a sensori-motor equilibrium must be expected

to result in disintegration of representative behaviour in all dimensions and compensating behaviour which utilises those sensori-motor and affective patterns ob behaviour which precede the stage of objectification. Disintegration of representative behaviour notably in social contexts, as observed in the less handicapped children of Group B, showed, therefore, identificational behaviour and autocentricity as prototypical patterns of the post-encephalitic syndrome due to instability of body-schematising and generalisation. Disintegration could be observed and analysed in the following dimensions:

Body-Image:

I. Deficiency of polarisation of self-other relationship through objectification resulted in lack of body-image notion and its individualisation.

II. "Transfers" of action and speech of others and loss of perception of representative media characterised interpersonal transactions.

III. Representative behaviour deteriorated through lack of accommodation of the body-medium to Ego intentionality. Ego-activity was incorporated to the body-medium. This resulted in loss of self-identity in speech and action and deficiency of polarisation of representative activity and its results as objectified. Action and speech, therefore, frequently disintegrated to the level of self-assertion corresponding to self-preservation on the sensori-motor level and frequently disintegrated further towards pure autocentric circular reactions (see Roy, Percy, John, Eric, Peter).

IV. Disintegration of ongoing representative activity in action and speech resulted in dissociation of act-centre-body-medium relationship, and actions, therefore, became body-bound, non-referantial and accompanied by modes of autocentric perception.

V. In all these deficits body-object notion could not be maintained and the body ceased to be a medium of Ego-activity. Reference by others to the body-object as, for instance, if S were looked at, or watched or being addressed, resulted in typical behaviour of S running away, hiding, aggressiveness or withdrawal into autocentric circular activity as form of self-preservation or self-assertion.

VI. Body-boundaries, through lack of a stable body-image perception, frequently disintegrated in interpersonal transactions and this resulted in deficient polarisation of S's own body-image and the body-image of others, leading to compensatory behaviour of identification or replacement of S's own actions by the actions of others. Conflicts of intentionality through absence of a mediating structure and perception of representative and referential media resulted in identification or autocentric behaviour, aggression or avoidance.

VII. Imperception of body-image notion or deficient "internalisation" of representative behaviour resulted in deficiencies of self-experience of the child's own actions and its results in connection with others and simultaneously imperception of the view O had of S. Compensating behaviour appeared either as withdrawal or "self-assertion" irrespective of the other, or identification, eliminating confrontation. Such behaviour lacked the possibility of anticipation of the other's behaviour and approaches by O are therefore experienced as unexpected, unduly impinging, too "near" as it were, and therefore body-related.

Speech:

I. Deficient body-image notion resulted in lack of polarisation of action and speech. Verbalisation frequently disintegrated to the level of actions or even further towards pure autocentricity, completely excluding the other person, following a steady line of cognitive regression or disintegration.

II. External and internal speech were insufficiently polarised and external speech, therefore, frequently disintegrated towards repetitiveness, rhythmicality, slurring of pronouncia-tion and monotony, showing signs of autocentricity. Speech, therefore, also appeared to be ill-addressed and internal speech became frequently externalised before having reached full internalisation towards thought. This form of regression seemed to constitute a permanent conflict between internal and external speech with consequent affective insecurity in addressor-addressée relationships.

III. The referential character of speech and gesture disintegrated by becoming part of autocentric circular reactions. Whilst its referential character could be more easily main-

tained in non-social contexts as, for instance, in set test situations, it disintegrated rapidly if referential behaviour was expected to be shared in social contexts.

Patterns of speech deteriorating towards autocentricity were frequently replaced by identification behaviour as to the speech of others:

I. Speech of others became incorporated into available motor speech patterns as form of motor identification in which the significative value of the word was lost and only its impelling character realised.

II. In other forms of identification, S became identified or attempted identification with the other person's centre of intentionality of speech and simultaneous attempts at accommodation (by looking at the facial expression of the other, at his mouth-movements). In such behaviour body-notion as related to intentionality seemed to be lost according to the degree of success at accommodation and integration of body-medium to centre of intentionality. Accommodative imitation of speech was strikingly impaired (especially in Martin and Roy).

Speech in no case gained autonomy as referential medium, and progressive internalisation towards thought was thereby impaired.

Imitation:

Normal development of accommodative imitation leading from sensori-motor transactions towards representative behaviour through deferred imitation and internalisation (Piaget) was deficient, and compensatory behaviour resulted in assimilation of the other's activity to available motor schemata which did not become modified (transfer), or affective intentional identification in which the other took on the rôle of S if no schemata of assimilation were available. Attempts at accommodative imitation were only temporarily maintained and disintegrated through deficient body-medium polarisation and thereby self-other differentiation. Different stages of disintegration could be observed as, for instance, imitation of the other's gesture or speech by similar actions or verbalisations signifying lack of dissociation of assimilation and accommodation typical of early stages of imitative behaviour prior to the establishment of a stable sensori-motor equilibrium (Piaget, 1962).

Play:

Play activity disintegrated to typical patterns of autocentric circular reactions in as much as object-body-medium polarisation could not be maintained and play-objects became incorporated into body-space (or play-objects were clung to or taken to bed by S).

Interpersonal object-play could be maintained only if the other person planned and initiated such activity. In such situations identification facilitated object-notion as transitory objects (Winnicott) and play disintegrated as soon as the partner's intentionality was no longer directed towards S and the play-object, or was diverted even only implicitly to something else, thus preventing attentive-intentional identification.

Affectivity:

In the behaviour patterns of all children affectivity remained bound to either autocentricity or intentional-affective identification. Objects were incorporated to affective-motor patterns or experienced as part of the other person's affective-intentional field and therefore did not gain sufficient independence as referents in shared referential behaviour. Lack of objectification results in the persistence of affectivity typical of early communication or its reappearance in forms of regressive disintegration of representative behaviour. These observations suggest the genetic importance of objectification for the subordination of affectivity to cognitive behaviour.

3. Cognitive Regression due to Deficiency or Instability of Generalisation: A Summary.

From a developmental point of view Encephalitis, during the first three years of life, can be understood as a disturbance of a first cognitive structure of generalisation and differentiation and organisation of perceptual modalities. The analysis of the behaviour of the children observed seems to reveal that such a process of generalisation is of vital importance in the three dimensions of "Eigenwelt", "Umwelt" and "Mitwelt".

In the normal developmental process, generalisation or attainment of a stable sensori-motor equilibrium (Piaget) is suggested to result in:

(a) Generalisation of autocentric modes of perception leading to the "generalised" experienced of me-ness.
(b) Generalisation and stabilisation of allocentricity and accommodation towards the emergence of object-notion and a generalised stable spatial world.
(c) Generalisation of the other Ego or of heteroceptive perception manifest in the notion of the other's body in space as medium of Ego-activity.

In the children with post-encephalitic syndrome, the following developmental disturbance occur:

I. Since generalisation must be assumed to represent the first cognitive structuring essential for progress towards representative behaviour, its disturbance could be expected to result in disturbed sensori-motor equilibrium and consequently disturbed representative behaviour.

II. Disintegration of a stable sensori-motor equilibrium would result in deficiency of modification of assimilatory schemata on the one hand (identification) and arrest of such schemata (autocentricity) on the other hand. (Deficiency of a mobile equilibrium, Piaget).

Accommodation, by no longer being generalised, becomes bound to autocentric, not yet generalised, modes of perception, motivating motor-activity not related to generalised space. Motor schemata thus appear stereotyped, not modifiable and closed towards the environment (autocentricity).

Assimilatory schemata retain affective-intentional character assimilating the other Ego's activity by not being modified through activity-affect and accomodation, resulting in affective or motor-identification if familiar motor schemata are available (identification).

III. Attempts at accommodation do not lead to modification but disintegrate towards autocentric incorporation or affective identification. Objects, therefore, not being organised in general or representative space, do not achieve independence and referent-character and are, therefore, dealt with in autocentric fashion or by identificational behaviour, becoming part of the other Ego's intentional affective field.

IV. Rigidity of behaviour (autocentricity) and stability of behaviour (identification) remain unrelated by not being mediated through generalised space.

V. The children observed in this study, therefore, remained bound to body-space, unmediated by a mediating structure, or employed identificational behaviour with the other Ego understood as intentionality. Both forms of behaviour showed strong affect-boundness as embeddedness-affects (Schachtel) where employed in interpersonal relationships without activity affects being available ("surrender") and activity-affect being bound to autocentricity and movement patterns (self-preservation).

VI. Body-medium notion which could be shared disintegrated in the process of interpersonal transactions to non-mediated body-bound patterns or towards replacement of the child's own activity by actions of others.

VII. In normal development generalisation seemed to emerge as an important stage of Ego-development. Objectification and the creation of a stable spatial universe seems to be essential for motivation of Ego-activity mediated by a stable structure of generalisation. Notion of self emerges by reference of Ego-activity to a mediating structure through which the body assumes mediating quality. Assimilatory activity becomes subordinated to Ego-activity which in turn is related to a stable schema, created by generalised accommodation. Disintegration of body-boundary and "perceptual defence" (Bruner, 1963) limit motivation and self-experience in perceptual and motor transactions (Cumming, 1962), as observed in children with post-encephalitic syndrome.

VIII. Mediated Ego-activity in post-encephalitic syndrome disintegrates in the process of transactions because of the lack of a stable schema of reference; primitive postural behaviour appears in autocentricity which can no longer be controlled by Ego-activity, reducing the efficiency of intentions. At the same time self-notion as being shared disintegrates with the disintegration of body-mediated Ego-activity. Alternatively the other Ego comes to replace the child's own Ego-activity eliminating reciprocal self-other relationship through shared representative behaviour.

IX. All stages of deterioration of Ego-controlled and initiated representative behaviour could be observed in the children investigated, apparent in different degrees of autocentricity or identificational behaviour.

X. Body-schema can be conceptualised as part of the schema of generalisation, establishing the body as medium of Ego-activity. Body-image notion seems to depend genetically on the establishment of body-schematising and develops towards explicitness in the process of representative behaviour in action and language. Body-image notion deteriorates to the extent autocentricity replaces Ego-initiated activity due to instability of generalisation.

XI. Generalisation as cognitive structure is essential for the polarisation of action and speech. Lack of schematisation and objectification of the body-object diminishes or obliterates its referential character and results in de-differentiation of the child's own speech and the speech of others. Speech, therefore, seems to lose, foremost, its mediating quality and therefore participates in processes of disintegration of "Gestalt" by not being sufficiently polarised from action and sensori-motor activity in general. In normal development body-objectification through body-schema facilitates Ego-activity in speech and dissociation from action and consequently increasing autonomy and relationship to a stable object-notion. Alternately, it facilitates the perception of the mediating character of the other's speech as differentiated from centre of activity (Ego) and equally differentiated from the referent. In disintegration of speech behaviour all polarisations necessary for symbol-development seem to be deficient (Werner and Kaplan). All stages of such de-differentiations could be observed in the children of this study, varying in degree and dependent on degree of objectification the child was able to attain <u>temporarily.</u>

XII. Insecurity of representative transactions in communication, accompanied by affective instability can be understood as related to the constant attempts at objectification which, through lack of a stable schema of generalisation, did not provide the necessary <u>cognitive security</u> which allows development and especially eventual equilibirum of representative behaviour and thought (Piaget). Disintegration of behaviour, therefore, always resulted in forms of motor-affective behaviour, which is genetically prior to objectification.

XIII. Objectification or generalisation, therefore, can be understood as an essential structure of metamorphosis or transformation of early affiliations to representative behaviour and thereby presents itself as an eminently cognitive

structure which can also be conceptualised as "cognitive defence or control" (Klein 1958, Gardner 1959, Hartmann 1951).

(B) Therapeutic Attitudes.

The method of participant observation employed in this thesis brought to light attitudes and behaviour of the other person (O) which seemed to facilitate communication. These attitudes can be therapeutic in as much as they could help S towards more stable responses, affective control and Ego-involvement by facilitating cognitive structuring even if only temporarily. According to the observations in social contexts it can be assumed that such attitudes foster attempts at accommodation which, if repeatedly successful, can gain a relative stability and permanency. Deficits of an autonomous cognitive structure can be replaced by relative stability and reliability of communication, utilising the stability of such attitudes and the expectancies connected with them. Inadequate attitudes resulted in deterioration of S's behaviour in the form of a "crisis" (Tyhurst 1958) revealed in increased auto-centricity and in S's no longer employing affective-intentional behaviour towards O. Therapeutic attitudes can arise through O's adequate interpretation of S's position in and S's expectancies of the environment and aim at increased self-other differentiation and thereby objectification. In the following, some of these attitudes will be described which emerged as essential in the course of participant observation.

Co-orientation:

Co-orientation in social contexts requires co-ordination of each person's co-ordination both to the other person and to the object of communication (Newcomb 1953). As S's with post-encephalitic syndrome show severe deficits in such co-orientation, situations of "sharing" must be introduced by O by initially allowing S identification with O and by introducing objects which can be looked at and handled together. In interpersonal object-play such arrangements foster reciprocity and object-medium notion, and can lead to temporary objectification, both of the object and of O. Situations of "sharing" (Werner and Kaplan) are, to begin with, only successful through use of objects which are familiar and affect-related to S. Incorporation of objects can be prevented if

the intentional-affective link of S to O can be maintained, giving rise to attempts at accommodation and modification of assimilatory schemata with consequent subordination of the object as a "thing of contemplation." "Sharing"-behaviour as co-orientation seems to facilitate progress towards referential behaviour of pointing and naming. Co-orientation in communication by speech requires an attitude of O which fosters act-centre-medium polarisation by stressing the significative character of the word and withdrawing its impelling motor-character. Simultaneously, objects of reference are brought into focus which are either frequently handled by S or which S has been able to see being handled or used by O. Even temporarily established co-orientation seems to foster motivation of communication.

Confirming Attitude: (Laing 1961)

Confirming attitudes of O are essentially related to the results of S's actions and verbalisations. As self-realisation is normally experienced through polarisation of the action itself and its results and appears to be deficient in the children discussed in this thesis, O, by employing a confirming attitude, fosters objectification of results by approval, interest, by referring verbally to them or making S aware of them. Confirming behaviour is essential for all those activities of S which he can perform with a relative degree of success and such an attitude engenders motivation and repetition of confirmed actions. Through confirming attitudes and behaviour, O's personality can enter into focus for S and expectancy and anticipation of O's behaviour, essential in communication, can be fostered. Disapproval becomes acceptable for O if confirming attitudes have been previously available.

Complementing Attitudes: (Laing 1961)

Complementing attitudes are based on the understanding of S's need for identificational behaviour and self-notion with the help of the other. Such behaviour frequently can prevent deterioration or crisis in communication if O succeeds in complementing by his own activity activities of S in the process of disintegration. For instance by continuing to draw or write for S when his own activity disintegrates, by complementing play-activities initiated by S and being ill-structured, or by complementing semi-gestures or frag-

mentary and ill-structured verbalisations. Complementing behaviour, in order to be successful, presupposes inference as to S's intentions for which O becomes a mediator. Frequently such complementing behaviour averts a crisis or withdrawal and, having been established, often results in S's continuing or completing his task or action on his own.

Adequacy:

Adequate behaviour requires assessment of the stage of S's sensori-motor and representative abilities. Adequacy in communication is closely linked to S's possibility of "matching" or modifying of his assimilatory schemata through accommodation. Adequacy contains the notion that O's behaviour towards S is guided by the attempt to lead S towards increasing adjustment by initially utilising those forms of cognitive behaviour available to S.

Weaning:

Weaning refers to attitudes of O in which identificational behaviour of S is initially established and characterised by exclusiveness of referents, be it objects or other people. Weaning requires initial acceptance of S's identifications by O but progresses towards inclusion of others into the initial exclusiveness (for instance in interpersonal play another person is included which requires generalising differentiation of initially affective intentional relatedness towards the play-object as well as to the other person and O). Such attempts frequently encounter withdrawal or apparent jealousy and can result in crisis with deterioration of behaviour and increased autocentricity. In turn, such withdrawals can result in O's either withdrawal or resuming exclusiveness of relationship. Once these patterns can be understood by O, attempts at weaning can be resumed until S proceeds to form affective identificational relationships with others and thereby widens his field of communication and relative adjustment to a variety of self-other relationships.

Reciprocity:

As the analyses have shown, self-other orientation is nearly always deficient since S cannot sufficiently anticipate responses or actions of O and thereby does not develop the notion of the "orientee" being a potential "orienter" (Newcomb,

1953). Furthermore, the use of symbols being shared as common to S and O is deficient and therefore asks of O attitudes which take into account such deficiencies. Referential behaviour towards S should be guided and intentions well structured as to their medium of expression. Vagueness of expression leads to insecurity in S, self-assertion and predominance of the media in action and language frequently leads to motor-identification, withdrawal or aggressions as forms of affective defence. Sudden confrontation should be avoided and the use of objects at hand as media of communication facilitates adjustment on the part of S (see sharing-behaviour). Emotional involvement tends to accentuate the media of expression and prevents identificational behaviour and thereby the security fundamental for any form of reciprocity.

The spoken word seems to be essential as tool of referential behaviour from O towards S and should initiate or accompany all forms of approach towards S.

Since reciprocity is absent or diminished in S's autocentric circular reactions, all direct approach towards such behaviour tend to increase self-preservation and autocentricity. The observations showed with sufficient clarity that the spoken word must be regarded as the only form of contact which allows S to give up autocentricity and to employ identificational behaviour patterns which initiate renewed "openness".

Integration:

As S has difficulties in experiencing the structure and stability of the environment, outer arrangements as for instance the structure and repetition of daily events, have to be well established. S frequently prefers to participate in organised group-activities or to be a member of a group in which S is not continuously confronted with explicit self-other encounters. Being placed eventually into a group allows S to take on a variety of rôles, largely of his own choice, which allows for a degree of self-realisation in the shelter of identification with the group and its organised activity. Integration to a group can be achieved in the process of weaning and signifies an essential step of S's social adjustment.

It must be suggested that therapeutic attitudes in communication are necessary prerequisites in all forms of more specific remedial approaches as play-and-speech-therapy,

games and remedial education. Furthermore, these attitudes might provide clues for the creation of an adequate social setting for the children under consideration.

(C) Clinical Considerations.

(1) Diagnosis and Differential Diagnosis:

The results of observation, phenomenal analysis and interpretation summarised in the conclusions of this chapter can be suggested to provide a phenomenology of behaviour of children who have suffered from Encephalitis in early infancy.

Prototypical behaviour patterns described as autocentricity and affective identification could be found in all children, irrespective of age, degree of adjustment or severity of disturbance. As the diagnosis of Encephalitis can often not be made at the time of the acute illness and is frequently missed in subacute forms of Encephalitis in early infancy, it can be suggested that the diagnosis can be made in retrospect on phenomenal grounds by analysis of behaviour in psychological terms attempted in the conclusions of this thesis. In respect to differential diagnosis, a number of conditions of a typical development in early infancy have to be considered which show similar disorganisation of sensori-motor equilibrium and emotional or affective disturbance in social relationships:

Spitz (1945, 1960), Goldfarb (1945), Bender (1950), Dennis (1938) and others have described behaviour patterns of children having suffered affective deprivation and lack of stimulation in early infancy. These patterns show striking similarity to post-encephalitic behaviour (Kanner 1950). The history of these children, however, and their response when an adequate affective milieu and sufficient sensori-motor stimulation are provided will allow differentiation from the organic post-encephalitic syndrome.

Sensori-motor and affective disturbance resembling post-encephalitic syndrome have been described and diagnosed hitherto as "minimal cerebral dysfunction" or "minimal brain damage" (Bradley, 1957, Knobloch 1959, Paine 1962). In a summary of this syndrome, Michell (1963) has listed the following patterns of disorganised behaviour in so-called "minimal brain damage syndrome":

(a) Hyperkinesis: on the move, unable to sit still; fingering, touching and mouthing objects; impulsive, with poorly controlled movements and unorganised, poorly integrated play patterns; behaviour 'difficult to tolerate'.

(b) Short attention span, distractible; inability to exclude irrelevant sensory input, school learning difficulties; perceptual dysfunction.

(c) Lability of mood, frustration threshold lowered; easily moving from tears to laughter, outbursts of rage and destructiveness, attention-seeking; too easy 'mirror' identifications.

(d) Antisocial behaviour; lying, stealing, truanting, sex offences, cruelty.

(e) Varying intellectual deficit; tasks requiring abstract thought difficult, more concrete problems may be easier, perseveration.

(f) Attacks of extreme anxiety often with panic, catastrophic reactions: may be accompanied by increase in the CNS deficit (Stone 1960); also ritualistic obsessive behaviour to avoid anxiety.

It must be doubted whether the term "minimal" designating an anatomical criterion is adequate for the description of a syndrome which impresses, like the post-encephalitic syndrome, by the severity of sensori-motor disorganisation and the difficulties of these children in forming and sustaining stable social relationship.

MacKeith (1963) and others have suggested that the diagnosis should be made on phenomenal grounds by analysis of the psychological behaviour of these children. Such procedure might provide clues as to terminology as well as to adequate therapeutic and educational attitudes and environmental arrangements and routine (Michell 1963 , Wigglesworth 1963).

Differentiation of the syndrome described in this thesis from autistic and schizophrenic developments in early childhood seems to be most important (Bender 1954, Bosch 1962, Bruch 1959, van Krevelen 1962). Such attempts have been made recently, notably by a working party in Britain which has published Reports on their findings in children with "Schizophrenic Syndrome in Childhood". (Creak 1961, 1964). This group has arrived at nine points as preliminary criteria for the recognition of the child with Schizophrenic Syndrome, using

psychological terms, avoiding anatomical and causal considerations. Although some behaviour patterns indicated in the nine points are found among children with schizophrenic syndrome without organic features, schizophrenic syndrome with organic features as well as organic features without schizophrenic syndrome, they present a valuable phenomenal approach to the psychological dimensions related to a typical childhood development.

The investigations of this thesis suggest that children with post-encephalitic syndrome show patterns of behaviour similar to those indicated in the nine points of criteria suggesting schizophrenic syndrome in childhood. In the following I will attempt to discuss post-encephalitic behaviour patterns in comparison with the patterns suggested for "schizophrenic syndrome" in childhood. It will be the aim of this comparison to suggest criteria for the differentiation of a schizophrenic disorder in childhood, the genesis of which is not of necessity organic, and post-encephalitic disorder caused by organic disturbance of central-nervous functioning. The following nine points have been suggested as indicating schizophrenic syndrome in childhood (Creak 1961, 1964).

1. Gross and sustained impairment of emotional relationships with people. This includes the more usual aloofness and empty clinging (so-called symbiosis); also abnormal behaviour towards other people as persons, such as using them, or parts of them, impersonally. Difficulty in mixing and playing with other children is often outstanding and long-lasting.

2. Apparent unawareness of his own personal identity to a degree inappropriate to his age. This may be seen in abnormal behaviour towards himself, such as posturing or exploration and scrutiny of parts of his body. Repeated self-directed aggression, sometimes resulting in actual damage, may be another aspect of his lack of integration (see also Point 5), as also the confusion of personal pronouns (see Point 7).

3. Pathological preoccupation with particular objects or certain characteristics of them, without regard to their accepted functions.

4. Sustained resistance to change in the environment and a striving to maintain or restore sameness. In some instances behaviour appears to aim at producing a state of perceptual

monotony.

5. Abnormal perceptual experience (in the absence of discernible organic abnormality), implied by excessive, diminished, or unpredictable response to sensori-stimuli - for example, visual and auditory evidence (see also Points 2 and 4), or insensitivity to pain or temperature.

6. Acute, excessive and seemingly illogical anxiety. This is a frequent phenomenon and tends to be precipated by change, whether in material environment or in routine, as well as by temporary interruption of a symbiotic attachment to persons or things (compare Points 3 and 4, and also 1 and 2). Apparently commonplace phenomena or objects seem to become invested with terrifying qualities. On the other hand, an appropriate sense of fear in the face of real danger may be lacking.

7. Speech may have been lost, or never acquired, or may have failed to develop beyond a level appropriate to an earlier stage. There may be confusion of personal pronouns (see Point 2), echolalia or other mannerisms of use and diction. Though words or phrases may be uttered they may convey no sense of ordinary communication.

8. Distortion in motility patterns - e.g. (a) excess as in hyperkinesis; (b) immobility as in katatonia; (c) bizarre postures or ritualistic mannerisms, such as rocking and spinning (themselves or objects).

9. A background of serious retardation in which islets of normal, near normal or exceptional intellectual function or skill may appear.

It will be seen that from a purely phenomenal point of view the majority of points is relevant to post-encephalitic behaviour disorder. Although these similarities exist, closer analysis, as attempted in this thesis, seems to show marked differences with regard to the children's affective involvement, the direction and dynamics of compensating behaviour patterns and the form and genesis of perceptual and motor behaviour which is suggested to be specific for cognitive deficits through deficiency of organic functioning.

Point 1: The impairment of interpersonal relationships in post-encephalitic syndrome impresses as a secondary compensating phenomenon due to cognitive regression and deficit of generalisation and interpersonal perception. Emotional-

affective relationships, in contrast to schizophrenic syndrome, are consistently attempted on the level of identification and do not seem to be primarily deficient. Difficulties in mixing and playing with other children are not a genuine, outstanding and long-lasting phenomenon. The post-encephalitic child attempts affective communication and disintegration of such attempts towards autocentricity is the most outstanding pattern. Long-lasting "withdrawnness", as a general and leading condition of children with schizophrenic syndrome, is not in the foreground of post-encephalitic behaviour. Instead, withdrawal occurs as a result of breakdown of attempted social relationships through cognitive disintegration.

Point 2: Lack of personal identity seems to be definitely related to deficiency of body-schema-formation or body-image perception. Analysis of this dimension can be suggested to provide further differential-diagnostic clues.

Point 3: Pathological preoccupation with particular objects without regard to their accepted functions is part of the behaviour of incorporation as form of autocentricity in post-encephalitic children. The perceptual aspect (perceptual "fixation" on objects and identification) does not appear to be dominant. More often the perceptual aspect is negated and objects lose their accepted function by being handled autocentrically in sight, touch or movement (incorporation), thus becoming part of body-space and not being perceived allocentrically and "shared" in a generalised space.

Point 4: Resistance to change in the environment is due to lack of generalisation of space and consequent freedom of intentionality. Change of the material environment seems to be less important than change of affiliation to a particular person. Striving for sameness seems to be related to the maintaining of stereotype motor patterns and less to the maintaining of the particular spatiality of an environment set-up.

Point 5: As abnormal perceptual experience in post-encephalitic children is due to the persistence of autocentric modes of perception or breakdown of attempted allocentricity, these experiences occur predominantly in face of new sensory material if it cannot be assimilated to existing schemata. Interoceptive modes of perception of body-interior are predominant. Withdrawal (in social contexts) and avoidance (in non-social contexts) are observed particularly to visual

stimuli whereas auditory stimulation, particularly through the spoken word, nearly always results in affective openness, attention and motor or verbal responses which is not the case in childhood schizophrenia.

Point 6: Anxiety states, frequently observed also in post-encephalitic syndrome, are due to breakdown of attempted affective identification in social contexts. Object-related anxiety-states are seldom illogical and can nearly always be understood as a result of the child's inability to utilise compensating behaviour (autocentricity or identification) or to progress towards accommodation.

Point 7: Confusion of personal pronouns in post-encephalitic syndrome is part of echolalia and motor identification with the verbalisation of others. Spontaneous phrases, words, and sentences are nearly always forms of affective communication although insufficiently structured and conceptualised. They show clear affective direction towards the other person although referent-referential medium relationship is deficient. The action character of speech impresses as being different from the non-affective "objectivity" of phrasing in children with schizophrenic syndrome.

Point 8: Disturbance of motility patterns show a striking similarity to those observed in schizophrenic syndrome. In the post-encephalitic child such patterns are nearly always employed in the service of postural security and "self-preservation", and closely related to autocentric interoceptive modes of perception. (Lack of body-schema formation). Such patterns observed in children with schizophrenic syndrome may be assumed to have a different genesis in as much as they might possibly be primary and not compensating symptoms, due to organic deficiency of schematisation or generalisation.

Point 9: The present thesis does not seem to provide sufficient clues as a contribution to this point. It can, however, be expected that deficiency of representative behaviour results in disturbance of general intellectual functioning of abstract thought and its application. Outstanding skills and exceptional intellectual functions can, therefore, not be expected amongst children with post-encephalitic syndrome as they can be in schizophrenic children.

Although children with post-encephalitic syndrome also show deficiencies of differentiation of "Eigenwelt" and "Mitwelt", the basic disturbance appears to be related to a genetically organic cognitive deficit of objectification or generalisation through which disturbances of affective relationships to the human environment appear as secondary phenomena of cognitive regression and compensating behaviour. Behaviour of these children is primarily characterised by perceptual autocentricity with lack of motor patterning and notion of a generalised spatial universe due to deficiency of body-schema formation as part of an organic deficit. From a point of view of terminology, the term "autocentric syndrome in childhood" or "motor autism in childhood" can be suggested. Analysis and differentiation of primary deficits and compensating behaviour in a typical childhood development in terms of developmental psychology is suggested to provide essential clues for differential diagnosis and subsequent therapeutic attitudes and educational programmes.

(2) Relevance of Age of Occurrence of Encephalitis.

According to the results obtained in this thesis the age at which Encephalitis occurs can be assumed to influence forms of compensating behaviour. As Piaget has shown, developing representative behaviour relies to a great extent on the achievement of sensori-motor organisation during the first year of life and representative behaviour gains relative autonomy only during the later stages of "concrete operations" and symbolic activity extending from about two years to the ages of 11 or 12. Once autonomy has been achieved as a "self-regulatory system" (Luria) towards generalised intellectual behaviour, deficiency of a schematising and general structure can be assumed to have a less adverse effect on the development of representative behaviour, its stability and progress. It must, however, be expected that deficits will show foremost in dynamic situations of communication through lack of cognitive sensori-motor structuring and stability resulting in affective insecurity, whereas behaviour in non-social contexts might be less affected. Double-adaptation towards objects as well as the other person can be assumed to result in conflicting situations and elimination of interpersonal relationship. Quantitative measurement of intelligent behaviour might be relatively unimpaired.

These assumptions seem to be in accordance with the findings of other authors.

(3) Generalisation and the C.N.S.

In view of the generally accepted fact that Encephalitis results in an organic disturbance of functioning of the white matter of the brain (Ford 1952) the relationship of the developmental stage of generalisation or schematising during the first year of life to the development of nervous functioning will be briefly discussed. A shift of function of the C.N.S. seems to parallel the transition of early sensori-motor transactions towards the emergence of intelligent and cognitive behaviour in the sense of organisation, integration and objectification (Asch 1936, Bayley 1943, Richards and Nelson 1938). Nacht (1952) and Merleau-Ponty (1964) have suggested that objectification as a genetic stage of development might be connected with the process of myelinisation of interconnecting fibres possibly connected with schematisation and differentiation and re-integration of sense-modalities such as autocentric and allocentric modes of perception. Following the results of this study, deficiency of structuring and generalisation resulted in de-differentiation of sense-modalities, regression on a diffuse synaesthetic level and disturbances in generalisation of posture and "vital sensations" (Werner 1965). Quoting the investigations of Sherrington and Magnus on postural behaviour and of Parsons as to focal centres of primitive sensory impulses, Werner has indicated that the mid-brain and thalamic region might be possibly related to autocentric modes of perception ("vital sensations").

It can be suggested, in following the notion of sensori-motor development towards a stable equilibrium, that in the course of normal development the plasticity of the central nervous system becomes structured and modified towards a stability of functioning, resulting in an autonomous central organisation (Hebb 1964). Such organisation can be conceptualised as a structure of reference providing stability of inter-sensory relationships, resulting in a stable concept or generalisation of space and time-relation (Campbell 1954, Cohen and Rochlin 1938, 39).

It can be further assumed that disturbance of the function of such a structure through Encephalitis results in a deficiency of generalisation and that the degree of such de-

ficiency depends on the severity of the inflammatory destructive processes. Following the concept of development of such an autonomous organisation, such a structure is not given at the beginning of life but accommodative activity and increasing adaptation to the environment seems to be instrumental in the organisation of such a structure. These functions can be conceptualised as creating a schema of generalised accommodation and thereby modification of earlier C.N.S.-functioning, the "intrinsic organisation of cortical activity" (Hebb 1964), varied by increasing influence of the environment through accommodation and its generalisation.

It will be noted that these considerations are of hypothetical nature but may nevertheless provide suggestions as to the close understanding of the link between sensorimotor development and maturation of the C.N.S. As suggested earlier on, schematisation and the emergence of a stable space-concept is of importance for Ego-development and it can be assumed that the relative functional equilibrium of accommodation and assimilation (Piaget), of auto- and allocentricity (Schachtel) and the differentiation of early affective-intentional interpersonal relationships culminate in a cognitive structure specific for human development in as much as it serves as reference for Ego-activity once objectification is achieved. A cognitive structure can therefore also be conceptualised as a mediating structure or organisation for the incarnation of the Ego and the emergence of the body as medium of Ego-intentionality. Emergence of the availability of the body as medium of Ego-activity seems to be characterised by increasing re-organisation of postural behaviour through schematisation under the influence of accommodation to the environment. Acute Encephalitis, therefore, appears as a disturbance of the availability of the body as medium of Ego-activity, resulting in the prototypical forms of autocentricity in which the Ego becomes bound and subordinated to body-space or identification in which the Ego of others comes to replace mediated Ego-activity constituting the notion of self.

(4) <u>Environmental Influences in Post-encephalitic Syndrome</u>.

As acute Encephalitis appears as a sudden or prolonged breakdown of <u>established reciprocal self-other relationships</u>, it must be expected that the behaviour of the post-encephalitic child influences the environment and causes reactions of the

environment towards the child. In accordance with Bender's observations and following the basic concept of cognitive regression, it is suggested that environmental attitudes influence forms and degree of post-encephalitic behaviour to a considerable extent. Affective deprivation, sensory deprivation by lack of stimuli, over-protectiveness, lack of an early diagnosis and consequent inadequate attitudes must be expected to result in aggravation of compensatory behaviour (Garrard and Richmond 1957, Bender 1950, Caplan 1960, 1961, Stone 1960, Szasz 1959, Michell 1963, Bond 1960). Disintegration of communication after Encephalitis and particularly the need for affective forms of contact on all levels of communication present a challenge to the environment. Inadequacy of the environment and lack of adequate stimuli can lead to additional deprivation with aggravation of regression. An adequate and stable environmental set-up facilitates training and education (Bond and Smith 1935).

It must therefore be suggested that parental guidance is the most important immediate therapeutic requirement for children having suffered acute Encephalitis in early childhood.

In summary, the severity of behaviour disturbance of children with post-encephalitic syndrome depends on

(a) age of occurrence of the acute illness,
(b) the severity of the inflammatory process,
(c) environmental attitudes after the illness has occurred,
(d) It can further be assumed that the degree of self-other differentiation and objectification established prior to the illness will influence the degree and form of compensatory behaviour-patterns in as much as well established objectification prior to the occurrence of Encephalitis can be expected to result in predominance of autocentricity and self-preservation, whereas predominance of identificational behaviour can be expected to be related to poorly established self-other differentiation and objectification prior to the acute illness (see the following section).

(D) The Concept of Cognitive Regression.

It has been attempted to show that compensating behaviour in post-encephalitic syndrome can be understood as cognitive regression due to a deficiency or instability of generalisation and inter-sensory organisation. Since organisation of perception is essential for the attainment of stable configurative or representative space, it emerged as being eminently cognitive in as much as the genetically later achievements of representation, symbolic behaviour and understanding depend on the stability of such organisation. It has been shown that cognitive deficiency or instability results in the continuous attempts of the children studied to establish perceptual organisation. Failures resulted in employment of compensating behaviour which resembles non-mediated patterns of communication with the environment, typical of early infancy and prior to stability and autonomy of generalisation.

This conclusion, however, is in need of an essential modification. It must be assumed that all the children investigated in this thesis had achieved a relative stability of cognitive and perceptual structuring prior to the acute illness, and therefore also self-other differentiation and the beginning of representative behaviour and Ego-involvement. The developmental stage of maturation or Ego-development understood as incarnation of the Ego must therefore be taken into consideration in behaviour of cognitive regression. Such genetic achievement is not simply given up but significantly modified in forms of cognitive regression. The prototypical behaviour of post-encephalitic children can therefore only be understood if regressive behaviour is conceptualised as functionally related to the Ego's continuous attempt to re-establish generalisation, an attempt which constitutes the notion of progressive development with deficient means. Cognitive regression represents a dynamic developmental concept of a relationship between progressive attempts and regressive compensations.

This study has brought to light that the manifold affective disturbances observed are directly related to the success of cognitive re-structuring or employment of compensating behaviour.

The degree of cognitive regression seemed to be directly related to the degree and permanency of autocentricity and consequently to arrest of progressive cognitive attempts.

According to the concept of autocentricity, assimilatory activity and accommodation are bound to body-space, preventing any progress of perceptual re-organisation and cognitive progress. As compared with the concept of regressive behaviour in affective interpersonal relationships, cognitive regression manifests itself as a primary deficiency in perceptual structuring or perceptual and cognitive defence, resulting in a general and unspecific de-differentiation and dissociation of self-other relationship.

The forms of regression observed vary to the degree that generalisation and perceptual organisation have been maintained and show two fundamental phenomena:

1. Maximal regression in the form of self-preservation and minimal attempts at re-structuring of perception. Dependence on the other person and avoidance of object-notion. Identificational behaviour is minimal and if employed must be initiated by the other person.

2. Minimal self-preservation and maximal attempts at re-structuring of perception. Attempts at object-notion with maximal identificational behaviour of interpersonal support initiated by the child himself.

The degree of interpersonal perception available in all social contexts seems to be an essential criterion in respect to the form of regression which is employed. In the second form of behaviour the degree of cognitive regression and its dynamic are largely dependent on the availability of affective self-other relationship, and cognitive disintegration occurs to the degree that interpersonal relationships disintegrate, leading to temporary maximal regression and self-preservation.

It will be seen that the dynamic of regressive behaviour and its dependence on interpersonal relationships and perceptions is related to the availability of a stable form of perceptual readiness and perceptual and cognitive defence. In normal development stable self-notion and perception of a stable configurative or significative space represent the media for intentional transactions. Cognitive regression is therefore also accompanied by the situation of a crisis and anxiety which, as Spitz has shown, accompanies normal early development of cognitive structuring until a first stable schema of diacritic perceptual organisation has been achieved. (Spitz 1960).

From a perceptual cognitive point of view, appearance of cognitive regression can therefore also be conceptualised as related to the child's continuous repetition of past genetic stages, with attempt at objectification, and manifest in compensating behaviour according to the requirements of various situations. In normal development stabilisation of past developmental stages through perceptual organisation is essential for anticipatory behaviour and mastery of present situations. Cognitive regression therefore also shows a severe disintegration of past-present relationship and re-appearance of non-generalised past experience in present contexts. It is therefore understandable that the experiences of the past, through not being perceptually generalised and mediated by cognitive controls as a form of "abstraction" or "abstract attitude" become only affectively incorporated and continuously "interfere" with present affective and sensory data and motivations in children with post-encephalitic syndrome.

Regressions on affective levels implicitly present in post-encephalitic children and dealt with in psychoanalytic literature must be regarded as secondary symptoms due to cognitive deficits of perceptual organisation.

Cognitive regression suggests the importance of perceptual organisation as prerequisite of social communication as well as of the presentative self. Emergence of self-constancy and the reciprocal relations to others (Cantril,1963) severely disturbed in cognitive regression, are dependant on stability of perceptual organisation.

It is suggested that the concept of cognitive regression can prove to be useful for the understanding of behaviour of brain-injured children and particularly of those children who have hitherto been classified inadequately as suffering from "minimal cerebral dysfunction".

Deficiency of cognitive functioning and particularly of body-schematising and consequent objectification in early childhood result in forms of regressive behaviour which can resemble a variety of behaviour disturbances in childhood. Cognitive regression in childhood represents a specific form of regressive behaviour, the analysis of which has been attempted in this thesis.

(E) Implications for the Theory of Cognitive Development in Early Infancy.

The phenomenology of deficiency of a first cognitive structure analysed in children with post-encephalitic syndrome in childhood suggests a number of conclusions and hypotheses. It must be suggested that the further understanding of the development of a first perceptual and cognitive control can contribute to the theory of perception in general and its relation to the development of symbolic behaviour, speech, representation and thought.

In the following a number of assumptions will be presented which seem to suggest themselves by implication from the behaviour of children with deficiency of perceptual-cognitive organisation or control.

(1) Early Organisation of Perceptual Experience in Normal Development.

Organisation of perceptual experience during the first two years of life can be conceptualised in a process of differentiation and re-integration. This central process seems to lead towards the child's integration into a generalised, configurative spatial universe which is representative in as much as it can be shared with others in sensorimotor functioning. This "space of reference" does not exist at birth but emerges through significant transformations of early perceptual-affective modes of experience. Different modes of perceptual experiences become modified and result in the creation of a cognitive-perceptual generalised structure which seems to be genetically related to maturation of C.N.S.-functioning. Such a structure emerges by continuous inter-relationship of the child's own activity and the environment.

Differentiation of initial affective-intentional relationship to the environment and particularly the human environment is present at the beginning of life by the appearance of activity-affect (Schachtel) and accommodative activity through which intentional-affective relatedness towards the other human being (Schachtel's embeddedness-affect) becomes differentiated and polarised. Allocentric perception and increasing stabilisation of focal attention (Schachtel) represent a process of sharpening of figurative spatial perceptual experience over against an initial background of a

nascent consciousness (Merleau-Ponty 1965 a and 1965 b) in early affective-intentional relationships.

Simultaneously, early patterns of motor-activity and early modes of autocentric or interoceptive perception become modified by accommodative activity and divested of vital affectivity which, from the beginning, is related to affective-intentional relationship of the child to the other human being and its reciprocal gratification in empathic forms of pre-communication.

Re-organisation of autocentricity and early motor functioning through stabilisation of allocentricity and its increasing predominance leads towards generalisation of autocentric modes of perception. Such generalisation results in the general experience of the body as "me-ness" which becomes integrated and related to allocentric perceptual modes creating the figurative medium of representative space. Such relationship of generalised auto- to generalised allocentricity forms the stability and availability of a "body-schema". The body becomes the phenomenal part of a generalised configurative space which can be shared with others without losing its specific me-ness as stable notion of reference in action and perception. Furthermore, such generalisation simultaneously accounts for the notion of the body of others as independent of the child's own body via predominance of allocentric perception without the child giving up the early established intentional-affective relatedness to the other person. However, such early relationships become modified through allocentricity, constituting heterocentric modes of interpersonal perception: The child's own actions and intentionalities and the actions and intentionalities of others come to appear as representative or meaningful "Gestalten" in a shared generalised space.

Body-bound affectivity in autocentric perception as well as affectivity connected with embeddedness-affect both become related to a phenomenal, generalised and configurative space which can be shared. The development of generalised space seems to go parallel with object-notion by predominance of focal attention and allocentric stabilisation and objects emerge as relatively independent both of heterocentric as well as autocentric affectivity.

A generalised configurative "shared" space seems to result as a phenomenon of perceptual central organisation during

the first 24 months and its development seems to be essential for the emergence of "Gestalten" as figure-ground relationship. Increasing structuring or sharpening of early affective-intentional relationships seems to be genetically important for the emergence of figure-background notion significantly deficient in the children discussed in this study.

Figure-background relationship as the dynamic element of "Gestalten" in configurative space does not seem to be a "given" but the result of perceptual organisation during early infancy.

Object-notion as the phenomenal experience of the dimension of "Umwelt" seems to become differentiated from the primary intentional-affective "Mitwelt"-relationships by the same process of structural organisation or generalisation. Objects appear as objects of reference or "of contemplation" in a shared generalised space by becoming increasingly divested or "decontextualised" from affective intentionality. Once this process has been established, objects are incorporated into representative behaviour by being subordinated to referential media in action and speech. Generalisation, therefore, results in the notion of "objects" as transition from early embeddedness of "things" in primary intentional relationships towards their appearance as referents of referential or Ego-representative behaviour.

In summary, perceptual organisation through a stable cognitive structure of generalisation can be understood as resulting in three distinct modes of perceptual experience which are inter-related and seem to form the basic phenomenal experiences of distinct modes of perception:

(a) Autocentric or bodily perceptions which, by becoming generalised, constitute the notion of me-ness.

(b) Allocentric perception constituting the notion of a generalised space of objects "outside the body-experience".

(c) Heterocentric perception constituting the immediate perception of meaningful "Gestalten" in a generalised "Mitwelt" in which representative values are given within the act of perception (interpersonal perception including gesture, speech, thought and the <u>other</u> Ego as centre of intentionality).

The emergence of such a basic structure or generalisation of early perceptual experience and intentional relationship has been conceptualised as leading towards the notion of a

stable phenomenal configurative space and has been understood as an eminently cognitive-perceptual achievement.

Following the context of this study it can be suggested that organisation and stabilisation of perceptual experience through cognitive structuring is of importance for Ego-functioning or integration of Ego-activity into a shared generalised and Ego-representative spatial universe. Perceptual-cognitive organisation, therefore, represents a medium for Ego-activity in as much as the organismic structure of C.N.S.-functioning as structure of generalisation can be understood as mediating Ego-activity as structure of reference. From the beginning of life accommodative activity, which polarises early affective-intentional relationships, can be considered as essential manifestation of Ego-structuring, resulting in the eventual emergence and consolidation of a generalised structure of accommodation which, from then on, serves the Ego as a new autonomous medium of activity which is manifest in the emergence of intentional or volitional behaviour which is at the same time representative of Ego-activity. A mediating organismic structure can be conceptualised as emerging from generalised accommodation through Ego-structuring, replacing the early modes of affective intentional relationships in which the other person represented the vital medium for perceptual and motor transactions in what Metzger has called an "Urraum" (Metzger, 1958).

The development of a generalised space during the first two years of life can be regarded as essential motivation of Ego-activity which is related to a mediating, autonomous structure of reference. It will be seen that self-other differentiation and self-notion are closely linked to the development of a first cognitive structure and organisation of perception. During Ego-development the notion of self undergoes significant transformation and emerges through Ego-activity, mediated by a cognitive structure and taking place in a stable generalised spatial universe.

In summary it can be suggested that Ego-activity through the function of accommodation creates its own mediating organismic structure through which a generalised space of Ego-activity is established.

The development of perceptual organisation represents a cognitive control basic for all subsequent cognitive control-mechanisms. De-differentiation or deficiency of perceptual control results in typical disturbance of Ego-functioning and

disintegration of a stable configurative universe. Ego-activity as intentionality and structuring which is linked to C.N.S.-functioning are inter-related. Affective intentional relationships in early childhood and their modifications are essential for the development of perceptual-cognitive organisation.

(2) Body-schema and Body-image Development.

Disturbance in the dimension of body-schema and body-image analysed in children with post-encephalitic syndrome seem to imply a number of general hypotheses as to the development of body-image.

As Schilder and others have suggested, body-image development begins in early infancy, manifest in the close affective-intentional relationship of the infant to the mother and near-identification with the body-image of the mother related to, and essential for, postural and interoceptive, autocentric perceptual experience. Increasing objectification and generalisation, as discussed in the previous sections, seem to establish relative stability of the child's body-schema and body-boundary. The emergence of a generalised spatial universe, therefore, polarises early identification in pre-communicative life-space, resulting in differentiation of identificational space and space of action (Schilder). Disintegration of generalised space through deficient perceptual organisation results in attempts towards early primary identification with the body-image of others and loss of a stable configurative space and body-boundary.

The representative notion of body-image develops as a result of perceptual organisation and the subsequent experience of Ego-activity in a body medium which is part of generalised space by becoming interiorised and individualised. Body-image perception therefore parallels the development of self-notion through the internal notion of a "Gestalt" of the child's own action as well as of the actions of others.

It can further be suggested that the individualisation of body-image perception is closely related to the development of speech-autonomy. Speech undergoes a parallel development from being part of early affective affiliation, becoming polarised through perceptual generalisation and organisation (related to objects) and subsequently subordinated to Ego-activity as form of representative behaviour.

Loss or deficiency of body-boundary and body-schema seems to be paralleled by deficiency in polarisation of speech

towards object-relation and subsequent lack of subordination to Ego-activity. Deficiency of interiorisation of representative behaviour as body-image imperception parallels deficiency of internalisation of speech towards thought.

(3) Significative Space.

From a phenomenal point of view and following basic concepts of Gestaltpsychology, the development of the notion of a generalised spatial universe (Piaget) can be seen as the emergence of a configurative space of "Gestalten" which Merleau-Ponty has called significative (Merleau-Ponty 1965a, 1965b). Although this space can be understood from a structural point of view as a manifestation of generalisation and "abstraction" from a primary "Urraum" (Metzger), it also constitutes a space of shared conduct and intentionality and therefore a social or cultural space.

Significative "Gestalten" can be understood as representing media of intentionality and account for the child's dynamic anthropomorphéous view of the world (Werner 1965). Such early forms of perception, however, represent nascent cognitive behaviour making possible the eventual progress towards representation and image-formation through modification of imitative behaviour via increasing objectification.

Although "Gestalten" are conceptualised as dynamic unities, disintegration of "Gestalt" in action and perception suggests that their phenomenal appearance as unities in a configurative space requires a mediating organismic structure. Deficiency of mediating functions seems to throw light on the genesis of "Gestalt" as intentionality-medium relationship. Differentiation and simultaneous re-integration of the dynamic "Gestalt" components seems to be deficient in the children discussed in this thesis.

Experience of "Gestalt" requires a structured generalised or configurative space as medium of configuration and the emergence of "Gestalt" can be conceptualised as the development of a figure-ground-relationship through generalisation. By extending the figure-ground concept of "Gestalt"-psychology (Kaffka 1935, Köhler 1930), it can be suggested that every "Gestalt" appears as configuration in a generalised spatial universe related to a background of intentionality without which a figure remains meaningless.

Klein (1951) has shown that the perceptual attitudes of different individuals vary with regard to the relationship of figure to ground, resulting in different perceptual attitudes which he has termed "sharpening" and "levelling". The perceptual attitude of children with post-encephalitic syndrome described as affective identification can be characterised as an extreme behaviour of "levelling" through instability of the notion of a configurative medium of space and de-differentiation of self-other relationship, preventing independent stability of significative "Gestalten" and "objects". Early forms of perceptual communication described as affective-intentional relationships appear to be utilised in such behaviour, characterised by predominance of ground over against figures and conceptualised in such notions as embeddedness-affect, predominance of assimilation over accommodation or insufficient polarisation of those two functions, empathic relationship, or predominance of support over against structure (Bronfenbrenner 1951). Such early relationships are essentially pre-cognitive in as much as they already constitute a nascent perceptual consciousness, "a network of significative intentions" (Merleau-Ponty), increasingly sharpened towards figure-ground equilibrium. Increasing accommodation and its generalisation seems to create a mediating generalised space by figure-ground polarisation without that the figure is being dissociated from the "ground" of intentionalities. The notion of objects as independent of interpersonal intentionality seems to emerge by increasing divestment from the other person's intentionality and the child's own affective-intentional relationships. Objects become established as referents and "things of shared intentionality". This process of objectification has been shown to be significantly deficient in the children with post-encephalitic syndrome.

The development of <u>action</u> and conduct in generalised space and its disintegration seems to follow the same principles of "Gestalt"-configuration: Early "Gestalten" of motor behaviour being in the service of postural security become increasingly differentiated by being integrated to a "ground" of Ego-activity or intentionality, mediated by a stable postural or body-schema. Disintegration of such a schema in children with post-encephalitic syndrome results in breakdown of configuration of action in a generalised space, deficiency

of its configurative or representative value and limitation of action to body-space-bound activity. Behaviour patterns appear as "figures" which are no longer related to the "ground" of intentionality by not being mediated by a stable cognitive structure which guarantees stability of "Gestalt" and of a generalised space of Ego-activity. The post-encephalitic child, therefore, is bound either to a non-figurative intentional-affective ground in perception (identificational behaviour) or to "figures" of action unrelated to the background of his own intentionality through deficiency of a mediating structure (autocentric behaviour).

(4) Ego-activity as Shift of Perceptual Attention.

The polarity of such behaviour patterns highlights the importance of a mediating stable organismic structure for action as well as perception in a generalised space. The structural medium seems to retain sameness for perception as well as action whilst intentionality shifts from action towards perception and vice versa. These "shifts", by sameness of a cognitive structure, can be conceptualised as constituting a "Gestaltkreis" (v. Weizsäcker 1950). Deficiency of a stable cognitive structure as perceptual organisation results, therefore, in insecurity and ambivalence in the freedom of shifts of intentionality and its direction, and causes the frequently described emotional and affective disturbance in post-encephalitic children.

Perceptual organisation through a mediating organismic structure can be conceptualised as constituting a "sameness" which allows shift from motor to perceptual intentionality. As body-schema, such a structure mediates representative activity in action and speech but can be utilised for the perception of representative behaviour of environment. Sameness of a cognitive structure allows for the emergence of a stable self in a sensori-motor equilibrium and freedom of shifts of intentionality in action and perception. The study of children with deficiency of a stable mediating cognitive structure has shown significant dissociation of space of action from space of perception and arrest of freedom in shift of intentionality. In autocentric behaviour action and speech lose their relationship to perception, and motor attitudes become closed as to perceptual awareness towards a general environmental space. Vice versa, perceptions in environmental

contexts cannot be integrated to corresponding and adequate motor behaviour, resulting in deficient reciprocity. Generalised space, therefore, appears as a medium of perception as well as action by being shared in reciprocal perceptual and motor intentionality.

The understanding of the development of a shared space of Ego-functioning leads towards the notion of a shared medium of social relationships, basic for theories of perception and representative behaviour.

(5) Intentionality and Structure.

It can further be suggested that from the beginning of life the other person represents a medium for the child's affective intentionality which becomes transformed towards the emergence of the child's own mediating structure in the process of cognitive development. Such transformation towards autonomy of Ego-functioning represents an essential stage of cognitive development. The organisation of perceptual experience discussed in a previous section can be conceptualised as related to an autonomous C.N.S.-structure which mediates Ego-intentionality in perceptual and motor activity. An autonomous C.N.S.-structure allows perceptual attitudes and the emergence of a generalised, representative space. Deficiency of autonomous C.N.S.-functioning resulted in the emergence of motor patterns of autocentricity which appeared as impulsated by C.N.S.-functioning and unrelated to a shared generalised configurative space by excluding Ego-intentionality and limitation of representative life-space towards body-space. Autonomy of motor impulses impulsated by C.N.S.-functioning and not subordinated to Ego-activity must be regarded as a pathologic phenomenon deficient behaviour in as much as the C.N.S. no longer functions in a mediating and therefore perceptually organising fashion. The phenomena observed seem to indicate the importance of the notion of Ego-activity or intentionality in developmental theory as mediated by C.N.S.-functioning. A generalised spatial universe does not appear as an "objective" space but as a universe of intentional relationships. Disintegration of the spatial medium of intentionality results in disorganisation of Ego-activity as a secondary phenomenon, as seen in autocentric and identificational compensating behaviour in children with deficiency of a generalising structure. Affective functioning persists by

not being modified through stable cognitive-perceptual control. Disintegration of generalisation of space results in subsequent deficiency in development of representation and thought. A first cognitive-perceptual structure of perceptual experience seems, therefore, to be important as basic pre-requisite for subsequent generalisation in which existential space becomes conceptualised and explicitly generalised in representation and thought.

Chapter 5:

SUMMARY

In this thesis 10 children and young people were investigated all of whom showed sequelae after acute Encephalitis of varying origin during the first three years of life. All subjects were resident at a training school for mentally handicapped children. The age of these children and young people varied between 7 and 2o years at the time of this study.

I.) It was the object of this study to order and evaluate the variety of behavioural disturbances of these children from a psychological aspect in the following dimensions of cognitive functioning:

a.) relation to objects and sensori-motor activity,
b.) body-schema and body-image,
c.) symbolic behaviour (language, play, imitation),
d.) social relationships,

and, finally to establish the relations between cognitive deficits and compensatory behaviour in these dimensions.

II.) The day-to-day behaviour of each child was observed in a stable residental setting. These observations were carried out for a fortnight, were recorded, ordered according to the above mentioned dimensions and interpreted by a phenomenological approach.

For reference a background of various, selected theories dealing with normal cognitive and affective development in infancy was provided.

III.) For all the children the scores of vineland social maturity scale (S.Q.) were established for comparison with two control groups of handicapped children (children with Down's Syndrome and cerebral palsied children). A number of predominantly qualitative selected tests were carried out. The Advantage of observation and interpretation of pathological behaviour, including qualitative tests, as opposed to the results of quantitative tests and I.Q. scores was stressed with respect to educational programmes, therapeutic attitudes and diagnosis.

IV. The results of observations and experiments were dis-

cussed from their clinical aspects and particularly, from differential diagnostic points of view. They were compared with the behaviour of children suffering from Schizophrenic Syndrome in childhood.

V. Basic interpersonal therapeutic attitudes which emerged from the results of observation were described as possible guides for the creation of an adequate social and educational environment for the children under consideration.

VI. In summarising deficient cognitive functioning in children with post-encephalitic syndrome the concept of cognitive regression was introduced. Its appearance in the prototypical form of autocentricity, present in all children and in all dimensions under consideration, was interpreted against the background of normal cognitive development in infancy. It was suggested that analysis of forms of cognitive regression can constitute to the theories of developmental child psychology.

A N N E X U R E S

(A) GLOSSARY

Terms, frequently used in this thesis, will be defined in the following Glossary. Whenever these terms are used in the text of the thesis they refer to a meaning as defined below, which will frequently found to be different from common definitions of their meaning in different contexts.

Accommodation: Perceptual function which is employed in relation to assimilation by modifying assimilatory schemata in the service of adaptation to the environment. Equilibrium of assimilation and accommodation leads to cognitive adaptation on different levels (Piaget). Accommodation, activated in the first instance by external stimuli gains independent functioning once sensori-motor equilibrium is established (see assimilation).

Activity-affect: Present at birth, activity-affect is directed towards accommodation of the environment and functions as increasing polarisation of embeddedness-affect (Schachtel). Activity-affect is understood as not only accompanying accommodation and allocentricity but constitutes a form of affective-intentional behaviour instrumental for early perceptive functioning and inseparable from it. (see embeddedness-affect).

Affective defence: Affective defence appears in all those interpersonal situations in which accommodation is not free to be employed in response to the impact of interpersonal transactions, and assimilatory schemata are not available for identification. Affective defence, therefore, constitutes

a form of withdrawal in the service of self-preservation and appears in different forms, for instance in autocentric circular reactions, aggressiveness or avoidance. Affective defence replaces cognitive adaptation (see affective "surrender").

Affective-intentional relationship: This term indicates the close functional link between affectivity and intentionality in early transactions of the infant towards the human environment. To the extent that intentional relationships become objectified, affectivity is transformed. Autocentric modes of perception are functionally linked to affective-intentional relationships in early infancy.

Affective "surrender": Employment of "primary intentional relatedness" in communication as form of compensating behaviour if the environment cannot be assimilated and accommodated to existing schemata. The child's intentionality becomes identified with the other person's intentional activity, understood as Ego-activity. Such a form of relationship seems to be typical of early infancy behaviour and reappears as form of cognitive regression in representative space. It is characterised by imperception of the body-medium of others and thereby predominance of embeddedness-affectivity.

Allocentricity: Term used to designate perceptual openness towards the environment by employment of activity-affect and accommodation. Allocentricity depends on the established functioning of assimilatory activity and intentional relationships towards the environment which it modifies.

Allocentric modes of perception: Perceptual activity, present at birth, which is directed towards the environment and genetically related to activity-affect (Schachtel). Allocentric modes of perception increase during early infancy by taking over the predominance of early autocentric modes of perception and becoming inter-related with autocentric perception.

Assimilation: Term used by Piaget to designate a primary form of sensori-motor functioning through which the environment is assimilated to existing schemata of the organism. Assimilatory schemata are increasingly modified by accommodation, resulting in eventual polarisation or dissociation of accommodation and assimilation towards a mobile equilibrium. From a genetic point of view assimilation is regarded as the primary function as compared to accommodation (Piaget).

Autocentric modes of perception: According to Schachtel, autocentric perception is related to the experience of sensations of the body-interior such as kinesthetic perceptions, touch, thermal perceptions and pain. According to Steiner, (see lower-sense perceptions), autocentric modes of perception are also linked to experience of equilibrium or posture, movement, touch and life (sensation of the body-interior as related to functioning of the autonomous nervous system). (Treichler 1952). The term autocentric modes of perception is used synonymously with "body-interior perception" or interoceptivity. During the first year of life autocentric modes undergo shift towards allocentric modes of perception and finally form an equilibrium with allocentric perceptions which represent a

stable structure or intersensory equilibrium.

Autocentricity: This term is used to describe all forms of behaviour in which autocentric modes of perception (see above) persist and do not progress by "shift" towards allocentricity. Autocentricity represents a form of cognitive regressive behaviour in which allocentricity towards the environment is not established, or disintegrates by not being sufficiently dissociated from autocentric modes of perception.

Autocentric circular reaction: A closed system of motor behaviour not modifiable by accommodation and characterised by linkage of accommodation to assimilatory schemata, arresting the function of the latter and inducing renewed motor functioning. In autocentric circular reactions, autocentric modes of perception persist and are accommodated to, thus arresting their relationship to, and "shift" towards, allocentric perception. Autocentric circular reactions represent a "closed" equilibrium no longer mobile, which is used in the service of postural security, self-preservation or self-assertion and excludes the environment.

Avoidance: Form of cognitive regression in which lack of adaptation or modification of available schemata prevents interest in the environment. Avoidance therefore must be regarded as form of affective defence (see above) and is particularly employed in relation to objects.

Body-notion: (a) Body-notion refers to the phenomenal body as percept and part of configurational

general space.
(b) To the mediated implicit experience of the body as medium of Ego-activity or intentionality in action.
Relation of these two modes of experience is conceptualised as body-schema. The term body has been used in this sense throughout this study. Where body-interior, transphenomenal realities are referred to, the term organism or "organismic" has been used as for instance in referring to neural functioning, following the suggestions made by Köhler (1959).

Circular reactions: Term introduced by Baldwin and used by Piaget. In circular reactions, understood as unity of sensori-motor functioning, the environment is assimilated to the child's own schemata and such schemata accommodated to the environment. Increasing differentiation or dissociation of accommodation and assimilation allows such circular reactions to widen and develop from being purely assimilatory to becoming more differentiated and subordinating assimilatory activity to accommodation. Circular reactions are modifiable by accommodation and therefore by the environment but retain their circularity by persistence of assimilation of the environment.

Cognitive structure: This term refers to the genetically first cognitive structure as an "internal" structure of reference and the result of a relative equilibrium between accommodation and assimilation (Piaget) movement and perception, and allo- and autocentricity. Cognitive structuring is regarded as a developmental process which is established as objectification (Piaget) on which all consequent cognitive and representative activities depend. A cognitive

structure, therefore, can be called autonomous in as much as it guarantees stability and acts as a mediating structure of reference or a "schema".

Disintegration: Loss of sensori-motor equilibrium or representative behaviour in initially established perceptual or representative functioning. Action or perception regresses on a lower level of functioning by being either insufficiently related to a stable and autonomous organismic structure of reference, through deficient development or through instability of such a structure.

Distancing: See polarisation.

Embeddedness-affect: Embeddedness-affect (Schachtel) represents a primary form of affective-intentional behaviour of the infant through which the child establishes an affective relationship to the other person (the mother) and which is established in the service of security, affective as well as postural. Embeddedness-affect is differentiated by activity-affect from the beginning by its functioning in a polar opposite direction towards object-notion and self-other differentiation, (see activity-affect and affective-intentional relationship).

Enteroceptive perception: See allocentricity.

Equilibrium: Term used by Piaget designating any stage of the functioning of accommodation and assimilation in which both functions are dissociated and at the same time have achieved a mobile inter-relationship without predominance of the one or the other. Equilibria on different levels of development constitute intelligent adaptation and

tend to be re-established if temporarily disturbed. Cognitive structuring on the level of sensori-motor, as well as representative, transactions depends on the establishment of respective stable equilibria which assume autonomy.

Generalisation: Term used frequently synonymous with "schematising" or "cognitive structure". Generalisation refers to "de-subjectification" of motor-perceptual and affective transactions through the eventual emergence of an organismic "schema" of reference which allows internalisation of action and exteriorisation of perception, and objectifies autocentric and affective-intentional perceptions towards the notion of a generalised space. Generalisation establishes a stable frame of reference by sensory-organisation and inter-relation of different modes of perception. The first generalisation or objectification during the first year of life is assumed to be connected with the maturation of the central nervous system whose functions seem to play an important part in generalisation.

"Gestaltkreis": Term introduced by von Weizsäcker and related to the function of circularity in circular reaction (see above). "Gestaltkreis" designates the unity of dynamic inter-relationships and equilibrium of perception and movement in the service of "coherence", that is of maintaining of subject-object relationship and of the identity of the Ego in its transactions with the environment. In the notion of a "Gestaltkreis" such relationship is not conceptualised as causal, presupposing differentiation of subjects and objects, but as "coincidental". This means that the

object influences the subject (the Ego) and the subject the object simultaneously. Such an equilibrium undergoes stages of crisis resulting in new attempts at equilibrium on a different level. The subject (Ego) is conceptualised as being intentionally related to the environment as a primary irreducible "a priori", having primacy over the differentiating activity of accommodation (see "circular reaction".) A "Gestaltkreis" is an open system modifiable by the environment but created and re-created by the activity of the subject (Ego).

Identification: Form of cognitive regression in which self-other differentiation is lost. From a functional point of view, identificational behaviour is marked by predominance of intentional-affective relationship over accommodation, or of assimilation over accommodation. Identification marks regressive behaviour through deficiency of accommodation and thereby of development of "accommodative imitation" and progressive "interiorisation" (Piaget).

Identification, affective-intentional: This term refers to those forms of cognitive regression in which self-identity is lost and assimilatory schemata and accommodation are not available for communication via imitation. In such behaviour affective-intentional identification is employed which means surrender to the other person's intentionality (see affective surrender).

Identification, motor: Employment of available assimilatory schemata which incorporates speech or action of others without progress towards "accommodative imitation"(Piaget). Such behaviour is regarded as cognitive re-

gression in as much as it employs early stages of imitative behaviour in which self-other differentiation is not yet established. Motor identification as "incorporation" appears in interpersonal transactions if perception and movement are not sufficiently polarised or accommodation not sufficiently dissociated from assimilation (Piaget). Such behaviour is frequently called "transfer".

Incorporation: Form of cognitive regression characterised by assimilation of external objects or perceptual data to existing schemata which are not modified by accommodation. Incorporation, therefore, replaces accommodation which would be cognitive and is frequently employed as compensating behaviour under the pressure of external stimuli. From a functional point of view, incorporation can be regarded as part of autocentric behaviour in which old and familiar patterns are "closed" as to the environment and intentional relationships are subordinated to body-bound autocentricity, excluding transactions in generalised space.

Intentional relationship: Term introduced by Brentano (1874) as "intentional relatedness". This term has been used referring to:
(a) assimilatory activity underlying all perceptual acts towards the environment and a primary affective-perceptual activity. In early infancy such relationship is preceded by affective-intentional relationship towards the other person and is affiliated functionally to the experiences of autocentric body-interior perceptions.
(b) relatedness of the Ego to the body-medium without being identical with it at the stage when objectification has been achieved. Such relationship has been re-

garded as essential to the emergence of representative behaviour, body-image development and is closely related to object-notion and generalised space as motivation of Ego-intentionality.

Interoceptive perception: See autocentric modes of perception.

Interiorisation: Synonymous with "internalisation". This term refers to the child's accommodation to his own speech and action and the action and speech of others, and simultaneous assimilation to his own ego-activity. Such equilibrium on a representative level results in internalisation of speech, symbol formation and development of body-image notion. Internalisation leads to the development of thought-formations.

Lower sense-perceptions: See autocentric modes of perception.

Matching: Referring to adequacy of environmental stimuli to available schemata of assimilation and their modification by accommodation. Stimuli not adequate to available schemata or schemata not available for modification through the environment (as in autocentricity) cause the appearance of compensating behaviour patterns if stimulus-pressure is maintained.

Notion: This term has been used throughout this thesis to signify phenomenal experiences which are implicit and therefore beyond the threshold of consciousness, as for instance body-object notion, body-image notion, self-notion in representative behaviour or body-medium notion. Such forms of perceptions represent important data of perceptual organisation and are of cognitive nature in as much as they are genet-

ically essential prerequisites for the development of perceptual and representative explicitness. Notions refer to phenomenal experiences as background of perceptual explicitness.

Perceptual attitude: Attitudes related to internal accommodation and polarising assimilatory activity. Synonymously used with "distancing", such attitudes are regarded as creating "internalisations" and contribute genetically to the emergence of stable structures of reference and autonomy of representational behaviour.

Primary intentionality: Form of primary relationship of the infant to the environment and particularly to the other person. In primary intentionality, its activity and the perceptions involved are not yet differentiated. Primary intentionality, therefore, marks a stage of affective-sensory-intentional activity in which the Ego is not yet involved by not yet being fully related to the body as medium of its activity. Increasing differentiation of primary intentionality through activity-affect and accommodation results in the emergence of object-notion, self-other differentiation, motivation and appearance of intentions or volitional Ego-intentionality. Primary intentionality represents a "potentiality" signifying the uniqueness of human communication as different from instinctive relationships and is prerequisite for development of Ego-activity through self-other differentiation.

Polarisation: Progressive differentiation of two functions which initially act in the same direction but become increasingly dissociated without giving up their primary

relatedness. Self-other polarisation, referential medium-referent polarisation (Werner and Kaplan), internal and external speech polarisation are essential processes in development, leading towards cognitive behaviour, distancing and autonomy. Deficiency of polarisation is manifest in cognitive regression.

Representative behaviour: All forms of behaviour in which mediating phenomena of action and speech as "signifiers" are representative of Ego-activity or intentionality which endows mediated behaviour with meaning, the significance of which can be shared in communication and develops towards explicit representational activities and operations of thought. Representative behaviour can be understood as "Gestalt".

Representative perception: Form of interpersonal perception, distinct from autocentricity and allocentric perception. This term refers to the notion that cognitive behaviour in representative, and thereby social contexts depends on immediacy of significative perception in which the representative significance is implicit. Representative perception of the activity of others (heterocentricity) and of the child as to his own representative activity are complementary perceptual activities by shift of intentionality from own body-medium in action to the body-medium of others in perception. In both cases accommodative data are subordinated to Ego-activity (intentionality). Such shifts presuppose polarisation of the child's own body-medium and the body-medium of others via objectification.

Schematising: See generalisation.

Self-preservation: Term introduced by Goldstein referring to behaviour in which the organism employs functions no longer open to cognitive behaviour and interpersonal transactions. Self-preservation can be understood as cognitive regression to a lower functional level and is marked by being dissociated from intentionality (Ego-activity) and impresses by affect-involvement and by being of compulsive character. Body-space is no longer related to a generalised spatial and representative universe.

Self-realisation: Forms of behaviour in which equilibrium of intentionality and body-medium is established which result in implicit self-notion, realisation of Ego-involvement, responsibility and openness towards the other one (reciprocity). De-differentiation of such equilibrium leads to self-assertion as form of self-preservation on the representative level and exclusion of Ego-control in sensori-motor affective functioning.

Self-regulatory behaviour: This term signifies the relative autonomy of self-realisation as far as the immediate environment is concerned and characterises such behaviour as subordinating present sensori-motor data and affectivity to a stable self-notion.

Transfer: See motor identification.

Withdrawal: See autocentric circular reactions and affective defence.

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